Oracle® Access Manager

Upgrade Guide

10*g* (10.1.4.3)

E12495-01

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Concepts, methods, strategies, and step-by-step instructions for administrators who are responsible for upgrading an earlier installation (including the schema and data) to 10*g* (10.1.4.0.1). Also described is the zero downtime upgrade method that you can use to upgrade to 10*g* (10.1.4.2.0). After an upgrade, you can apply the latest patch sets, including 10*g* (10.1.4.3).

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Oracle Access Manager Upgrade Guide 10*g* (10.1.4.3)

E12495-01

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Preface

This Upgrade Guide provides information about upgrading using either the in-place upgrade method (from 6.x and 7.x to 10*g* (10.1.4.0.1)) or the zero downtime upgrade method (from 6.x and 7.x to 10*g* (10.1.4.2.0)). Included are considerations, prerequisites, step-by-step instructions, and summaries to help ensure your success. After the upgrade, you can apply the latest patch sets.

> **Note:** Oracle Access Manager was previously known as "Oblix NetPoint" and "Oracle COREid".

This book covers upgrades for Oracle Access Manager components only. For details about upgrading Oracle Application Server components, see *Oracle Application Server Upgrade and Compatibility Guide*. Using the zero downtime upgrade method is described in Part VI.

This Preface covers the following topics:

- Audience
- Documentation Accessibility
- Related Documents
- Conventions

This Upgrade Guide primarily uses new product and component names. For more information, see "What's New in Oracle Access Manager?" on page xxvii.

Audience

This guide targets the needs of anyone who is responsible to upgrade any Oracle Access Manager component to the latest release. If Oracle Access Manager is not installed, see the *Oracle Access Manager Installation Guide*.

This document assumes that you are familiar with your network architecture, your LDAP directory, and firewall and internet security.

Documentation Accessibility

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Related Documents

For more information, see the following documents in the Oracle Access Manager documentation set:

- *Oracle Access Manager Introduction*—Provides an introduction to Oracle Access Manager, a road map to Oracle Access Manager manuals, and a glossary of terms.
- *Oracle Access Manager Release Notes*—Read these for the latest Oracle Access Manager information.
- *Oracle Access Manager Patchset Notes Release 10.1.4 Patchset 2 (10.1.4.3.0) For All Supported Operating Systems*—Read this document if you want to apply the 10*g* (10.1.4.3) patch set to an existing 10*g* (10.1.4.2.0) deployment. It includes a list of enhancements, bug fixes, and known issues related to the patch set.
- *Oracle Access Manager Installation Guide*—Explains how to prepare for, install, and set up each Oracle Access Manager component.
- *Oracle Access Manager Upgrade Guide*—Explains how to upgrade earlier releases to the latest major Oracle Access Manager release using either the in-place component upgrade method or the zero downtime method. Note that 10*g* (10.1.4.3) cannot be used for either an in-place upgrade or a zero downtime upgrade method. However, any earlier environment can be upgraded using either method: in-place method using 10*g* (10.1.4.0.1) packages or zero downtime method using 10*g* (10.1.4.0.1) and 10*g* (10.1.4.2.0). Then you apply the 10*g* (10.1.4.3) patch.
- *Oracle Access Manager Identity and Common Administration Guide*—Explains how to configure Identity System applications to display information about users, groups, and organizations; how to assign permissions to users to view and modify the data that is displayed in the Identity System applications; and how to configure workflows that link together Identity application functions, for example, adding

basic information about a user, providing additional information about the user, and approving the new user entry, into a chain of automatically performed steps. This book also describes administration functions that are common to the Identity and Access Systems, for example, directory profile configuration, password policy configuration, logging, and auditing.

- *Oracle Access Manager Access Administration Guide*—Describes how to protect resources by defining policy domains, authentication schemes, and authorization schemes; how to allow users to access multiple resources with a single login by configuring single- and multi-domain single sign-on; and how to design custom login forms. This book also describes how to set up and administer the Access System.
- *Oracle Access Manager Deployment Guide*—Provides information for people who plan and manage the environment in which Oracle Access Manager runs. This guide covers capacity planning, system tuning, failover, load balancing, caching, and migration planning.
- *Oracle Access Manager Customization Guide*—Explains how to change the appearance of Oracle Access Manager applications and how to control Oracle Access Manager by making changes to operating systems, Web servers, directory servers, directory content, or by connecting CGI files or JavaScripts to Oracle Access Manager screens. This guide also describes the Access Manager API and the authorization and authentication plug-in APIs.
- *Oracle Access Manager Developer Guide*—Explains how to access Identity System functionality programmatically using IdentityXML and WSDL, how to create custom WebGates (known as AccessGates), and how to develop plug-ins. This guide also provides information to be aware of when creating CGI files or JavaScripts for Oracle Access Manager.
- *Oracle Access Manager Integration Guide*—Explains how to set up Oracle Access Manager to run with other Oracle and third-party products.
- *Oracle Access Manager Schema Description*—Provides details about the Oracle Access Manager schema.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

What's New in Oracle Access Manager?

This section describes new features of the Oracle Access Manager release 10.1.4. This includes details for 10*g* (10.1.4.0.1), 10*g* (10.1.4.2.0), and 10*g* (10.1.4.3).

> **Note:** You can apply 10*g* (10.1.4.3) as a patch to 10*g* (10.1.4.2.0). However, you cannot use 10*g* (10.1.4.3) packages for upgrading.

The following sections are included:

Note: For a comprehensive list of all new features and functions in Oracle Access Manager 10.1.4, and a description of where each is documented, see the chapter on what's new in the *Oracle Access Manager Introduction*.

Product and Component Name Changes

The original product name, Oblix NetPoint, has changed to Oracle Access Manager. Most component names remain the same. However, there are several important changes that you should know about, as shown in the following table:

Item	Was	Is
Product Name	Oblix NetPoint Oracle COREid	Oracle Access Manager
Product Name	Oblix SHAREid NetPoint SAML Services	Oracle Identity Federation
Product Name	OctetString Virtual Directory Engine (VDE)	Oracle Virtual Directory
Product Name	BEA WebLogic Application Server BEA WebLogic Portal Server	Oracle WebLogic Server Oracle WebLogic Portal
Product Release	Oracle COREid 7.0.4	Also available as part of Oracle Application Server 10g Release 2 (10.1.2).
Directory Name	COREid Data Anywhere	Data Anywhere
Component Name	COREid Server	Identity Server
Component Name	Access Manager	Policy Manager
Console Name	COREid System Console	Identity System Console
Identity System Transport Security Protocol	NetPoint Identity Protocol	Oracle Identity Protocol
Access System Transport Protocol	NetPoint Access Protocol	Oracle Access Protocol
Administrator	NetPoint Administrator COREid Administrator	Master Administrator
Directory Tree	Oblix tree	Configuration tree
Data	Oblix data	Configuration data
Software Developer Kit	Access Server SDK ASDK	Access Manager SDK
API	Access Server API Access API	Access Manager API
API	Access Management API Access Manager API	Policy Manager API
Default Policy Domains	NetPoint Identity Domain COREid Identity Domain	Identity Domain

Item	Was	Is
Default Policy Domains	NetPoint Access Manager COREid Access Manager	Access Domain
Default Authentication Schemes	NetPoint None Authentication COREid None Authentication	Anonymous
Default Authentication Schemes	NetPoint Basic Over LDAP COREid Basic Over LDAP	Oracle Access and Identity Basic Over LDAP
Default Authentication Schemes	NetPoint Basic Over LDAP for AD Forest COREid Basic Over LDAP for AD Forest	Oracle Access and Identity for AD Forest Basic Over LDAP
Access System Service	AM Service State Policy Manager API Support Mode	Access Management Service **Note**: Policy Manager API Support Mode and Access Management Service are used interchangeably.

All legacy references in the product or documentation should be understood to connote the new names.

Enhancements Available in 10*g* (10.1.4.3)

Included in this release are new enhancements and bug fixes for 10*g* (10.1.4.3) in addition to all fixes and enhancements from 10*g* (10.1.4.2.0) bundle patches through BP07. The following topics describe 10*g* (10.1.4.3) enhancements described in this book:

- 10g (10.1.4.3) Installers, Patches, Bundle Patches, and Newly Certified Agents
- 10g (10.1.4.3) Language Packs
- Access Manager SDK Support for .NET
- Multi-Language Deployments and English Only Messages
- Native POSIX Thread Library (NPTL) for Linux
- Packages for Upgrading
- Platform Support

> **See Also:** Chapter 4, "System Behavior and Backward Compatibility" for changes in behavior in all Oracle Access Manager 10.1.4 releases

10*g* (10.1.4.3) Installers, Patches, Bundle Patches, and Newly Certified Agents

A new topic has been added to clarify differences between Oracle Access Manager product packages and their use.

> **See Also:** "About Installers, Patch Sets, Bundle Patches, and Newly Certified Components" on page 4-2

10*g* (10.1.4.3) Language Packs

Oracle Access Manager 10*g* (10.1.4.3) provides 10*g* (10.1.4.3) Language Packs. After upgrading and before applying a patch, you must remove 10*g* (10.1.4.0.1) language packs; after patching you can install 10*g* (10.1.4.3) language packs.

See Also:

- "Language Packs" on page 3-11
- "Acquiring and Using Multiple Languages" on page 4-11
- "Preparing Multi-Language Installations" on page 8-7
- "Preparing Upgraded Environments for 10g (10.1.4.3) Language Packs" on page 14-3

For more information, see "Acquiring and Using Multiple Languages" and "Preparing Upgraded Environments for 10g (10.1.4.3) Language Packs" in the the Oracle Access Manager Upgrade Guide.

Access Manager SDK Support for .NET

Oracle Access Manager 10*g* (10.1.4.3) software developer kit (SDK) for Windows continues to support .NET Framework 1.1 and Microsoft Visual Studio 2002. AccessGates created using the independently installed SDK will continue this support.

A new and optional 10*g* (10.1.4.3) SDK is also provided for Windows which supports .NET version 2 and MSDE Visual Studio 2005. This is specific to only custom AccessGates. This SDK can be independently installed in your deployment whether it is a fresh installation or an upgraded environment that includes the 10*g* (10.1.4.3) patch.

See Also: "Recompiling Custom AccessGates for .NET 2 Support" on page 13-5

Multi-Language Deployments and English Only Messages

Oracle Access Manager 10*g* (10.1.4.3) provides new Lanauage Pack installers. 10*g* (10.1.4.3) Lanauage Packs are required in any 10*g* (10.1.4.3) deployment, whether it is a fresh installation or an upgraded and patched deployment.

See Also: "Acquiring and Using Multiple Languages" on page 4-11

Messages for minor releases (10*g* (10.1.4.2.0) and 10*g* (10.1.4.3) added as a result of new functionality might not be translated and can appear in only English.

Native POSIX Thread Library (NPTL) for Linux

On Linux, Oracle Access Manager 10*g* (10.1.4.3) supports Native POSIX Thread Library (NPTL). However, LinuxThreads is used by default for all except Oracle Access Manager Web components for Oracle HTTP Server 11g. Using LinuxThreads required that you set the environment variable LD_ASSUME_KERNEL, which is used by the dynamic linker to decide what implementation of libraries is used. When you set LD_ASSUME_KERNEL to 2.4.19 the libraries in /lib/i686 are used dynamically.

See Also: "General Behavior Changes" on page 4-8 for more information on using Native POSIX Thread Library with Oracle Access Manager on Linux

Packages for Upgrading

In an existing Oracle Access Manager deployment, the base release for 10*g* (10.1.4.3) is 10*g* (10.1.4.2.0). You can use either 10*g* (10.1.4.0.1) packages for an in-place component upgrade or utilities for a zero downtime ugprade available with the 10*g* (10.1.4.2.0) patch set. Oracle Access Manager 10*g* (10.1.4.3) installers cannot be used to upgrade an earlier Oracle Access Manager release.

See Also: "Obtaining Packages for Upgrades" on page 4-4

Platform Support

Oracle continually certifies Oracle Access Manager support with various third-party platforms, Web server releases, directory server releases, and applications. For the latest support details, see the certification matrix that is available at:

`http://www.oracle.com/technology/software/products/ias/files/fusion_certification.html`

See Also: "Platform and SDK .NET Support" on page 4-1

Upgrade Using the Zero Downtime Method

Using Release 10.1.4 Patchset 1 (10.1.4.2.0) tools and details in "Upgrading Using the Zero Downtime Upgrade Method", you can upgrade your deployment while ensuring there is little or no downtime for your customers (zero downtime upgrade method). The resulting deployment will be Release 10.1.4 Patchset 1 (10.1.4.2.0). Following a zero downtime upgrade, you can apply the latest patch (10*g* (10.1.4.3)) and bundle patches.

See Also: Chapter 15, "Introduction to the Zero Downtime Upgrade Method"

Upgrade Planning, Methodology, and Deployment Scenarios

Planning details for typical deployment scenarios have been added to this book to assist you and your team. This chapter includes a methodology that you can follow based on the two deployment scenarios. Downtime assessment considerations are included to help you establish a time frame for the upgrade in your environment.

See Also: Chapter 1, "Introduction to Oracle Access Manager Upgrades and Planning"

Upgrade Planning and Tracking Summaries

Planning summaries are a useful guide as you gather information about your existing deployments and begin planning for the upgrade. Tracking summaries are included so that you and your team can quickly follow the progession of activities that must be performed during any upgrade process.

See Also: Appendix F, "Planning and Tracking Summaries"

Upgrade Concepts and Methods

This book provides upgrade concepts and methods, as well as strategies for back up and recovery and for proceeding with an upgrade when certain support has been deprecated.

See Also: Chapter 2, "Upgrade Concepts, Strategies, and Methods"

Automated Upgrade Processes and Manual Tasks

Get a quick tour of the automated processes and manual tasks involved in the upgrade. Discussions include information about what is preserved during automated processing and what must be handled manually

See Also: Chapter 3, "About Automated Processes and Manual Tasks"

Support Changes

Changes in supported platforms and versions are discussed in this book.

See Also:

"Supported Components and Applications" on page 3-1

"Support Deprecated" on page 2-12

"Platform and SDK .NET Support" on page 4-1

Globalization, System Behaviors, and Backward Compatibility

A new chapter has been added that describes system behavior changes between earlier Oracle Access Manager releases and the latest 10.1.4 release. For example, Oracle Access Manager 10.1.4 has undergone a process to provide globalization support for 29 languages through the use of Unicode. This support is discussed in detail. Some file formats have changed form the proprietary .lst format to .xml as you can see in all guides. Other system changes have also occurred and are summarized in a centralized overview.

See Also: Chapter 4, "System Behavior and Backward Compatibility"

Upgrade Prerequisites and Preparation

Tasks that you must complete to prepare your earlier installation for the upgrade have been expanded and divided for your convenience.

See Also:

Chapter 5, "Preparing for Schema and Data Upgrades"

Chapter 8, "Preparing Components for the Upgrade"

Upgrading the Schema and Data

A new methodology has been developed to assist administrators who are responsible for the schema and data to perform a schema and data upgrade and ensure that it is successful before the rest of the installation is upgraded.

See Also:

Chapter 5, "Preparing for Schema and Data Upgrades"

Chapter 6, "Upgrading Identity System Schema and Data In Place"

Chapter 7, "Upgrading Access System Schema and Data In Place"

Component Upgrades

A new section in this book is devoted to upgrading components following a successful schema and data upgrade.

See Also:

Chapter 8, "Preparing Components for the Upgrade"

Chapter 9, "Upgrading Remaining Identity System Components In Place"

Chapter 10, "Upgrading Access System Components In Place"

Customization Upgrades

This information has been expanded and divided according to customization types: Identity System customizations and Access System customizations.

See Also:

Chapter 12, "Upgrading Your Identity System Customizations"

Chapter 13, "Upgrading Your Access System Customizations"

Auditing and Reporting Changes

The definitions of oblix_audit_events, oblix_rpt_as_reports, oblix_rpt_as_resources, and oblix_rpt_as_users tables have changed in Oracle Access Manager 10.1.4 to support internationalized characters. The steps you need to take to process internationalized characters depend on the type of database you are using.

See Also:

"Upgrading Auditing and Access Reporting for the Identity System" on page 12-2

"Upgrading Auditing and Reporting for the Access Server" on page 13-2

Combining Challenge and Response Attributes on a Panel

In earlier releases, the challenge phrase and response attributes were allowed on different panels of the Profile page of the User Manager, Group Manager, and Organization Manager. In 10.1.4, however, both the challenge phrase and response attributes must be on the *same* panel.

See Also: "Combining Challenge and Response Attributes on a Panel" on page 12-8

Validating Your Upgraded Installation

A new chapter has been added to help you validate the upgraded environment.

See Also: Chapter 14, "Validating the Entire System Upgrade"

Upgrading With a Switch From Solaris to Linux

Oracle Access Manager provides a way to upgrade an existing deployment to 10*g* (10.1.4.0.1) on a Solaris platform while switching to a supported Linux platform. The resulting deployment will be release 10*g* (10.1.4.0.1). After this in-place component

upgrade, you can apply the latest patches (10*g* (10.1.4.2.0) and 10*g* (10.1.4.3)), and bundle patches.

> **See Also:** Appendix B, "Migrating from a Solaris Platform to a Linux Platform While Upgrading"

Troubleshooting

A new troubleshooting appendix includes information to help you during all upgrades tasks and processes.

> **See Also:** Appendix G, "Troubleshooting the Upgrade Process"

Part I

Introduction

This part of the book introduces upgrading from earlier product releases to 10*g* (10.1.4.0.1).

Part I contains the following chapters:

1

Introduction to Oracle Access Manager Upgrades and Planning

This chapter provides an overview of upgrade methods, tasks, and the planning that you must perform before you upgrade. Oracle provides two upgrade methodologies so that you can choose the one that best suits your needs. Unless explicitly stated, information applies equally to both methods. This chapter includes the following topics:

Note: This book primarily uses new product and component names. For example, Oracle Access Manager was formerly known as Oblix NetPoint or Oracle COREid. For details, see "What's New in Oracle Access Manager?" on page xxvii.

About Upgrading, Upgrade Methodologies, and Upgrade Packages

The latest release provides significant enhancements and regulatory compliance over previous releases. For example, each major release provides new features and additional platform support, and can include changes to the schema, data, parameter, or message files.

The term *upgrade* refers to the process of installing the latest major product release over an earlier product release (whether the earlier release has been patched or not).

Your existing data and configurations are made available to the new release. For example, suppose you have installed Oracle Access Manager 6.1.1 and added new object classes and panels; assigned or delegated administrative rights to key people; created workflows; protected resources with a policy domain; configured authentication schemes and authorization rules; customized the way the product looks or operates; and modified message files. After upgrading to 10.1.4, you do not need to replicate all the work you had completed on the earlier release. However, certain items

must be handled manually. For more information about automated processes and manual tasks, see Chapter 3.

Starting with Oracle Access Manager 10*g* (10.1.4.2.0), Oracle provides two upgrade methodologies so that you can choose the one that best suits your needs. The method that you choose will determine the packages that you need::

- In-Place Upgrade Method
- Zero Downtime Upgrade Method
- Upgrade Packages

In-Place Upgrade Method

The in-place upgrade method requires release 10*g* (10.1.4.0.1) component installers to upgrade existing components where they currently reside. You must upgrade each earlier component instance in your deployment. Separate platform-specific packages are provided for each component. The same 10*g* (10.1.4.0.1) package can be used to install or upgrade using the in-place method. For example:

Windows: Oracle_Access_Manager10_1_4_0_1_win32_*Component*.exe
Solaris: Oracle_Access_Manager10_1_4_0_1_sparc-s2_*Component*

Note: You cannot use 10*g* (10.1.4.3) packages for upgrading.

The chapters in Part I of this book provide general information that you need to be aware of before you start any upgrade. Specific tasks that you need to perform for a in-place upgrade are described in Part II and Part III of this book.

Unless explicitly stated, information applies equally regardless of the upgrade method that you choose. For example:

- Part IV explains how to upgrade your customizations, which is a manual task.
- Part V explains how to validate the upgraded environment to ensure that everything is working properly.
- Part VII provides a number of appendixes where you will find information that falls outside the scope of the main topics.

After this upgrade, Oracle recommends that you apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) and then Release 10.1.4 Patch Set 2 (10.1.4.3.0). For more information, see "Obtaining Packages for Upgrades" on page 4-4.

Zero Downtime Upgrade Method

The zero downtime upgrade method (also known as an out-of-place upgrade), is described in Part VI of this book. This method requires that you obtain the MigrateOAM script that is available with Oracle Access Manager 10*g* (10.1.4.2.0).

Note: The 10*g* (10.1.4.2.0) patch set provides tools for the zero downtime method. However, patch set packages cannot be used to install new components nor to upgrade components using the in-place upgrade method.

After upgrading to 10*g* (10.1.4.2.0), you can apply the 10*g* (10.1.4.3) patch set. You cannot use 10*g* (10.1.4.3) packages to upgrade.

The chapters in Part I of this book provide general information that you need to be aware of before you start any upgrade. Unless explicitly stated, information applies equally regardless of the upgrade method that you choose. As you perform the zero downtime upgrade, you will be directed to discussions outside of Part VI that apply to both methods. For example:

- Part IV explains how to upgrade earlier customizations, which is a manual task.
- Part V explains how to validate the upgraded environment to ensure that everything is working properly.
- Part VII provides a number of appendixes where you will find information that falls outside the scope of the main topics, including troubleshooting tips.

After this upgrade, Oracle recommends that you apply the 10*g* (10.1.4.3) patch. For more information, see "Obtaining Packages for Upgrades" on page 4-4.

Upgrade Packages

The base release for 10*g* (10.1.4.3) is 10*g* (10.1.4.2.0). Oracle Access Manager 10*g* (10.1.4.3) installers cannot be used to upgrade an earlier Oracle Access Manager release.

To upgrade earlier Oracle Access Manager instances (6.x or 7.x) to 10.1.4, you must use either:

- **In-Place Method**: Use 10*g* (10.1.4.0.1) installers available on OTN to perform an in-place component upgrade:.

  After upgrading components in place, you can apply the 10*g* (10.1.4.2.0) patch and then apply the 10*g* (10.1.4.3) patch.

  or

- **Zero Downtime Method**: Use 10*g* (10.1.4.2.0) packages available on My Oracle Support (formerly MetaLink) to obtain the tools you need to perform a zero downtime upgrade.

  After a zero downtime upgrade, you can apply the 10*g* (10.1.4.3) patch.

For more information, see "Obtaining Packages for Upgrades" on page 4-4.

Typical Deployment Scenarios

This book covers upgrades for Oracle Access Manager components only. For details about upgrading Oracle Application Server components, see *Oracle Application Server Upgrade and Compatibility Guide*.

Oracle Access Manager deployments fall into two categories: Identity System only or joint deployments of both the Identity and Access Systems. The upgrade tasks that must be performed, and the sequence in which you perform these tasks, depend upon the type of deployment you have. The topics in this section apply whether you choose

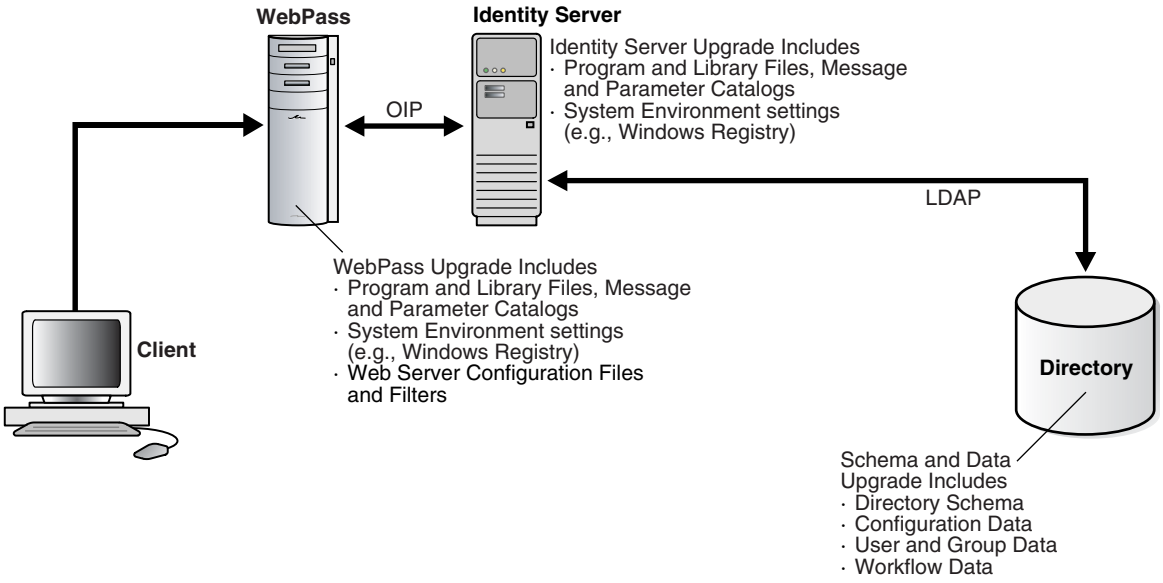
to perform a in-place upgrade or you decide to use the zero downtime upgrade method. For more information about deployment types and upgrading, see:

- About Upgrading Identity System Only Deployments
- About Upgrading Joint Identity System and Access System Deployments

About Upgrading Identity System Only Deployments

Figure 1–1 illustrates a very simple Identity System-only deployment. Identified in the figure are the types of information that are upgraded for each Identity System component. As you can see, the Identity System schema and data are also upgraded.

Figure 1–1 Identity System Deployment Overview



The Oracle Access Manager schema and Identity System data reside in the directory server. Identity System schema and data upgrades are performed only once and require write access to information in the directory server.

Identity System Schema and Data Upgrades

Identity System schema and data upgrades include updating the following information types to meet requirements of the latest release:

- Oracle Access Manager schema
- Oracle Access Manager configuration data
- Oracle Access Manager user and group data and run-time information
- Oracle Access Manager workflow data

> **See Also:** Part VI, if you are using the zero downtime upgrade method.

Component information resides in the installation directory of the specific Oracle Access Manager component. The type of information that is upgraded depends on the component type: Oracle Access Manager Server or Oracle Access Manager Web component.

Identity Server Component Upgrades

Depending on the upgrade method that you use, each Identity Server component upgrade brings the following information up to release 10*g* (10.1.4.0.1) (in-place method) or 10*g* (10.1.4.2.0) (zero downtime method):

- Program and library files, including message and parameter catalogs, are replaced with the latest versions.
- Configuration settings, as well as system environment settings (in the Windows registry, for example), are updated to comply with requirements for the latest Identity Server release.

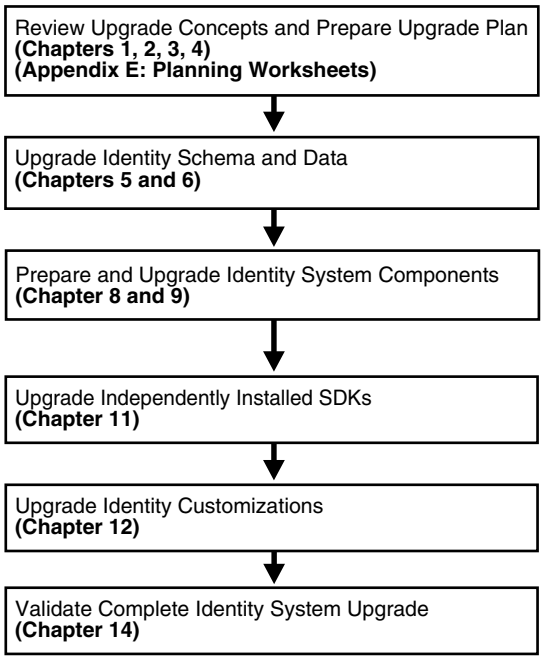
Identity System Web Component Upgrades

WebPass is the Identity System Web component. Depending on the upgrade method that you use, each WebPass component upgrade brings the following information up to release 10*g* (10.1.4.0.1) (in-place method) or 10*g* (10.1.4.2.0) (zero downtime method):

- Program and library files, including message and parameter catalogs, are replaced with the latest versions.
- WebPass configuration settings, as well as system environment settings (in the Windows registry, for example), are updated to comply with requirements for the latest WebPass release.
- Configuration files and filters for the Web server hosting the WebPass plug-in are updated to accommodate requirements for the latest WebPass release.

Figure 1–2 illustrates the sequence of upgrade tasks that you must perform when you have an Identity System-only deployment and you are using the in-place upgrade method.

Figure 1–2 Identity System Only In-Place Upgrade Tasks and Sequence

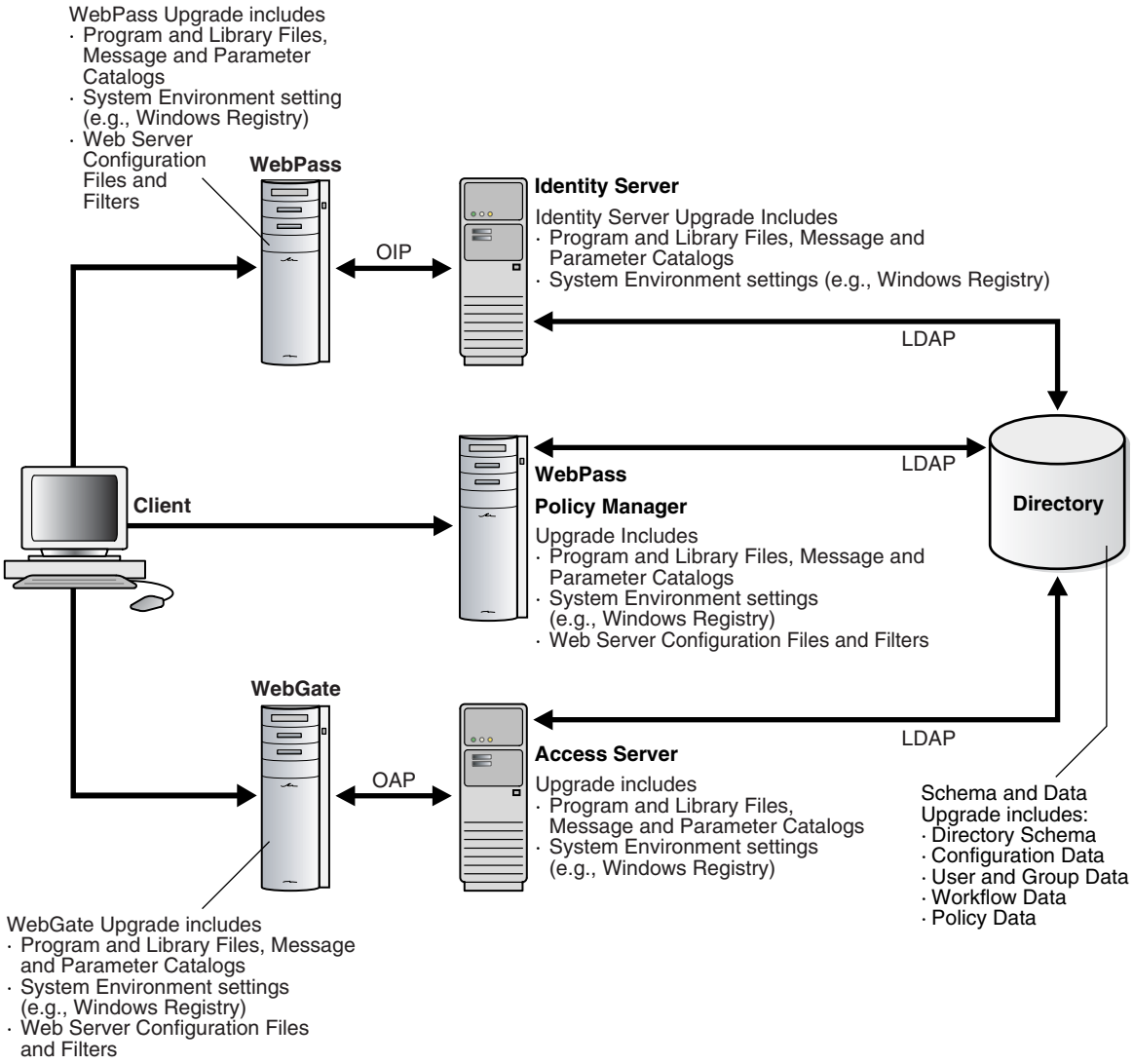


An introduction to each task is described in "About the Execution Stage for In-Place Upgrades" on page 1-10. For information about the zero downtime upgrade method and tasks, see Part VI.

About Upgrading Joint Identity System and Access System Deployments

Figure 1–3 illustrates a very simple joint deployment of both the Identity System and Access System. Identified in the figure are the types of information that are upgraded for each component. As you can see, both the Identity System and Access System schema and data are also upgraded. The same types of information are upgraded whether you use the in-place upgrade method or the zero downtime upgrade method.

Figure 1–3 Joint Identity and Access System Deployment Overview



The Oracle Access Manager schema and Identity and Access System data reside in the directory server. Schema and data upgrades include the information that is described next and require write access to information in the directory server.

Identity System Schema and Data Upgrades

Even in a joint Identity and Access System deployment, Identity System schema and data upgrades include updating the following information types to meet the requirements of the latest release:

- Oracle Access Manager schema
- Oracle Access Manager configuration data
- Oracle Access Manager user and group data and run-time information
- Oracle Access Manager workflow data

Access System Schema and Data Upgrades

Access System schema and data upgrades include updating the following information types to meet requirements of the latest release:

- Oracle Access Manager policy data
- Additional schema updates are not typically required for the Access System unless you have directory instances configured for use by only the Access System

Component information resides in the installation directory of the specific Oracle Access Manager component. The type of information that is upgraded depends on the component type: Oracle Access Manager Server or Oracle Access Manager Web component. For example:

Identity Server and Access Server Upgrades

Depending on the upgrade method you choose, each Identity Server and Access Server component upgrade brings the following information up to release 10*g* (10.1.4.0.1) (in-place method) or 10*g* (10.1.4.2.0) (zero downtime method):

- Program and library files, including message and parameter catalogs, are replaced with the latest versions.
- Configuration settings, as well as system environment settings (in the Windows registry, for example), are updated to comply with requirements for the latest Identity Server release.

Policy Manager, WebPass, and WebGate Upgrades

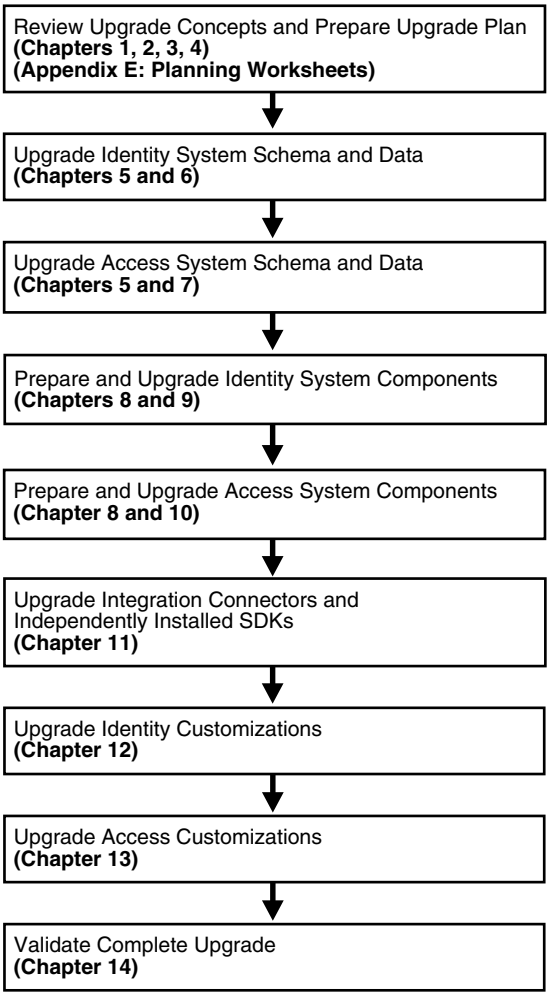
Depending on the upgrade method you choose, each Oracle Access Manager Web component upgrade (Policy Manager, WebPass, and WebGate) brings the following information up to release 10*g* (10.1.4.0.1) (in-place method) or 10*g* (10.1.4.2.0) (zero downtime method):

- Program and library files, including message and parameter catalogs, are replaced with the latest versions.
- Configuration settings, as well as system environment settings (in the Windows registry, for example), are updated to comply with requirements for the latest WebPass release.
- Configuration files and filters for the Web server hosting the Web component plug-in are updated to accommodate requirements for the latest release.

A WebPass must also be installed with each Policy Manager on the same Web server instance, at the same directory level.

Figure 1–4 illustrates the sequence of upgrade tasks that you must perform when you have a joint Identity and Access System deployment and you are using the in-place upgrade method.

Figure 1–4 In-Place Upgrade Tasks in Joint Identity and Access System Deployments



For more information, see "In-Place Upgrade Task Overview". The tasks that must be performed and their sequence will be different when you use the zero downtime upgrade method.

See Also: Part VI, for details on a zero downtime upgrade.

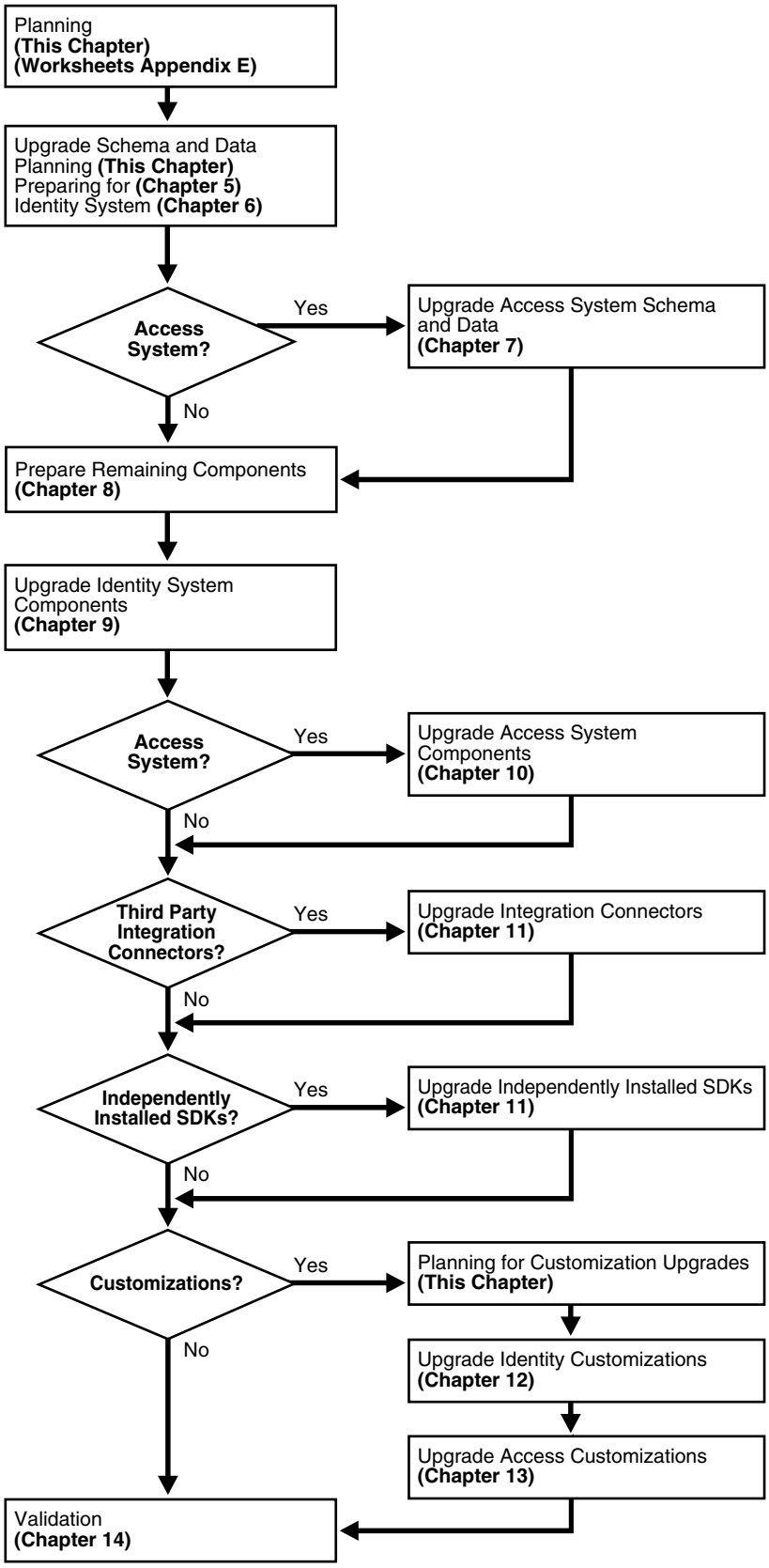
In-Place Upgrade Task Overview

This discussion provides a high-level introduction to the sequence of tasks that you must perform when you use the in-place upgrade method. This is only a starting point in your planning.

See Also: Part VI, for details on a zero downtime upgrade.

You perform the entire in-place upgrade task in sequential order for the deployment approach adopted in your organization: Identity System only or Joint Identity and Access System deployment. Figure 1–5 provides a high-level view of the upgrade tasks that must be performed, and the order in which these tasks must be performed. Additional information is provided in "About the Execution Stage for In-Place Upgrades" on page 1-10.

Figure 1–5 High-Level In-Place Upgrade Task Overview



About the Planning Stage

Before you start any in-place upgrade activities, it is important to read through this entire chapter. For downtime assessment planning for in-place upgrades, see "Planning Considerations for System Downtime During In-Place Upgrades" on page 1-19.

Whether you perform a in-place upgrade or you use the zero downtime upgrade method, you need to collect and record specific details about your existing deployment. For more information and specific details about planning, see "In-Place Upgrade Planning and Deliverables" on page 1-12. Summary pages are provided to help you gather details about your existing deployment. For more information, see Appendix F.

> **See Also:** Part VI, if you are using the zero downtime upgrade method.

About the Execution Stage for In-Place Upgrades

This stage is illustrated in Figure 1–5 and outlined next. The sequence of tasks that you must complete is critical to your success. Summaries that can help you track the progress of upgrade tasks in your environment are provided in Appendix F.

> **Note:** Task overviews like the one here outline the tasks that you must perform and provide a pointer to the discussion that provides the information you need to perform the task. For zero downtime tasks, see "Zero Downtime Upgrade Tasks and Sequencing" on page 15-16.

Task overview: Performing an upgrade using the in-place method includes

1. **Planning**: Develop a planning document that defines a detailed approach for each of your installed environments is described in:.
   - In-Place Upgrade Planning and Deliverables on page 1-12 outline details you need to record for all earlier installed Identity and Access System components, directory servers, Web servers, and applications
   - In-place Schema and Data Upgrade Planning on page 1-14 introduces considerations and sequences for schema and data upgrades
   - Customization Upgrade Planning on page 1-16 discusses considerations and sequences to upgrade earlier customizations
   - Planning Considerations for System Downtime During In-Place Upgrades on page 1-19 introduces strategies to minimize system downtime during the entire upgrade procedure
   - Planning Considerations for Extranet and Intranet Deployments are described on page 1-25
   - Upgrade Paths on page 1-27 outlines starting releases and strategies for each one
2. **Upgrading the Schema and Data**: Prepare for and upgrade the earlier Oracle Access Manager schema and data as described in the following topics:
   - This chapter: "In-place Schema and Data Upgrade Planning" on page 1-14
   - Chapter 5, "Preparing for Schema and Data Upgrades"

- Chapter 6, "Upgrading Identity System Schema and Data In Place"
- Chapter 7, "Upgrading Access System Schema and Data In Place"

3. **Preparing Remaining Components**: After the in-place schema and data upgrade, you must prepare other components for the upgrade as described in Chapter 8.
4. **Upgrading Identity System Components**: Perform in-place Identity System component upgrades as described in Chapter 9 and outlined in the following list:
   - Upgrading Remaining Identity Servers In Place, one by one, as described on page 9-3

     Note: When you have auditing and access reporting configured for a database in the earlier environment, immediately following each Identity Server upgrade you must import earlier Identity Server auditing data to a new database instance, as discussed in "Upgrading Auditing and Access Reporting for the Identity System" on page 12-2.

   - Upgrading Remaining WebPass Instances In Place, one by one, on page 9-8
   - Validating the In-place Identity System Upgrade on page 9-11
   - Backing Up Upgraded Identity Component Information on page 9-12
5. **Upgrading Access System Components**: Perform the in-place Access System component upgrade as described in Chapter 10 and outlined in the following list:
   - Creating a Temporary Directory Profile For Access System Upgrades must be performed after upgrading the Access System schema and data and before upgrading any other Access System components as described on page 7-10
   - Upgrading Remaining Policy Managers In Place, one by one, as described on page 10-2
   - Upgrading Access Servers In Place on page 10-6

     Note: When you have auditing and access reporting configured for a database in the earlier environment, immediately following each Identity Server upgrade you must import earlier Identity Server auditing data to a new database instance, as discussed in "Upgrading Auditing and Reporting for the Access Server" on page 13-2.

     Upgraded Access Servers are automatically backward compatible with earlier WebGates. For more information, see Chapter 4.

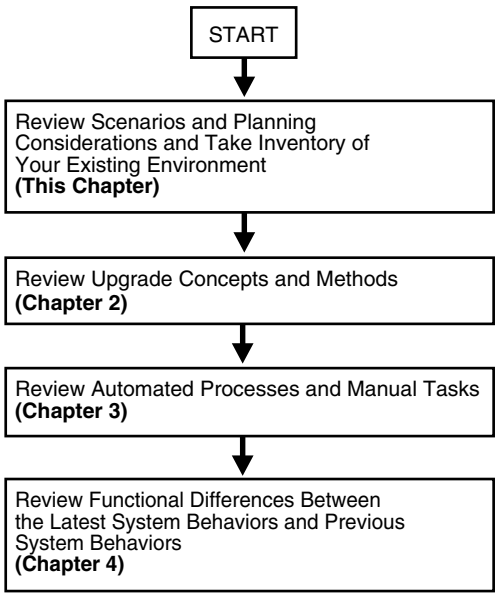
   - Upgrading WebGates In Place can be staggered and performed gradually over time, as discussed in on page 10-9.
6. **Upgrading Third-Party Integration Connectors**: Upgrade any Oracle Access Manager connectors for third-party integration components and for the J2EE Application Server (if any are being used) as described on page 11-1.
7. **Upgrading Independently Installed Software Developer Kits**: Perform this upgrade to ensure the older APIs are upgraded (and ensure that any plug-ins developed using those APIs are compatible and working properly in the upgraded environment) as described on page 11-4.

8. **Upgrading Customizations**: This task can be started well in advance of other tasks and performed in a separate environment to reduce the amount of system downtime as described in:
   - This chapter: Customization Upgrade Planning on page 1-16
   - Chapter 12, "Upgrading Your Identity System Customizations"
   - Chapter 13, "Upgrading Your Access System Customizations"
9. **Validating the Upgrade**: After all other work is completed, you can verify system operation as described in Chapter 14, "Validating the Entire System Upgrade".

In-Place Upgrade Planning and Deliverables

Oracle strongly recommends that before starting any in-place upgrade task, you and your team become familiar with all topics suggested in Figure 1–6, and the overview that follows the figure. While many of the planning deliverables are the same whether you perform an in-place upgrade or a zero downtime upgrade, if you are using the zero downtime upgrade method look for details in "Developing a Plan for a Zero Downtime Upgrade" on page 15-37.

Figure 1–6 In-Place Upgrade Planning Overview



Task overview: Planning for an in-place upgrade

1. Review the following information in this chapter to get a high-level overview of the upgrade task, considerations, planning deliverables, deployment scenarios, and starting points. For more information, see:
   - Planning Considerations
   - Planning Deliverables
   - In-place Schema and Data Upgrade Planning
   - Customization Upgrade Planning
   - Planning Considerations for System Downtime During In-Place Upgrades

- Planning Considerations for Extranet and Intranet Deployments
- Upgrade Paths

2. Review Chapter 2 to gain a deeper understanding of the upgrade concepts and the methods and strategies you will use, and to learn about any applications and components that have been deprecated (no longer officially supported).
3. Review Chapter 3 to learn about the sequence of events that occur during the program-driven component upgrade, as well as what is preserved and what requires manual handling by you.
4. Investigate the functional differences between earlier releases and Oracle Access Manager 10*g* (10.1.4.0.1) in the centralized summary provided in Chapter 4, "System Behavior and Backward Compatibility".

> **Note:** During component upgrades, backward compatibility with earlier plug-ins and WebGates is automatically enabled. However, the system might behave differently than in earlier releases.

Planning Considerations

As you begin to plan for the upgrade in your environment, be sure to take the following considerations in to account:

- **Deployment Scenarios**: The upgrade task should be performed in a sequential order in relation to the deployment approach adopted in your organization: Identity System only versus Joint Identity and Access System; intranet versus extranet; number and type of installed environments.

  For example, if your earlier Identity System-only release is an intranet-only deployment with three different LDAP environments (one for Development, another for Test/Demonstration, and one Production deployment), the upgrade process should be performed and fine tuned in the smaller environments before ultimately being performed in your production environment. For more information about intranet or extranet deployments, see "Planning Considerations for Extranet and Intranet Deployments" on page 1-25.

- **Stability**: Each environment that you upgrade should currently be running a stable and appropriately installed release. In other words earlier Oracle Access Manager configurations in each existing environment must be confirmed to be stable and complete before you start upgrading.

  A good approach to validate that the existing environment is stable is to develop a deterministic test script and run it both before and after the upgrade. For example, the script could exercise a full end-to-end transaction by requesting a single page that requires authentication and authorization and a workflow request (all triggered by a single page request).

- **Administrative Access**: Schema upgrade operations (as well as other upgrade operations) require administrative access with write permissions to the directory server and Oracle Access Manager files.

- **Schema and Data Upgrades**: Preparing an earlier master Identity System (formerly known as the COREid System) and Policy Manager (formerly known as the Access Manager component) is a critical first step to performing a schema and data upgrade. For more information, see "In-place Schema and Data Upgrade Planning" on page 1-14.

- **Customization Upgrades**: This is primarily a manual process. Oracle recommends that you complete any testing and alterations in a development environment before redeploying these in a shared or production environment. For more information, see "Customization Upgrade Planning" on page 1-16.

In-place Schema and Data Upgrade Planning

The schema and data upgrade must be performed by someone with administrator privileges that include write access to the directory and files. The sequence of tasks you must perform to upgrade your earlier Oracle Access Manager schema and data to 10*g* (10.1.4.0.1) depend on the type of deployment you have (Identity System only or both the Identity and Access Systems).

The methodology for upgrading the schema and data is new and designed to help you ensure that the schema and data are properly upgraded before you start upgrading other components. This will differ slightly, depending upon your original installation.

Identity System Only: When you have only the Identity System deployed (with one or more Identity Servers and WebPass instances), you perform the schema and data upgrade, then complete other upgrade tasks as indicated in the next overview.

Task overview: Upgrading the schema and data in place with only an Identity System installed

1. Prepare and backup directory instances and data for the Identity System as described in Chapter 5.
2. Add an earlier instance of the following components to create a master environment for the schema and data upgrade:
   - One earlier Identity Server instance (formerly known as the NetPoint or COREid Server) as a secondary server for your original master read/write directory server instances. The directory server administrator will use this instance as the Master Identity Server when upgrading the schema and data.
   - One earlier WebPass to communicate with the master Identity Server you added

     For more information, see "Adding An Earlier Identity System to Use as a Master for the In-place Method" on page 5-22.
3. Upgrade the added master Identity System components and accept the automatic schema and data upgrade in the sequence in the following list:
   - Upgrade the master Identity Server, schema, and data (then upload directory index files).
   - Upgrade the master WebPass (there is no schema nor data upgrade here).
   - Validate the Identity System schema and data upgrade.

     For more information about the in-place schema and data upgrade, see Chapter 6.
4. Prepare, then upgrade (and verify) remaining Identity System components, then integration components, then independently installed SDKs, and redeploy upgraded Identity System customizations in the sequence shown in Figure 1–5, "High-Level In-Place Upgrade Task Overview".

Joint Identity and Access System: When your installation includes both the Identity *and* Access Systems, the overall process is a bit different as outlined in the next overview. In both cases, the directory server administrator will use the master

environment that is added before upgrading the Identity and Access System schema and data. However, the sequence differs after that.

Task overview: Upgrading the Identity and Access System schema and data in-place

1. Prepare for the in-place schema and data upgrade, and backup directory instances and data for both the Identity and Access System as described in Chapter 5.
2. Add an earlier instance of the following components:
   - One earlier Identity Server instance (formerly known as the NetPoint or COREid Server) as a secondary server for your original master read/write directory server instances.
   - One earlier WebPass to communicate with the master Identity Server you added

     For more information, see "Adding An Earlier Identity System to Use as a Master for the In-place Method" on page 5-22.
   - One earlier Policy Manager instance (formerly known as the Access Manager component) as a secondary server for your original master read/write directory server instances. For more information, see "Adding an Earlier Access Manager to Use as a Master for the In-Place Method" on page 5-28.
3. **Upgrade Identity Schema and Data**: Upgrade the added master components and accept the automatic schema and data upgrade in the sequence in the following list:
   - Upgrade the master Identity Server, schema, and data (then upload directory index files).
   - Upgrade the master WebPass (there is no schema nor data upgrade here).
   - Validate the Identity System schema and data upgrade.

     For more information about ugrading the Identity schema and data in place, see Chapter 6.
4. **Upgrade Access System Schema and Data**: Upgrade the added master component and accept the automatic Access System schema and data upgrade in the following sequence:
   - Upgrade the master Policy Manager, Access System schema and policy data, then upload directory index files.
   - Validate the Access System schema and data upgrade.

     For more information about upgrading the Access System schema and data in place, see Chapter 7.
5. **Access System**: Create a temporary directory profile to provide write access to policy data by the Access Server for later WebGate upgrades, as described in "Creating a Temporary Directory Profile For Access System Upgrades" on page 7-10.
6. Prepare, then upgrade (and verify) remaining Identity components, then Access System components, then integration components, then independently installed SDKs, and redeploy Identity System customizations then Access System customizations, as shown in Figure 1–5, "High-Level In-Place Upgrade Task Overview".

Customization Upgrade Planning

Customized configurations built around your earlier Oracle Access Manager installation must be manually tested for compatibility and upgraded for 10*g* (10.1.4.0.1). These include front-end customizations created using IdentityXML, PresentationXML, and the Access Manager API (formerly known as the Access Server API or simply as the Access API). Also included are back-end customizations created with the Identity Event API, Authentication API, Authorization API (including AccessGates and plug-ins).

Testing and upgrading earlier customizations is primarily a manual process that can take some development time. It is important to plan ahead to ensure that your customizations can be redeployed into a shared environment quickly (for example, for QA, Integration, or Production).

See Also: Part VI if you are performing a zero downtime upgrade.

Recommendation: Upgrading customizations and plug-ins

1. Start well in advance of other upgrades and review customization considerations in "Planning Considerations for System Downtime During In-Place Upgrades" on page 1-19.
2. Develop deterministic test scripts to run both before and after the upgrade to exercise a full end-to-end transaction.

   For example, the script could request a single page that requires authentication and authorization and a workflow request (all triggered by a single page request). Test scripts that verify the behavior of your earlier customizations help you ensure that these work as expected and produce the same result, both before and after the upgrade. Your test scripts will depend on the specific customization being exercised.
3. Compile and test the code, and the instructions you developed to explain how to configure the customization in a given environment.
4. In your existing environment, test the earlier customization (styles, AccessGates, or plug-ins for example) to ensure it is working as expected.
5. Install 10*g* (10.1.4.0.1) in a small development environment (ideally a *sandbox*-type setting) where the dependency on the overall Oracle Access Manager deployment is minimal. For details, see the *Oracle Access Manager Installation Guide*.
6. In the 10*g* (10.1.4.0.1) sandbox, test the earlier customization and perform any manual steps needed to upgrade the customization to operate with 10*g* (10.1.4.0.1) functionality.
7. Upgrade Oracle Access Manager in the test or development environment, as described in "In-Place Upgrade Task Overview" on page 1-8.
8. When the test or development environment upgrade is successful, you can redeploy the compiled binaries and custom components, then upgrade your production environment.

For information about specific customizations, see:

- Planning Considerations for System Downtime During In-Place Upgrades on page 1-19
- Chapter 12, "Upgrading Your Identity System Customizations"
- Chapter 13, "Upgrading Your Access System Customizations"

Planning Deliverables

Planning deliverables include preparing a document where you define and record a detailed plan that identifies how the upgrade tasks will be performed within each environment. You can reduce the amount of system downtime by fine tuning the plan and tasks to meet the specific needs of each environment and to take into account the number of servers, downtime windows, and the like.

In addition, Oracle recommends that you prepare a detailed inventory of all earlier components and customizations. The details that you need to record for each component and the environment are described next. Planning summary pages provided in Appendix F.

Task overview: Developing your planning deliverables

1. **Create a Planning Document**: Define and record a detailed plan identifying how the upgrade process will be performed for each environment. For more information, see also:
   - Planning Considerations for System Downtime During In-Place Upgrades on page 1-19
   - Planning Considerations for Extranet and Intranet Deployments on page 1-25
2. **Take Inventory of the Earlier Deployment**: If you have not already recorded the exact details of the earlier environment, be sure to include details for Identity and Access components, directory servers, Web servers, and applications as indicated in Table 1–1. Planning summary pages provided in Appendix F.

Table 1–1 Inventory of Earlier Deployment Details

Detail Types	Description
Environment Details	Transport security mode; Simple, Cert, or Open
	Root CA details if certificate mode is used
	Any host definition type entries relevant to NetPoint (for example, /etc/host)
Identity Server Inventory	Workflows, search bases and ACLs
	Object definition details for all objects managed through NetPoint, if possible
	Auditing configuration details
	Password policy configuration
Access Server Inventory	Policy domains, authentication schemes, resource definitions, host identifiers
	Auditing configuration
	Directory profile information

Table 1–1 (Cont.) Inventory of Earlier Deployment Details

Detail Types	Description
Application Tier details that will be impacted during the upgrade	Any WebGate protected integration that uses Cookies or header variables (the impact on these should be minimal) Any custom AccessGate integration created using the API, which can have a more noticeable impact. Applications exposing Oracle Access Manager Identity Portal Inserts (such as portals). Look carefully at these to ensure that "service temporary unavailable" pages can be displayed during the upgrade process when access to workflows is unavailable. Applications relying on IdentityXML are significantly impacted because the IdentityXML service might be unavailable altogether (it could be complicated to separate read-only calls from write calls and might be best to disable the entire application during the upgrade process.)
Administration and Presentation tier details for each WebGate, WebPass, and Web server	Web server type, version, operating system, WebPass or WebGate identifier and exact patch version of the binary (for example, 6.1.1.19 or 7.0.4.2) Exact Oracle Access Manager patch version (for example, 6.1.1.19 or 7.0.4.2) WebPass or WebGate installation directory Connection information between the component and corresponding Oracle Access Manager Server, including primary or secondary status and number of connections
Details for each and every AccessGate, WebGate, Policy Manager, application server integration **Note**: Policy Manager was formerly known as the Access Manager component	HTTP Cookie domain, preferred host name, cache timeout and size, failover threshold Inventory any IdentityXML client that has been custom developed Inventory any virtual IP and DNS aliases used to reference the WebPass or Web server farm protected with WebGate, such that it would be feasible to alter their definition in cases where staged upgrade of the Web server components (WebPass and WebGate be planned/required)

Table 1–1 (Cont.) Inventory of Earlier Deployment Details

Detail Types	Description
Oracle Access Manager Server Tier (for each Identity and Access Server	Exact patch level (6.1.1.19 or 7.0.4.2, for example) Installation directory for the Identity or Access Server Installation directory for the associated WebPass or WebGate TCP port number for the service for example, port 6021) Host name (DNS) and Identity (formerly COREid) Server identifier For the Access Server note the status of the Access Management flag (on or off) Inventory any customizations performed Identify any Identity Event plug-ins For the Access Server, note any customized authentication or authorization plug-ins Record any file-based changes such as changes in globalparams.xml or .lst files Record any PresentationXML and XSL stylesheet customizations Are the Identity Server (and Access Server) configured to audit to files or a database For UNIX systems, record the user name and group membership for the Identity Server (formerly known as the COREid Server)
Directory Server Tier	Exact directory server version and patch level for example, Sun ONE v5.2 SP2) Directory server DNS name and Port Transport security mode: LDAP, LDAPS, ADSI Binding credentials used by Oracle Access Manager DIT and schema objects used in Oracle Access Manager Master/replica configuration details For more information, see "In-place Schema and Data Upgrade Planning" on page 1-14
Customization Assessment and Planning	Ensure that any custom developed plug-ins, Access Manager API clients, IdentityXML clients, PresentationXML customizations, Portal Inserts, and customized styles are compatible with Oracle Access Manager 10*g* (10.1.4.0.1). This is primarily a manual process. For more information, see: ▪ Customization Upgrade Planning ▪ Planning Considerations for System Downtime During In-Place Upgrades

Planning Considerations for System Downtime During In-Place Upgrades

During an upgrade in any environment, system downtime is inevitable. Oracle recommends that you pay special attention to planning and coordinating with any external party that might be directly or indirectly impacted during the upgrade.

See Also: Part VI for details about a zero downtime upgrade.

Most Oracle Access Manager deployments provide a mission-critical element of the enterprise infrastructure by supporting applications. For example, suppose Oracle Access Manager is protecting access to an employee portal, and providing a registration service for new users. During the upgrade, new users might not be able to register. Moreover, there could be a window of time during which access to the portal

and any of the protected applications is not available. This can present significant impact to end users.

This discussion provides information to help you determine the amount of downtime required for the upgrade process and manual upgrade tasks in your environment. There will be some disruption to the services provided by Oracle Access Manager during some portion of the process. However, you can take steps to minimize the overall amount of service downtime. For example, if Oracle Access Manager is deployed in three environments: Development, Test/Demonstration, and Production, then upgrade tasks should be first tried in Development and fine tuned before ultimately being performed in production.

Recommendation: Upgrading each deployment in your environment

1. Perform the entire upgrade task, illustrated next, in your Development environment.
2. When your Development environment is successfully upgraded and confirmed to be running properly, perform the entire upgrade task again in your Test/Demonstration environment.
3. When your Test/Demonstration environment upgrade is successfully completed and running properly, you perform the entire upgrade task in your Production environment.

This approach helps you gauge the time it takes to perform the upgrade in your environment and ensure that all customizations and plug-ins are working properly before you start upgrading in a production environment. This also helps ensure that your production environment upgrade will go smoothly and quickly with fewer service interruptions.

The emphasis is on reducing the impact on availability of Oracle Access Manager (formerly Oblix NetPoint or Oracle COREid) service during the upgrade. One goal of this approach is to identify tactics that can help reduce overall upgrade time and minimize service impact. As you perform upgrade tasks within each environment, you can develop strategies and optimizations that significantly streamline the overall task.

Oracle recommends careful planning to minimize the operational impact of upgrading your earlier environment. Oracle cannot guarantee that a service outage is not required to complete the upgrade.

When planning the upgrade for each environment, it is important to take into account the criticality and number of applications that depend on Oracle Access Manager. This can increase with each environment. Pay special attention to coordinating the change process that the upgrade represents to the environment as a whole. It is important to work with the application owners to ensure that end user impact is properly managed. Standard procedures such as a change control process, scheduled maintenance windows, off hours operation windows, and others should be considered when planning the Oracle Access Manager upgrade.

When assessing the impact of the Oracle Access Manager upgrade, take inventory and categorize the various applications that depend on Oracle Access Manager. This can include applications protected by the Access System, or applications that leverage the Identity System for identity administration functions, as well as the impact on the underlying directory environments. Directory environments are particularly important because the upgrade process requires a directory schema update. In many environments, upgrading the directory schema is a highly privileged operation handled by a directory administration group.

As you take inventory and categorize the various applications, be sure to estimate potential outage windows for each application. This will help set and manage end-user expectations. The estimated duration of outage windows will vary depending on the type of application (whether it is Access System or Identity System dependent) and the estimated duration of the upgrade tasks. For the production environment, estimates can be extrapolated from the experience gained when performing upgrade tasks and fine tuning in your Development and Testing/Demonstration environments.

For more information, see:

- Minimizing Downtime During In-Place Upgrades
- Downtime Assessments for In-Place Upgrades
- Downtime Assessment Example for In-Place Upgrades

Minimizing Downtime During In-Place Upgrades

The upgrade process will require some downtime of enterprise applications that rely on Oracle Access Manager for identity administration, authentication, and authorization. There are a few upgrade tasks that can occur without impacting these applications. Table 1–2 outlines lists the upgrade tasks, their downtime impact, and planning considerations to minimize downtime where applicable.

Table 1–2 Minimizing Downtime

Upgrade Task	Downtime Impact	Steps to Reduce Downtime
Upgrade Planning	None	N/A. Review the planning chapters, prepare a compendium of documentation as you take inventory of your environment. To reduce the probability of human errors, use the tracking summaries to track progress as you complete upgrade tasks. For more information about planning and tracking summaries, see Appendix F.
Preparing for Schema and Data upgrades	None	N/A
Upgrading the Schema and Data	All Oracle Access Manager servers are down and all consumers of Oracle Access Manager are impacted.	Make backups and be prepared with recovery procedures in case of problems. Validate the process in stage environment before trying in production.
Upgrading Oracle Access Manager components	All Oracle Access Manager servers are down and all consumers of Oracle Access Manager are impacted.	Make backups and be prepared with recovery procedures in case of problems. Validate the process in stage environment before trying in production.Validate the upgrade in a staging environment before upgrading in production.
Upgrading Third-Party Integration Connectors	Only those third-party environments in which the deployment has chosen to upgrade the connectors.	Validate the upgrade in a staging environment before upgrading in production. Consider that Oracle Access Manager is backward compatible with earlier environments, as described in Chapter 4, which can be exploited to minimize downtime.

Table 1–2 (Cont.) Minimizing Downtime

Upgrade Task	Downtime Impact	Steps to Reduce Downtime
Upgrading Independently Installed SDKs	Only those environments where an independently installed SDK must be upgraded are impacted.	Validate the upgrade in a staging environment before upgrading in production. Consider that Oracle Access Manager is backward compatible with earlier environments, as described in Chapter 4, which can be exploited to minimize downtime.
Upgrading Customizations	Deployment services that rely on Identity or Access System customizations are impacted.	Apply customizations in a staging environment first, to resolve issues. Then apply them in a production environment.
Validating the Upgrade	None	N/A

Downtime Assessments for In-Place Upgrades

Perhaps the greatest amount of time spent in upgrading occurs during the planning process, which occurs offline. Careful planning can help reduce the overall amount of downtime needed to upgrade each environment in your enterprise.

The second greatest amount of time spent in the upgrade task occurs when preparing for the schema and data upgrade.

Less time will be spent actually upgrading components. Depending on your deployment and the amount of customization, some time must be allotted for any manual tasks needed to ensure that your earlier customizations are compatible with 10*g* (10.1.4.0.1) and are successfully redeployed. However, customizations can be handled outside the shared environment and have minimal impact on system downtime.

The following considerations are provided to help you understand the overall upgrade impact and downtime in your environment. Additional information is provided in "Downtime Assessment Example for In-Place Upgrades" on page 1-23.

- Planning and taking inventory of your existing environment, as discussed in this chapter and other chapters in Part I, is a zero downtime activity. Careful planning can actually help reduce the amount of system downtime during actual upgrade tasks.
- Schema and data upgrades (introduced in "In-place Schema and Data Upgrade Planning" on page 1-14 and described in Part II) will take the greatest amount of time, and includes:
  - Preparing your LDAP directory instances and data
  - Making backup copies of all data, installation directories, and Windows registry entries that include Oracle Access Manager information before the upgrade
  - Preparing a master system to use during the actual schema upgrade
  - Performing the actual schema upgrade
  - Performing the actual data upgrade, which depends upon the number of workflows and workflow steps and the number of access policies, domains, and protected resources
  - Verifying that the schema and data upgrade was successful
- Preparing and upgrading all other Oracle Access Manager components, and Web server configuration upgrades, as described in Part III, for the most part does not require system downtime.

- Manually processing customized stylesheets, plug-ins, forms-based authentication, audit to database implementations, and the like, as described in Part IV, can be performed outside the shared environment (which greatly reduces the amount of system downtime required)
- Verifying that the upgrade was a success, as discussed in Part V does not result in system downtime.

Downtime Assessment Example for In-Place Upgrades

The following estimates are provided to give you an idea of the amount of time it takes to upgrade an earlier deployment that includes approximately 100 workflows, 500 policy domains, 2500 access policies, and 1700 protected resources.

Identity System Downtime Assessment

- **Planning and Taking Inventory (of the currently installed environment)**: Zero downtime. This task is performed outside the environment, before the upgrade. For more information, see "Planning Deliverables" on page 1-17.
- **Preparing for the Schema and Data Upgrade**: ~1 hour and includes:
  - Developing Strategies for Upgrading in a Replicated Environment
  - Configuring the Challenge/Response Phrase at the Object Class Level
  - Configuring Unique Namespaces for Directory Connection Information
  - Preparing Your Directory Instances for the Schema and Data Upgrade
  - Preparing Host Computers for Master Components
  - Adding An Earlier Identity System to Use as a Master for the In-place Method
- **Directory Server Backups**: ~15 to 30 minutes For more information, see "Backup and Recovery Strategies" on page 2-4.
- **File system Backups**: ~15 minutes. For more information, see "Backup and Recovery Strategies" on page 2-4.
- **Schema Upgrade**: ~20 minutes
- **Data Upgrade**: ~1.5 hours
- **Identity System Component Upgrades**: ~5 minutes for each component (Identity Server and WebPass) instance, which includes parameter/message upgrades and Web server configuration upgrades.
- **Identity System Customization Upgrades (Zero Downtime)**: The following manual tasks can be performed ahead of the production environment upgrade and outside the shared environment. As a result, there is no system downtime for these activities:
  - Install and set up a fresh 10*g* (10.1.4.0.1) Identity System to use when testing and upgrading customizations, as described in the *Oracle Access Manager Installation Guide*.
  - **Auditing and Access Reporting**: Create a new database instance for use with 10*g* (10.1.4.0.1), as described in "Upgrading Auditing and Access Reporting for the Identity System" on page 12-2.
  - **Portal Inserts**: "Ensuring Compatibility with Earlier Portal Inserts" on page 12-11.

  - **Custom Identity Event Plug-ins**: Redesign and recompile custom plug-ins as described in "Migrating Custom Identity Event Plug-Ins" on page 12-10.
  - **Styles**: Incorporate stylesheet/javascript/msgcatalog/gif customizations from prior releases, as described in Chapter 12.
  - **Validation**: Use procedures in "Validating Identity System Customization Upgrades" on page 12-24.
- **Identity System Customization Redeployment**: ~30 minutes. If you perform the manual customization tasks in the preceding list before upgrading, you need only copy the required files to appropriate directories after upgrading components. This should significantly reduce the amount of downtime during the production environment upgrade.
- **Identity System Customization After Upgrading:** ~1 hour to finish tasks described in the following topics in Chapter 12:
  - Upgrading Auditing and Access Reporting for the Identity System on page 12-2.
  - Combining Challenge and Response Attributes on a Panel on page 12-8.
  - Confirming Identity System Failover and Load Balancing on page 12-9
  - Validating Identity System Customization Upgrades on page 12-24
- **Identity System, Total Downtime**: ~5 hours

Access System Downtime Assessment

- **Planning and Taking Inventory (of the current installed environment)**: Zero downtime. This task is performed outside the environment, before the upgrade. For more information, see "Planning Deliverables" on page 1-17.
- **Preparing for the Access System Schema and Data Upgrade**: ~1 hour and includes:
  - Developing Strategies for Upgrading in a Replicated Environment
  - Configuring the Challenge/Response Phrase at the Object Class Level
  - Configuring Unique Namespaces for Directory Connection Information
  - Preparing Your Directory Instances for the Schema and Data Upgrade
  - Preparing Host Computers for Master Components
  - Adding an Earlier Access Manager to Use as a Master for the In-Place Method
- **Directory Server Backups**: ~15 to 30 minutes. For more information, see "Backup and Recovery Strategies" on page 2-4.
- **File system Backups**: ~15 minutes. For more information, see "Backup and Recovery Strategies" on page 2-4.
- **Access System Schema Upgrade**: ~20 minutes
- **Access System Data Upgrade**: ~2 hours
- **Access System Component Upgrades**: ~5 minutes for each component instance (Policy Manager, Access Server, WebGate), which includes parameter/message upgrades and Web server configuration upgrades.
- **Access System Customization Upgrades (Zero Downtime):** Several manual tasks can be performed ahead of the production environment upgrade and outside the shared environment. As a result, there is no system downtime for these activities:

  - Install and set up a fresh 10*g* (10.1.4.0.1) Access System to use when testing upgraded customizations, as described in the in the *Oracle Access Manager Installation Guide*.
  - **Auditing and Access Reporting**: Complete this task for the Access Server, as described in "Upgrading Auditing and Reporting for the Access Server" on page 13-2.
  - **Forms-based Authentication**: Perform activities in "Upgrading Forms-based Authentication" on page 13-4.
  - **Custom Authentication and Authorization Plug-ins**: "Recompiling and Redesigning Custom Authentication and Authorization Plug-Ins" is described on page 13-5.
  - Updating the ObAMMasterAuditRule_getEscapeCharacter in Custom C Code is described on page 13-7.
  - **Validation**: Validating Access System Customization Upgrades is described on page 13-8.

- **Access System Customization Redeployment**: ~30 minutes. If you perform the manual customization tasks in the preceding list before upgrading, you need only copy the required files to appropriate directories after upgrading components. This should significantly reduce the amount of downtime during the production environment upgrade.
- **Access System Customization After Upgrading:** ~1 hour to perform tasks in the following topics in Chapter 13:
  - Upgrading Auditing and Reporting for the Access Server on page 13-2.
  - Associating Release 6.1.1 Authorization Rules with Access Policies on page 13-6
  - Assuring Proper Authorization Failure Re-directs After Upgrading from 6.1.1 on page 13-7
  - Validating Access System Customization Upgrades on page 13-8
- **Access System Total**: ~5.5 hours of downtime

Therefore, to upgrade both the Identity and Access Systems in this environment will take about 11 hours for tasks that require system downtime.

Planning Considerations for Extranet and Intranet Deployments

Existing earlier Oracle Access Manager deployments can be classified into two primary categories: Extranet (B2B,G2C, B2C) and Intranet (B2E, G2E) deployments. These are, of course, generic categories. However, for the purposes of understanding deployment demographics these should provide relevant patterns.

For more information, see the topics:

- Extranet Deployments
- Intranet Deployments

Extranet Deployments

Extranet deployments are those where you have:

- A relatively large user population (over 20 thousand users)

- The user population is being served through a relatively small number of applications (less than 20)
- The applications are integrated with NetPoint (Oracle Access Manager), and are typically consolidated in a portal

The most typical characteristics for extranet deployments include:

- A higher complexity on the Identity System deployment relative to the Access System
- A large number of workflows (self-registration, self-service, delegated administration) typically involving Identity Event plug-ins (customizations)
- Sophisticated delegated administration requirements, often involving various user types (at a minimum four levels of administrative roles/access) and reliance on ACLs, groups, and other objects.
- User interface customizations (accomplished using XSL stylesheets, PresentationXML, and IdentityXML) because the majority of the requirements center on identity administration of a large number of users and ease of use is a paramount driver. The majority of implementations will exhibit front end user interfaces built on top of IdentityXML.
- Features such as lost password management are very commonly configured.
- A relatively small software footprint (for example, only a handful of servers—2 to 4 servers at each tier—often distributed between a few data centers), and a very low tolerance for downtime because the applications that rely on Oracle Access Manager are often business critical.
- Commonly the directory environment is dedicated to Oracle Access Manager and the applications it supports. Therefore, there is a bit more control over the directory service in conjunction with Oracle Access Manager from an operational perspective. There are a relatively small number of stakeholders from the application side (typically belonging to a common line of business.)

Performing the upgrade to 10*g* (10.1.4.0.1) with minimal service disruption in such a highly complex environment can be challenging.

Intranet Deployments

Intranet deployment environments are typically:

- Internal facing portals with a relatively small user population (less than 20 thousand users)
- The user population is being served through a relatively large number of applications (more than 20) integrated with NetPoint (also known as Oracle Access Manager)

The most typical characteristics for intranet deployments include:

- A greater prevalence of the Access System customizations, if any, are typically:
  - On the front-end at the login page (or login front-end)
  - Or using custom built AccessGates
  - Or on the back-end using customized authentication or authorization plug-ins developed with the APIs

- A relatively large number of applications (over 20) being protected where the emphasis is primarily on authentication and single-sign on (SSO), with a significant number of application-level integrations.
- A high number of BEA WebLogic and IBM WebSphere Application Server integrations using Oracle Access Manager connectors for these servers.
- Often the Identity System is either not widely deployed, or deployed only to an administrator user community (for example, the help desk, IT department, or system administrators).
- Password management features are not typically configured or used, because Oracle Access Manager often relies on the same back end store as the NOS (AD), and it is rare to see self-registration workflows.
- These environments tend to have a broad footprint, especially at the WebGate/AccessGate tier, with a high number of Web servers and Application servers with WebGate to Access Server ratios in the range of 10:1.
- On the Access Server tier, intranet deployments tend to be global and geographically distributed, with a handful of servers deployed in each location.
- The directory environment is often shared, because it is the employee directory or even the NOS directory (AD). Therefore, the number of dependencies associated to the directory is high (meta-directories, provisioning solutions, NOS logon, white pages, and the like). As a result, changes and operational impact to the directory is very rigorously managed. Many stakeholders need to be coordinated with in a change-control process, and tight operational windows are allowed. On the application front, there tends to be more flexibility on server availability, and applications tend to be "clustered" by line of business, geography, or security requirements. Therefore, the impact can be segregated.

Upgrade Paths

This discussion introduces the paths available when upgrading from an earlier release to Oracle Access Manager 10.1.4, regardless of the method you choose. The path that is available to you depends upon your starting release (the release from which you are starting the upgrade) as described in:

- Direct Upgrade Paths
- Indirect Upgrade Paths

Direct Upgrade Paths

A direct upgrade path is provided from releases as early as 6.1.1. You can use either method below when upgrading directly:

- **In-Place Method**: You can use this method with Oracle Access Manager 10*g* (10.1.4.0.1) installers to perform a direct upgrade to 10*g* (10.1.4.0.1). After an in-place upgrade, apply patch release 10*g* (10.1.4.2.0) and then apply patch release 10*g* (10.1.4.3).

> **Note:** For in-place upgrades, see details in Part II, Part III, Part IV, and Part V. You cannot use 10*g* (10.1.4.3) packages for upgrading.

- **Zero Downtime Method**: You can use this method with tools that are available with 10*g* (10.1.4.2.0). After a zero downtime upgrade, apply patch release 10*g* (10.1.4.3).

  See Also: Part VI, if you are using the zero downtime upgrade method. You cannot use 10*g* (10.1.4.3) packages for upgrading.

Following discussions provide more information about the direct path from a specific release:

- From Release 6.1.1
- From Release 6.5
- From Release 7.x

From Release 6.1.1

Release 6.1.1 deployments are typically large in terms of the number of components deployed at each tier of the architecture, as well as other systems and applications. Oracle Access Manager 6.1.1 is an English only release.

Every environment requires some preparation before starting the upgrade, as discussed in Chapter 5 and Chapter 8. There are no additional caveats and conditions when upgrading directly from release 6.1.1.

See Also: Part VI, if you are using the zero downtime upgrade method.

During the upgrade, each component installer automatically implements product changes for each release between the starting release 6.1.1 and the 10.1.4 release. This includes automatically enabling the multi-language capability.

From Release 6.5

Release 6.5.0 introduced multi-language support for French and German in addition to providing and enabling English language messages.

To retain earlier multi-language functionality, you must include 10*g* (10.1.4.0.1) Language Packs in the same directory as the 10*g* (10.1.4.0.1) installation package that you use to upgrade the component. Otherwise, only the English language is used. You can install additional supported languages after the upgrade, as described in the *Oracle Access Manager Installation Guide*.

Table 1–3 discusses the various 6.5 releases. During the direct upgrade from any Oracle Access Manager 6.5.x release, each component installer automatically implements product changes for each release between release 6.5.0 and the later Oracle Access Manager release.

Table 1–3 Upgrade Paths from Oracle Access Manager 6.5 Releases

Starting From	Upgrading To	Caveat
6.5.0.x is an international release (English, German, French)	10*g* (10.1.4.0.1) In Place Method 10g (10.1.4.2.0) Zero Downtime Method	Before the upgrade, perform tasks in "Adding Packages for Release 6.5.0.x" on page 8-4. See also, "Preparing Multi-Language Installations" on page 8-7.
6.5.1 is an *English-only* release that introduced support for Active Directory Application Mode (ADAM) as a back end directory.	10*g* (10.1.4.0.1) In Place Method 10g (10.1.4.2.0) Zero Downtime Method	No caveats or special requirements for this English-only release. In-Place: See details in Part II, Part III, Part IV, and Part V. Zero Downtime: Upgrade as described in Part VI.
6.5.2.x is an *English-only* release	10*g* (10.1.4.0.1) In Place Method 10g (10.1.4.2.0) Zero Downtime Method	Before upgrading an installation patched to 6.5.2, you need to perform tasks in "Adding Packages for Release 6.5.2.x Patch" on page 8-5.
6.5.3.x is an *English-only* WebGate release	10*g* (10.1.4.0.1) In Place Method 10g (10.1.4.2.0) Zero Downtime Method	No caveats. In-Place: See details in Part II, Part III, Part IV, and Part V. Zero Downtime: Upgrade as described in Part VI.

From Release 7.x

With the exception of release 7.0.4 (which is an international release that was available as part of Oracle Application Server 10g Release 2 (10.1.2)), all 7.x releases are English only. Typically, NetPoint 7.x environments are newer and less complex than NetPoint 6.5 or 6.1.1 environments. You can either upgrade to 10*g* (10.1.4.0.1) and apply the patch set or you can use the zero downtime method, as follows:

To retain earlier multi-language functionality (or to install new languages), you must include 10*g* (10.1.4.0.1) Language Packs in the same directory as the 10*g* (10.1.4.0.1) installation package. Otherwise, only the English language is used.

Table 1–4 provides a brief overview of 7.x releases. During the direct upgrade from any 7.x release, each component installer automatically implements product changes for each release between 7.0 and Oracle Access Manager 10.1.4 and enables multi-language capability.

Table 1–4 Upgrade Paths from Series 7.x Releases

Starting From	Upgrading To	Caveat
Release 7.0	10*g* (10.1.4.0.1) In Place Method 10g (10.1.4.2.0) Zero Downtime Method	Include Language Packs to upgrade languages if these are installed. In-Place: See details in Part II, Part III, Part IV, and Part V. Zero Downtime: See Part VI.
Release 7.0.1, and later, provide additional platform certifications and parameter and message updates. Going forward, new GIFs, XSL, HTML, images, or similar files can be included in a patch release.	10*g* (10.1.4.0.1) In Place Method 10g (10.1.4.2.0) Zero Downtime Method	No caveats other than including Language Packs to upgrade languages if these are installed. In-Place: See details in Part II, Part III, Part IV, and Part V. Zero Downtime: See Part VI.

Indirect Upgrade Paths

If you are upgrading from any Oracle Access Manager release earlier than 6.1.1, no direct upgrade path is available to Oracle Access Manager 10*g* (10.1.4.0.1) or later. In this case, an intermediate upgrade from your earlier release to release 6.1.1 is required.

Table 1–5 lists the various starting point scenarios and associated caveats for an intermediate upgrade.

Table 1–5 Upgrade Paths from Release 5.x through 6.1

Starting From	Upgrading To	Caveats and Conditions
Release 5.2	Release 6.1	To retain Publisher, you can upgrade only to Oracle Access Manager 6.1.
	Release 6.1.1	If you abandon Publisher you can perform an intermediate upgrade to 6.1.1.
	10*g* (10.1.4.0.1) In Place Method	From release 6.1.1 you can upgrade directly to Oracle Access Manager 10*g* (10.1.4.0.1).
	10g (10.1.4.2.0) Zero Downtime Method	For information on the intermediate upgrade, contact Oracle Support at http://www.oracle.com/support/contact.html.
Release 6.0	Release 6.1	To retain Publisher, you can upgrade only to Oracle Access Manager 6.1.
	Release 6.1.1	If you abandon Publisher you can complete an intermediate upgrade to 6.1.1.
	10*g* (10.1.4.0.1) In Place Method	From release 6.1.1 you can upgrade directly to Oracle Access Manager 10*g* (10.1.4.0.1).
	10g (10.1.4.2.0) Zero Downtime Method	For information on the intermediate upgrade, contact Oracle Support at http://www.oracle.com/support/contact.html.
Release 6.1	Release 6.1	To retain Publisher, no further upgrade is possible.
	Release 6.1.1	If you abandon Publisher you can complete an intermediate upgrade to 6.1.1.
	10*g* (10.1.4.0.1) In Place Method	From release 6.1.1 you can upgrade directly to Oracle Access Manager 10*g* (10.1.4.0.1).
	10g (10.1.4.2.0) Zero Downtime Method	For information on the intermediate upgrade, contact Oracle Support at http://www.oracle.com/support/contact.html.

Specific details of the intermediate upgrade from earlier releases to release 6.1.1 are outside the scope of this manual. Before you start upgrading from a release *earlier* than 6.1.1, contact Oracle Support at:

`http://www.oracle.com/support/contact.html`

After upgrading to 6.1.1, you can proceed to 10.1.4 as follows:

- **In-Place Method**: You can use this method with Oracle Access Manager 10*g* (10.1.4.0.1) installers to perform a direct upgrade to 10*g* (10.1.4.0.1). After an in-place upgrade, apply patch release 10*g* (10.1.4.2.0) and then apply patch release 10*g* (10.1.4.3). For more information, see "Obtaining Packages for Upgrades" on page 4-4.

  See Also: Part II, Part III, Part IV, Part V for in-place upgrade details

- **Zero Downtime Method**: You can use this method with tools that are available with 10*g* (10.1.4.2.0). After a zero downtime upgrade, apply patch release 10*g*

(10.1.4.3). For more information, see "Obtaining Packages for Upgrades" on page 4-4.

See Also: Part VI, for details of the zero downtime upgrade method.

2

Upgrade Concepts, Strategies, and Methods

This chapter introduces upgrade concepts, strategies, and processing methods. Unless explicitly stated, the information in this chapter applies equally to in-place upgrades and to zero downtime upgrades. Topics in this chapter include:

- Upgrade Terms and Concepts
- About Upgrading the Oracle Application Server
- Backup and Recovery Strategies
- Zero Downtime Upgrade Start Methods
- In-Place Upgrade Start Methods
- Upgrade Event Modes
- Support Deprecated
- Upgrade Strategies When Support is Changed or Deprecated

> **Note:** There are several important name changes that you should know about. Be sure to review "Product and Component Name Changes" on page xxviii. This manual uses the new names, even when referring to earlier releases.

For an introduction to Oracle Access Manager, a road map to related manuals, and a glossary of terms, see the *Oracle Access Manager Introduction*.

Upgrade Terms and Concepts

This section describes the difference between a full release and a patch set, differences between numbering of various releases, and incremental upgrade processing. The following topics are provided:

- Oracle Product Numbering
- Package Types
- Available Releases
- Upgrade Methods
- Incremental Upgrade Processing

Oracle Product Numbering

Starting with release 10*g* (10.1.4.0.1), Oracle Access Manager uses the Oracle product numbering scheme. A major release is identified by the *first three numbers* (10.1.4, for example) of a *five segment product number*. The last two digits of an Oracle product number represent the maintenance and patch release numbers (10.1.4.0.0), respectively:

Oracle Release Numbering: 10.1.4.0.1
n . n . n (Major) . Maintenance . Patch

Earlier release numbers consisted of four elements:

Earlier Release Numbering: 7.0.4.2
Major_release . Minor_release . Maintainence_release . Patch_release

Package Types

Oracle provides the following package types for Oracle Access Manager:

- **Full Installers**: Includes all component packages, libraries, and files needed for a fresh installation. Some full installers can be used for an in-place upgrade.

  Note: 10*g* (10.1.4.0.1) installers can be used for an in-place upgrade. However, 10*g* (10.1.4.3) installers cannot be used for upgrading.

- **Patch Set**: A complete set of core components (Identity Server, WebPass, Access Manager, Access Server, and WebGate) for each platform. The libraries and files that have been rebuilt to implement one or more fixes have been tested and are certified to work together and provide backward compatibility with earlier WebGates The latest patch includes all fixes in earlier patches, bundle patches, and hotfixes for the same product release. These packages cannot be used for a fresh installation.

  Note: The Oracle Access Manager 10*g* (10.1.4.2.0) patch set includes tools for the zero downtime upgrade method. You cannot use 10*g* (10.1.4.3) patch packages for upgrading.

- **Bundle Patch**: Replaces the hotfix method to provide a complete set of core components or each platform and the libraries and files that have been rebuilt to implement one or more fixes. Each bundle patch is cumulative. All of the fixes have been tested and are certified to work with one another. Regression testing has also been performed to ensure backward compatibility with earlier WebGates. bundle patch packages cannot be used for a fresh installation or upgrade.

  Note: If a 10.1.4 component instance includes a bundle patch, you must remove the bundle patch before applying a later 10.1.4 patch. For more information about starting releases for the 10*g* (10.1.4.3) patch, see "Available Releases" on page 2-3.

- **Hotfix**: Made obsolete by bundle patches. Hotfixes addressed only one issue for a single component; typically (*but not always*) only for a single platform. While each

hot fix was an official Oracle patch, a hot fix was *not* a complete product distribution and did not include packages for every component on every platform.

Note: If your 6.x or 7.x installation includes hotfixes, you must remove these before upgrading.

Available Releases

The following Oracle Access Manager 10.1.4 releases are available:

10*g* (10.1.4.3): Provides installers for a fresh installation, which cannot be used for an upgrade. The 10*g* (10.1.4.3) patch set can be applied to only 10*g* (10.1.4.2.0) instances. A patch set is not a full release; patch packages cannot be used for a fresh installation. You cannot use 10*g* (10.1.4.3) packages for upgrading.

10*g* (10.1.4.2.0): This patch for 10*g* (10.1.4.0.1) is not a full release. This patch provides fixes to known problems and new features and functions, including the MigrateOAM script for the zero downtime upgrade method. 10*g* (10.1.4.2.0) packages cannot be used for a fresh installation or the in-place upgrade method.

10*g* (10.1.4.0.1): A full Oracle Access Manager release that includes all component packages, libraries, and files needed for a fresh installation or an in-place upgrade. Release 10*g* (10.1.4.0.1) component installers control both installation and in-place upgrade processing.

To upgrade earlier Oracle Access Manager instances (6.x or 7.x) to 10.1.4, you must use either:

- 10*g* (10.1.4.0.1) installers available on Oracle Technology Network can be used to perform an in-place component upgrade. After upgrading, you can apply the 10*g* (10.1.4.2.0) patch and then apply the 10*g* (10.1.4.3) patch.

  or

- 10*g* (10.1.4.2.0) packages available on My Oracle Support (formerly MetaLink) provide the tools you need to perform a zero downtime upgrade. After upgrading you can apply the 10*g* (10.1.4.3) patch.

See Also: "Obtaining Packages for Upgrades" on page 4-4

Upgrade Methods

As introduced in Chapter 1, starting with Oracle Access Manager 10*g* (10.1.4.2.0), two upgrade methods are available:

- In-Place Upgrade Method: This method requires release 10*g* (10.1.4.0.1) component installers to upgrade existing components where they currently reside.
- Zero Downtime Upgrade Method: This method requires the MigrateOAM script that is available with Release 10.1.4 Patch Set 1 (10.1.4.2.0), as described in Part IV.

Note: 10*g* (10.1.4.3) installers and patch packages cannot be used to upgrade components.

Incremental Upgrade Processing

During an upgrade, automated processing occurs incrementally from the earliest release to the latest. Upgrade processing handles the differences between release numbering schemes seamlessly. During the upgrade, a minor release (or maintenance

release or patch release) is recognized as a major release. For example, 6.5.5.3 is recognized as 6.5.

> **Note:** To upgrade from releases earlier than 6.1.1, contact Oracle Support at http://www.oracle.com/support/contact.html.

The following process overview outlines the automated processing that occurs during a component upgrade. In this example, the starting release is 6.1.1. While your starting release might be different, the incremental upgrade from each earlier release occurs automatically during every component upgrade.

This sequence occurs regardless of the upgrade method you are using or your choice to let events occur automatically or confirm every event.

Process overview: Automatic Incremental upgrades

1. The first increment brings your installation from release 6.1.1 to release 6.5.
2. The second increment brings your installation from release 6.5 to release 7.0.
3. Third increment brings your installation from release 7.0 to 10.1.4.

See Also:

- "Upgrade Event Modes" on page 2-9 for details about confirming individual events before they occur or letting the process run unfettered
- "About Automated Upgrade Processing and Events" on page 3-2

After upgrading components and customizations, Oracle recommends that you apply the latest patches in sequence.

See Also: "Obtaining Packages for Upgrades" on page 4-4

About Upgrading the Oracle Application Server

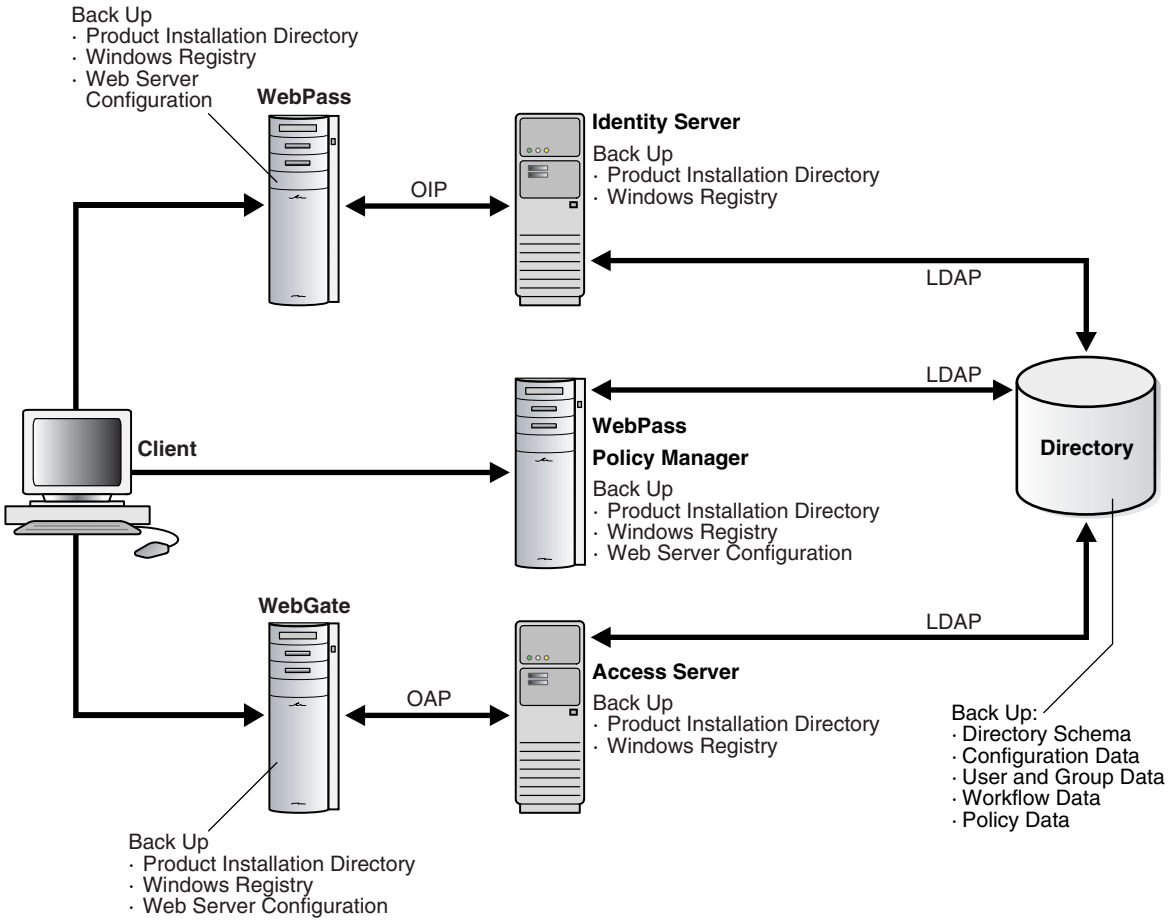
If your system environment includes Oracle Application Server components, you can upgrade these to 10.1.4 by following the instructions in the *Oracle Application Server Upgrade and Compatibility Guide*.

The upgrade procedures for Oracle Access Manager are documented separately from the Oracle Application Server upgrade procedures because the two products are installed separately.

Backup and Recovery Strategies

Regardless of the upgrade methodology you choose, it is important to make back up copies of certain information both before and after upgrading. Figure 2–1 illustrates the types of information that Oracle recommends you back up. Unless you have the Access System installed, you can ignore details for the Policy Manager, Access Server, and WebGate.

Figure 2–1 Back Up Strategies



As depicted in As discussed in Chapter 1, the installation directory for each component includes the following information types:

- Program and library files
- Message and parameter catalogs
- Component-specific configuration files (and in some cases failover configuration files and the software developer kit (SDK) configurations)

A WebPass must also be installed with each Policy Manager on the same Web server instance, at the same directory level.

For more information, see:

- Backup Strategies Before Upgrading
- Backup Strategies After Upgrading
- Recovery Strategies

Backup Strategies Before Upgrading

Oracle recommends that you perform certain back up activities before upgrading to help restore an earlier environment in the unlikely event that you want to do this following an upgrade. Table 2–1 provides more information. If you are using the zero downtime upgrade method, see also Part VI.

Table 2–1 Back Up Strategies Before Upgrading

Back Up the Following Information Types	As Described In
Oracle Access Manager Schema The upgraded schema offers backward compatibility with the earlier schema, as far back as release 6.1.1. However, you cannot roll back a schema upgrade using any Oracle-provided tools. Some directory server vendors provide tools that you can use to back up the schema. If you backed up the earlier schema using external tools before upgrading, you should be able to reinstate the backup copy if you decide to roll back to the original release.	Chapter 5: Backing up the Earlier Oracle Access Manager Schema
Oracle Access Manager Configuration and Policy Data	Chapter 5: Backing up Oracle Access Manager Configuration and Policy Data
Oracle Access Manager User and Group Data	Chapter 5: Backing Up User and Group Data
Oracle Access Manager Workflow Data	Chapter 5: Backing Up Workflow Data
Processed Workflows	Chapter 5: Archiving Processed Workflow Instances
Existing Directory Instances	Chapter 5: Backing Up Existing Directory Instances
Earlier Installed Component File System Directory (and any Customization Directories) **Note**: With the zero downtime upgrade method, you will create a source that provides details for the upgrade and also becomes a backup copy of the instance. As a result, you do not need to explicitly back up the installation directory. However, you must still take care of customizations. For more information, see Part VI.	Chapter 5: Backing Up the Existing Component Installation Directory
Web Server Configuration Files	Chapter 8: Backing Up the Existing Web Server Configuration File
Windows Registry	Chapter 8: Backing Up Windows Registry Data

Backup Strategies After Upgrading

After you have completed and verified each component upgrade, Oracle recommends that you back up the upgraded information listed in Table 2–2. This will enable you to restore an upgraded environment to the newly upgraded status should this be needed. You will perform some of the same tasks after upgrading as you did before the upgrade. Only this time, the target will be the newly upgraded instance. If you are using the zero downtime upgrade method, see also Part VI.

Table 2–2 Back Up Strategies After Upgrading

Back Up the Following Information Types After Upgrading	As Described In
Existing Directory Instances	Chapter 5: Backing Up Existing Directory Instances
Earlier Installed Component Directory (and any Customization Directories)	Chapter 5: Backing Up the Existing Component Installation Directory
Web Server Configuration Files	Chapter 8: Backing Up the Existing Web Server Configuration File
Windows Registry	Chapter 8: Backing Up Windows Registry Data

Recovery Strategies

Should something unlikely occur and you find that a process did not complete successfully, you can use the strategies in Table 2–3 to recover. Unless explicitly stated, the following recovery strategies apply to both in-place upgrades and the zero downtime upgrade method. If a task applies to only one method, that method is identified.

Table 2–3 Upgrade Recovery Strategies

Task	What to do If the Task Fails
Backing Up Existing Oracle Access Manager Data	Retry this task using instructions to back up data in Chapter 5
Backing Up Existing Directory Instances	See your directory vendor documentation.
In-place Method: Adding An Earlier Identity System to Use as a Master for the In-place Method (against Read/Write master directory instances, not against read-only replicas)	Retry this task using instructions to back up data in Chapter 5
In-place Method: Adding an Earlier Access Manager to Use as a Master for the In-Place Method (against Read/Write master directory instances, not against read-only replicas)	Retry this task using instructions to prepare for the schema and data upgrade during an in-place upgrade in Chapter 5.
In-place Method: Upgrading Identity System Schema and Data In Place using the in-place upgrade method.	Restore the directory instance you backed up before starting this upgrade (see "Backing Up Existing Directory Instances" on page 5-19). Locate your backup copy of the earlier master Identity Server installation directory (made before the upgrade) and make another backup copy. You will retain one to as a backup and use the other when you retry the upgrade. See "Backing Up File System Directories, Web Server Configurations, and Registry Details" on page 8-7. Retry the upgrade of the master Identity Server using instructions in Chapter 6. **Note**: User data is not migrated during the upgrade, but is migrated during the first login following the upgrade. For more information about the implications, see "Halting On-the-fly User Data Migration at First Login Temporarily" on page 5-19.
In-place Method: Enabling Multi-Language Capability when upgrading the master Identity Server from a starting release of 6.1.1 **Note**: This process does not occur when your starting release is 6.5 or 7.x because those releases automatically supported multi-language capability.	Restore the directory instance you backed up before starting this upgrade (see "Backing Up Existing Directory Instances" on page 5-19). Locate your backup copy of the earlier master Identity Server installation directory (made before the upgrade) and make another backup copy. You will retain one to as a backup and use the other when you retry the upgrade. See "Backing Up File System Directories, Web Server Configurations, and Registry Details" on page 8-7. Retry the upgrade of the master Identity Server using instructions in Chapter 6.
In-place Method: Upgrading Access System Schema and Data In Place	Restore the directory instance you backed up before starting this upgrade (see "Backing Up Existing Directory Instances" on page 5-19). Locate your backup copy of the earlier master Access Manager installation directory (made before the upgrade) and make another backup copy. You will retain one to as a backup and use the other when you retry the upgrade. See "Backing Up File System Directories, Web Server Configurations, and Registry Details" on page 8-7. Retry the upgrade of the master Access Manager using instructions in Chapter 7.
Uploading Directory Server Index Files	Retry this task using instructions in "Uploading Directory Server Index Files" on page 6-17.
In-place Method: Upgrading Components Identity Server, WebPass, Policy Manager (formerly known as the Access Manager component)), Access Server, or WebGate	Locate your backup copy of the earlier component installation directory (made before the upgrade) and make another backup copy. You will retain one to as a backup and use the other when you retry the upgrade. See "Backing Up File System Directories, Web Server Configurations, and Registry Details" on page 8-7. Retry this step and specify the earlier component installation directory when asked for the installation directory. See Part III, "Upgrading Components".
Zero Downtime Method: Adding Profiles for Clones	Retry this task using instructions in "Recovering From Issues With Information Entered in the System Console" on page 16-21.

Table 2–3 (Cont.) Upgrade Recovery Strategies

Task	What to do If the Task Fails
Zero Downtime Method: Cloning Instances for a Zero Downtime Upgrade	Remove the clone file system subdirectory and retry this task as described in "Cloning Earlier Components for a Zero Downtime Upgrade" on page 16-21.
Zero Downtime Method: Creating and Populating a New Branch in the Directory Server	Perform steps in "Recovering from Problems With Populating the New Branch" on page 16-41.
Zero Downtime Method: Reconfiguring Clones To Use the New Branch	Retry this task and ensure that all specifications are correct, as described in "Configuring Cloned Components and Services" on page 16-42.
Zero Downtime Method: Schema Upgrades	If you created a back up copy of the schema using external tools, you might be able to restore the schema.
Zero Downtime Method: Clone Upgrades	Copy the source file system directory. Remove the destination file system directory. Restore the backed up Web server configuration file, and import the backed up Windows registry entry, if needed. For more information, see: For more information, see the following topics: ▪ Recovering From a Cloned Identity System Upgrade Failure on page 16-86 ▪ Recovering from a Failed Cloned Access System Component Upgrade on page 16-101 Retry the clone system upgrade as described in following topics: ▪ Upgrading the Cloned Identity System on page 16-73 ▪ Upgrading the Cloned Access System on page 16-90
Zero Downtime Method: Original Instance Upgrades	Remove the destination file system directory. Restore the backed up Web server configuration file, and import the backed up Windows registry entry, if needed. For more information, see the following topics: ▪ Recovering From an Original Identity System Upgrade Failure on page 17-27 ▪ Recovering From an Original Access System Upgrade Failure on page 17-55 Retry the original instance upgrade, as described in following topics: ▪ Upgrading Your Original Identity System on page 17-4 ▪ Upgrading Your Original Access System on page 17-55
Upgrading Your Identity System Customizations	Retry this task using instructions in Chapter 12
Upgrading Your Access System Customizations	Retry this task using instructions in Chapter 13

Additional information on recovering from an upgrade failure can be found throughout this book. Specific troubleshooting information is located in Appendix G.

Zero Downtime Upgrade Start Methods

There is only one way to start zero downtime upgrade processing and that is by obtaining the 10*g* (10.1.4.2.0) MigrateOAM script and using it from the command line.

For more information, see "Zero Downtime Upgrade Tools, Processes, and Logs" on page 15-23.

In-Place Upgrade Start Methods

As mentioned earlier, you use the corresponding 10*g* (10.1.4.0.1) component installer to begin each in-place component upgrade. You can launch the installer using either the

graphical user interface (GUI method) or the command-line interface (Console method).

Either Method: Regardless of the method you choose, the sequence of events and prompts are nearly identical. In later chapters, minor differences are identified as they occur during a specific sequence. If you see something that does not apply to your environment or installation, you can ignore it. Also, whether you launch the upgrade using GUI or Console method, you will be asked to choose a mode (Automatic versus Confirmed), as described in "Upgrade Event Modes" on page 2-9.

For more information, see:

- GUI Method
- Console Method

> **Note:** These methods do not apply when using tools for the zero downtime upgrade method. For more information about the zero downtime upgrade tools, see "Zero Downtime Upgrade Tools, Processes, and Logs" on page 15-23.

GUI Method

This method is the default for Windows systems when you select the installation package from the file system. For example:

Oracle_Access_Manager10_1_4_0_1_win32_Identity_Server.exe

Console Method

The command-line method (also known as Console method) is the default for UNIX systems. For example:

```
./ Oracle_Access_Manager10_1_4_0_1_sparc-s2_Identity_Server
```

Upgrade Event Modes

Regardless of the method you are using (in-place or zero downtime), at some point during upgrade processing you will be asked to select either Automatic mode or Confirmed mode:

```
-------------------------------------
Please specify the mode for migration:
'1' - Automatic (recommended)
          Each step is performed automatically.
          No interaction from the user is required.
'2' - Confirmed
       Each step needs confirmation from the user.
Enter choice ( '1' or '2' ) :
-------------------------------------------
```

For more information about each of these processing modes, see:

- Automatic Mode
- Confirmed Mode

Note: . These modes apply whether you are performing an in-place upgrade or a zero downtime upgrade and regardless of the mode in which you might be running the installer (GUI method or the Console method).

Automatic Mode

Oracle recommends that you choose the Automatic mode. This mode provides declarative messages to keep you informed as the upgrade progresses. For example:

```
Creating original folders ...
-----------------------------------------------------
Copying general configuration files
OK.
-----------------------------------------------------
Updating parameter catalogs ...
OK.
-----------------------------------------------------
```

From time to time in Automatic mode, you are asked to respond to specific queries that require your acceptance before being initiated (or simply acknowledging that you are ready to continue). For example when upgrading the master Identity Server and master Access Manager, you are asked to accept an automatic schema and data upgrade as indicated in this example:

```
Oracle Access Manager schema migration ...

Retrieving Oracle configuration parameters ...
OK.
   The following directory server's schema will be updated:
      Host:DNShostname.domain.com
      Port: port#
      Type:ns
   NOTE:  If you do not want to migrate schema at this time,
          type 'SKIP'.
   Please type 'Yes" to proceed:
```

For more information about the sequence of automated processes and events, see Chapter 3.

Note: In both Automatic and Confirmed mode, you are informed as the program completes each step of the upgrade process. This guide provides information using Automatic mode, both for brevity and because this is the recommended method.

Confirmed Mode

If you select Confirmed mode during a component upgrade, you are presented with a question before each and every event (not just those that require acceptance during Automatic mode). The types of messages you see in Confirmed mode are shown here:

```
Copy general configurations files?
    '1' - Yes
    '2' - No
Enter choice ( '1' or '2' ) : 1
OK.
```

In Confirmed mode, each event is performed only after you accept by entering the number 1. If you enter the number 2, the event is skipped and you are then asked to accept or decline the next event.

Confirmed mode is recommended for use in only the following situations when you need to conditionally run, skip, and re-run certain event in a component upgrade. For example:

- **Upgrade Strategies When Support is Changed or Deprecated**: Suppose a release 6.1.1 WebPass resides on a computer with a Web server version that is not supported by 10.1.4. In this case, you must upgrade the 6.1.1 WebPass as follows:
  - Retain the Web server version that is supported for the release 6.1.1 WebPass.
  - After initiating the WebPass upgrade and selecting Console mode, you accept activities to upgrade the WebPass from the release 6.1.1 to the next Oracle Access Manager release that supports the existing Web server version (to release 6.5 for example). You decline activities to upgrade WebPass further and accept updating the Web server configuration with 6.1.1 to 6.5 information.
  - After the first phase of the WebPass upgrade, you must upgrade the Web server to a version that is supported by the next WebPass release using your vendor documentation as a guide.
  - After upgrading the Web server, you complete another phase of the WebPass upgrade in Console mode. At this time, you skip the release 6.1.1 to 6.5 events that were already completed and continue to the next release that supports the existing Web server.

    For more information, see "Upgrade Strategies When Support is Changed or Deprecated" on page 2-13.
- **Correcting Information**: Suppose you provide incorrect information during an component upgrade (or another problem arises). In this case, you can also use Confirmed mode to conditionally re-run a step. For example, suppose you entered incorrect information while upgrading the Identity Server. When the upgrade finishes, you can re-run it in Confirmed mode to skip events that completed successfully the first time (and enter correct information for unsuccessful events the second time). For instance, if you forgot to change the schema domain, you can re-run the upgrade using Confirmed mode and fix the problem.
  - Continue the component upgrade as far as you can despite entering incorrect information.
  - Restart the component upgrade and choose Confirmed mode.
  - Skip any events that completed successfully during the initial component upgrade.
  - Accept and perform any events that were not successful (and restate any incorrect information).
  - Confirm that the in-place upgrade was successful as described in Part III.
  - Perform all other tasks in sequence, as described in "In-Place Upgrade Task Overview" on page 1-8.
  - When all upgrade tasks are performed, validate the complete system upgrade as described in Part V.

Support Deprecated

Table 2–4 describes the items for which support is no longer officially available.

Table 2–4 Deprecated in 10.1.4

Component	Comments
10*g* (10.1.4.0.1) Language Packs	A 10*g* (10.1.4.3) environment supports only 10*g* (10.1.4.3) Language Packs. Use of 10*g* (10.1.4.0.1) Language Packs is deprecated in release 10*g* (10.1.4.3). For more information, see "Language Packs" on page 3-11.
Oracle Access Manager Configuration Manager	Support is deprecated in release 10*g* (10.1.4.3). No product packages are available.
IDLink	Support was deprecated in release 6.1. If your earlier installation includes Oblix IDLink, you are notified while upgrading the Identity Server. To continue using Oblix IDLink, you must retain the earlier release.
Publisher	Support was deprecated in release 6.0. Publisher cannot operate at the same time as release 6.1 or later. Oracle Access Manager 10*g* (10.1.4.0.1) provides reporting, auditing, and logging enhancements. You can create, view, and configure reports within the User, Group, and Organization Manager applications. For more information, see the *Oracle Application Server Release Notes*.
NetPoint Certificate Process Server (CPS)	Support was deprecated in release 7.0. If your earlier installation includes the CPS, following the upgrade you will have to request and install any new certificates through a third-party vendor.
NetPoint Associate Portal Services (APS)	Support was deprecated in release 6.5 when NetPoint SAML Services (now Oracle COREid Federation) became the preferred method to provide access privileges across multiple associated portals and DNS domains. APS remains deprecated.
NetPoint SAML Services	There is no migration path from NetPoint SAML Services to any Oracle Federation product available with 10*g* (10.1.4.0.1). NetPoint SAML Services was replaced with Oblix SHAREid.
Oblix SHAREid	Renamed to Oracle COREid Federation. This functionality is now accomplished with Oracle Identity Federation. There is no migration path. However, you can install Oracle Identity Federation after upgrading to Oracle Access Manager10*g* (10.1.4.0.1).
Oracle COREid Federation	This functionality is now accomplished with Oracle Identity Federation. There is no migration path. However, you can install Oracle Identity Federation after upgrading to Oracle Access Manager10*g* (10.1.4.0.1).
Oracle COREid Provisioning	Support for this feature is deprecated in 10*g* (10.1.4.0.1). There is no migration path.
MIIS Provisioning	Provisioning external applications from Oracle Access Manager by integrating with Microsoft Identity Integration Server (MIIS) is deprecated in 10*g* (10.1.4.0.1). This functionality is now accomplished with Oracle Identity Manager (Oracle Xellerate Identity Provisioning), and is no longer available in Oracle Access Manager. There is no migration path.
Microsoft .NET Passport	Support for this feature is deprecated in 10*g* (10.1.4.0.1).
Valicert Authentication plug-in	Support was deprecated in release 7.0.4 (also available as part of Oracle Application Server 10g Release 2 (10.1.2)). This is no longer distributed with the Access Server (including Authn_valicert authentication plug-in, authn_valicert.dll, and authn_valicert_d.dll).
Siemens DirX Directory	This directory is not supported in 10*g* (10.1.4.0.1). Although the installation screen might still display DirX as a possible option.
Web components for Apache v1.3 and Apache v1.3 based Web servers	Starting with 10*g* (10.1.4.3), support for Apache v1.3 based Web servers is no longer supported.

Table 2–4 (Cont.) Deprecated in 10.1.4

Component	Comments
NetPoint Connector for BEA Ready Realm	Support was deprecated in release 7.0.4.2. However, the Security Provider for WebLogic SSPI is still supported. To upgrade an earlier Security Provider for WebLogic SSPI to the latest release, see"Upgrading Third-Party Integration Connectors" on page 11-1. To integrate a new Security Provider for WebLogic SSPI, see the *Oracle Access Manager Integration Guide*.

Upgrade Strategies When Support is Changed or Deprecated

This discussion provides strategies to help you proceed with a component upgrade when support for a directory server or Web server version has changed or been deprecated.

The strategies presented here focus on a single component upgrade in a specific situation:

- Upgrading When Third-Party Support Has Changed
- Upgrading When Third-Party Support Has Been Deprecated

> **Note:** Before upgrading an Oracle Access Manager installation earlier than release 6.1.1, contact Oracle Support at `http://www.oracle.com/support/contact.html`

Upgrading When Third-Party Support Has Changed

When 10.1.4 supports a different Web server or directory server release than those in your earlier installation, you must complete the upgrade a little differently to accommodate upgrading third-party components.

> **Note:** If you are performing a zero downtime upgrade, see Part VI.

The following overview outlines the sequence you need to complete when you must upgrade an Oracle Access Manager component in addition to upgrading a Web server (or directory server) instance to meet 10.1.4 requirements. This is provided to give you an idea of how to proceed in this situation and is not meant to provide all steps needed to accomplish the task. See your vendor documentation for information about third-party components and other chapters in this guide for details about Oracle Access Manager components and validation steps.

For example, when 10.1.4 supports the same Web server or directory server versions as your earlier installed Oracle Access Manager release, you simply upgrade each component once and accept changes to third-party configuration files. However, during an upgrade, third-party configuration files are not updated in their entirety. Instead, only the delta is applied (the difference between changes for the old release and changes for 10.1.4. For this reason, you cannot simply install a new Web server instance and specify the path to it during an upgrade.

Note: The strategies outlined here presume that you have completed all appropriate preparation tasks, and that you are following steps provided elsewhere in this guide. Preparation, verification, and recovery steps are *not* repeated here. Steps to upgrade the specific Oracle Access Manager component are *not* repeated here.

Task overview: Upgrading Oracle Access Manager together with third-party product versions

1. Compare support requirements on Oracle Technology Network:
   a. Go to Oracle Technology Network:

      `http://www.oracle.com/technology/products/id_mgmt/coreid_acc/pdf/oracle_access_manager_certification_10.1.4_r3_matrix.xls`

   b. Click the tab for the component list you need. For example:

      Server Certification

2. **Directory Server Upgrade**: If this applies to your environment, perform the activities in the following list:
   - Use instructions in Chapter 5 to back up current directory instances and data (and to create and prepare master instances of the earlier Identity Server, WebPass, and Policy Manager against the existing directory server).
   - Stop all Identity Server services and follow instructions in your vendor documentation to upgrade a third-party directory server to the new level supported by 10.1.4.
   - Perform and validate the schema and data on the upgraded directory instance upgrade using the master Identity Server and Policy Manager as described in:
     – Chapter 6, "Upgrading Identity System Schema and Data In Place"
     – Chapter 7, "Upgrading Access System Schema and Data In Place"
3. **Web Server Upgrades amid Oracle Access Manager Upgrades**: If your environment includes an earlier Web server version than is supported by10*g* (10.1.4.0.1), prepare components and perform upgrade activities as prescribed in this manual with the following differences:
   - **Oracle Access Manager Web Component Upgrades**: When you upgrade Web components, accept the automatic Web server configuration file update for the currently installed Web server.
   - **Web Server Upgrade**: Use your vendor documentation to back up an older third-party Web server then upgrade it to the new level supported by 10.1.4.
   - Manually update the Web server configuration file for 10*g* (10.1.4.0.1) following the Web server upgrade. For more information, see the *Oracle Access Manager Installation Guide*.

   Note: You cannot apply Oracle Access Manager-related Web server configuration changes to a new Web server instance.

4. Complete other activities as described in this manual, then validate the upgrade as described in Chapter 14, "Validating the Entire System Upgrade".

Upgrading When Third-Party Support Has Been Deprecated

In some cases, you might discover that Oracle Access Manager 10.1.4 does not support an earlier Web Server or directory server release. For example, the release 6.1 Policy Manager supports Sun (formerly iPlanet) 4.x Web server. However, from Oracle Access Manager 6.5 onward this Web server release is not supported.

When 10.1.4 does not support an earlier Web Server or directory release, you must complete the upgrade as outlined in:

- Upgrading with Manual Web Server Configuration When Support is Deprecated
- Upgrading Oracle Access Manager In Phases When Third-Party Support is Deprecated

> **Note:** Before upgrading an installation earlier than release 6.1.1, contact Oracle Support at
> `http://www.oracle.com/support/contact.html`

Upgrading with Manual Web Server Configuration When Support is Deprecated

When 10.1.4 support does not include your earlier release Web Server, you can use the strategy here to upgrade to 10.1.4. For example, from Oracle Access Manager 6.5 onward the Sun (formerly iPlanet) 4.x Web server is not supported. As a result, during the upgrade from Oracle Access Manager release 6.1.1 to release 6.5 the Web server configuration files are not automatically updated. Instead, you must install the Sun 6.x Web server and run EditObjConf and ManageObjConf manually to update the Web server configuration files for Oracle Access Manager release 6.5, 7.x, and 10*g* (10.1.4.0.1).

The following task overview is provided to give you an idea of how to proceed in this situation and is not meant to provide all steps needed to accomplish the task.

> **Note:** The strategies outlined here presume that you have completed appropriate preparation tasks, and that you are following steps provided elsewhere in this guide. Preparation, verification, and recovery steps are *not* repeated here. Steps to upgrade the specific Oracle Access Manager component are *not* repeated here. Release numbers in examples are provided for illustration only.

Task overview: Upgrading when Web server support was deprecated

1. Upgrade your earlier Oracle Access Manager installation to 10.1.4, including all Web components (WebPass, Policy Manager, and WebGate).

   > **Note:** Web server configuration files are not automatically updated.

2. Create an instance of the Web server that is supported by 10.1.4 using your vendor documentation as a guide.
3. Run the EditObjConf tool for WebPass, Policy Manager (formerly the Access Manager component), then WebGate, as needed.

   WebComponent_install_dir\identity|access\oblix\apps\common\bin\EditObjConf.exe

4. Run the ManageObjConf tool for WebPass, Policy Manager, then WebGate, as needed.

   WebComponent_install_dir\identity|access\oblix\apps\common\bin\ManageObjConf.exe

5. Perform the component validation step to ensure that it upgraded properly as described in Part III.

Upgrading Oracle Access Manager In Phases When Third-Party Support is Deprecated

The following method describes a phased upgrade that you can use when the latest Oracle Access Manager release is *not* compatible with both the currently *installed* Web server (or directory server) release, and the currently *supported* release.

In this case, the goal is to use Confirmed mode to upgrade the Oracle Access Manager component in phases to a release that supports both the earlier Web server (or directory server) release and a later interim Web server (or directory server) release. You repeat the phased process to upgrade the Oracle Access Manager component and the third-party component until both are synchronized with 10.1.4.

As you complete this task in confirmed mode, you accept appropriate processes while skipping those that take the Oracle Access Manager component too far. Then, you migrate your earlier Web server (or directory server) to the newer supported release. This might involve a sequence of manual steps to *true up* the configuration files for the new instance. You might need to repeat this sequence until you have upgraded both the third-party component to a release supported by 10.1.4, and the Oracle Access Manager is upgraded to 10.1.4.

In the following task overview, a WebPass upgrade is interspersed with a Web server upgrade. The strategies outlined here presume that you have completed appropriate preparation tasks, and that you are following steps provided elsewhere in this guide. Preparation, verification, and recovery steps are *not* repeated here. Steps to upgrade the specific Oracle Access Manager component are *not* repeated here. See also "Console Method" on page 2-9.

Note: Release numbers in examples are provided for illustration only. Before upgrading releases earlier than Oracle Access Manager 6.1.1, contact Oracle Support at
`http://www.oracle.com/support/contact.html`

Task overview: Upgrading in phases when Web server support is deprecated

1. On the computer hosting the earlier Oracle Access Manager Web component (WebPass, Policy Manager, or WebGate), start the in-place upgrade using 10*g* (10.1.4.0.1) installers. For example:

   Start Upgrading: WebPass 5.2 on Sun ONE Web Server 4.1

2. In Confirmed mode, accept processes that upgrade the Oracle Access Manager Web component only to the next major release that supports the current Web server. For example, in this case you upgrade only to 6.0:

   From: WebPass 5.2

   To: WebPass 6.0

Note: Skip any processes that would upgrade this component to a release that does not support the current environment.

3. Accept the automatic Web server configuration file update, and finish the component upgrade for this release increment.
4. Migrate the current Web server to the latest level supported by the interim WebPass release, using your vendor documentation as a guide. For example:

   From: Sun ONE Web Server 4.1 (supported by Oracle Access Manager 5.2)

   To: Sun ONE Web Server 6.0 (supported by Oracle Access Manager 6.0)
5. Restart the WebPass upgrade, use Confirmed mode to skip processes already completed and accept upgrade processes that upgrade WebPass to a later release that supports the upgraded Web server. For example:

   From: WebPass 6.0

   To: WebPass 6.1.1
6. Accept the automatic Web server configuration file update, and finish this upgrade increment.
7. Repeat steps in this list as needed until you reach and meet 10*g* (10.1.4.0.1) support requirements for the third-party component and upgrade the Oracle Access Manager component to 10*g* (10.1.4.0.1).
8. Validate the WebPass upgrade as described in "Finishing and Verifying the WebPass Upgrade" on page 9-11.

For more information, see Appendix E. If needed, see "Preparing a Directory Server When Its Release is Deprecated" on page 5-9.

3

About Automated Processes and Manual Tasks

This chapter introduces both the automated processes that are initiated when you start a component upgrade and manual tasks that you must perform. Unless explicitly stated, information in this chapter applies to both in-place upgrades and to zero downtime upgrades. Topics in this chapter include:

- Supported Components and Applications
- About Automated Upgrade Processing and Events
- Upgraded Items
- Preserved Items
- Items that You Must Manually Upgrade
- The Latest Patch Sets

> **Note:** You cannot use 10*g* (10.1.4.3) packages for upgrading.

Supported Components and Applications

All Oracle Access Manager releases support the following components:

- Identity Server (formerly known as the COREid Server), WebPass, Policy Manager (formerly known as the Access Manager component), Access Server, WebGate, and Software Developer Kit

  > **Note:** The Simple Network Management Protocol (SNMP) has not changed and does not require an upgrade.

- Oracle Access Manager applications, which are integral to components, include the Identity System Console, User Manager, Group Manager, Organization Manager, the Selector, the Access System Console, Policy Manager (formerly known as the Access Manager), and other applications
- Integration components such as the Security Provider for WebLogic SSPI and Connector for WebSphere, as well as single sign-on (SSO), provisioning, portal and application server integrations are supported. Complete implementation details are described in the *Oracle Access Manager Integration Guide*

For information about system requirements and changes, see "Platform and SDK .NET Support" on page 4-1.

About Automated Upgrade Processing and Events

This section provides the following topics:

- About Processing and Events
- About Log Files

About Processing and Events

When you upgrade each component, the newest product release is installed over an earlier product release in the same location. This section introduces the program-driven processes that occur during component upgrades. Unless explicitly stated, the information in this section applies equally to both methods (in-place and zero downtime methods).

Out-of-place (Zero Downtime Upgrade): This is initiated using the 10*g* (10.1.4.2.0) MigrateOAM script from a command-line. In this case, you must manually enter the mode for the operation, and other arguments and parameters that are then passed to the underlying utilities. For more information about automated processing for this method, see "Zero Downtime Upgrade Tools, Processes, and Logs" on page 15-23. For details about source and destination creation and other preparation tasks for this method, see "Preparation Tasks for the Zero Downtime Method" on page 15-12.

In-place Upgrade: This is initiated using the corresponding Oracle Access Manager 10*g* (10.1.4.0.1) installer. The arguments that are needed by the underlying utilities are gathered by the installer during processing. The program controls the sequence of events and messages automatically. The process requires very little input from you. After you start an upgrade and specify the file system directory where the component to be upgraded resides, you are asked if you want to upgrade the earlier version of the component. When you accept the upgrade option, the earlier source directory is renamed with the addition of a time stamp (*yearmonthday_hourminutesecond*). This time-stamped source contains earlier original files that are sometimes accessed to compare content or extract customized information.

Sample Time-Stamped File System Directory:

IdentityServer_install_dir_20060422_141440\identity

After the source directory is renamed with a time stamp, the target directory is created and new files are extracted to the target. For example:

Sample Target File System Directory: *IdentityServer_install_dir*\identity

If the target file system directory does not match the earlier component installation path, a component instance is installed (not upgraded).

All Upgrade Methods: You can choose to have individual upgrade events performed automatically or with your confirmation, as described in "Upgrade Event Modes" on page 2-9.

New folders are created in the target file system path as needed. While the directory structure for Oracle Access Manager release 6.5, release 7.0, and 10.1.4 are the same, they differ from earlier releases. For details, see Appendix A.

Figure 3–1 and the process overview that follows it describe a typical in-place component upgrade. The processing that is required for each component is driven by the utilities that are called automatically during the process. There are slight variations, depending upon the method you are using:

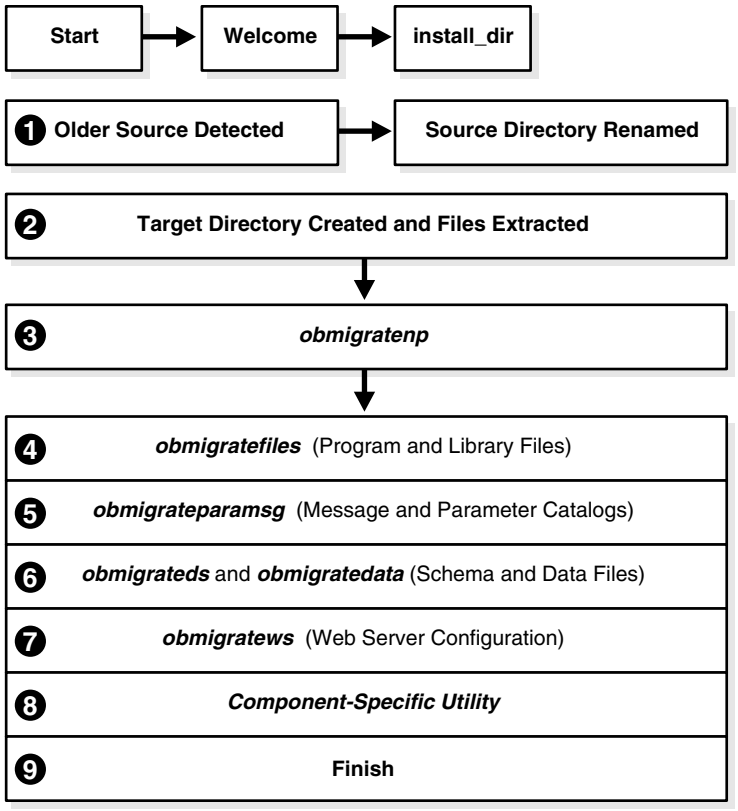
- **In-place Method**: As depicted in Figure 3–1, after you start the component installation program, you see a Welcome message and you are asked to provide

specific input (such as the file system path to the component's installation directory). As automated processing continues, you are asked to accept an operational method (Automatic versus Confirmed), or simply acknowledge that you are ready to continue.

- **Zero Downtime Method**: After you manually enter the command line containing arguments and specifications for the component instance, these are passed to the utilities that control the upgrade.

> **Note:** Starting with item 3 in Figure 3–1, internal processing is similar regardless of the method you are using. For more information about the zero downtime upgrade script and modes, see Chapter 15.

Figure 3–1 Automated Program-Driven Events During an In-place Upgrade



If you are using the in-place method, processing starts when you launch the 10*g* (10.1.4.0.1) installer. If you are using the zero downtime method, processing starts with item 3, after you start the 10*g* (10.1.4.2.0) MigrateOAM script.

During each component upgrade, additions and changes (from each major release to the next major release to release 10.1.4) are implemented As a result, the sequence of events and messages will repeat automatically until all changes between your starting release and 10.1.4 are incorporated.

Note: Process overviews, such as the one here, identify automated processes. After you initiate the process, you might be asked to accept or acknowledge certain events. Skipping or declining an event is sometimes an option.

Process overview: During a component upgrade

1. **In-place Method**: After you launch the 10*g* (10.1.4.0.1) component installer, and an earlier source directory is detected in the same location, you are asked if you want to upgrade. When you accept the upgrade, the source directory is renamed with a time stamp.
2. **In-place Method**: The target directory is created and 10*g* (10.1.4.0.1) files are extracted into it. The English language is upgraded automatically. Other installed languages are upgraded when you include appropriate 10*g* (10.1.4.0.1) Language Packs for each installed language in the same directory as the 10*g* (10.1.4.0.1) component installer.

   Note: If you upgrade an existing multi-language implementation without 10*g* (10.1.4.0.1) Language Packs, you will lose multi-language functionality.

3. **Both Method**s: A utility (obmigratenp) is called by the component installer to determine the release you are upgrading *from* as well as the release you are upgrading *to*. obmigratenp internally detects which features need to be upgraded for this particular component and which other utilities to use for those upgrades. When your installation includes multiple languages, obmigratenp migrates message catalogs.
4. **Both Method**s: A utility (obmigratefiles) is called to upgrade earlier program and library files.
5. **Both Method**s: A utility (obmigrateparamsg) is called to upgrade earlier message and parameter catalog files.
6. **Schema and Data Upgrades Only**: Two utilities (obmigrateds and obmigratedata) are called automatically to initiate Oracle Access Manager schema and data upgrades.

   Zero Downtime Method: The schema and data are upgraded independently. For more information, see "Schema and Data Upgrades with the Zero Downtime Upgrade Method" on page 15-9.

   In-Place Method: The schema and data are upgraded together with the master Identity Server (and master Policy Manager when your installation includes the Access System). During subsequent Identity Server (and Policy Manager) upgrades, the initial schema and data upgrade is detected and this portion of the process is skipped. Oracle recommends that you upgrade the Oracle Access Manager schema and data automatically. These upgrades use LDIF files that are specific to your directory server. Each LDIF file includes only changes from one release of Oracle Access Manager to the next. As a result, the schema and data upgrade will repeat one time for each release from your starting release to 10*g* (10.1.4.0.1). For more information, see Part II.
7. **Web Server Configuration Updates Only**: A utility (obmigratews) is called to perform a selective Web server configuration file and filter upgrade, to

accommodate changes for newer releases of Policy Manager, WebPass, and WebGate.

8. **Both Method**s: A component-specific utility is selected and run to make changes to related registry entries for Windows, plug-ins, and other files. The component's configuration files are updated. For more information, see "Component-Specific Upgrades" on page C-17.

> **See Also:** "Upgraded Items" next, "Preserved Items" on page 3-6, and "Items that You Must Manually Upgrade" on page 3-9

About Log Files

During each component upgrade, one or more log files will be produced to inform you if any problem should arise. If a log file is created, a message during the upgrade process indicates the name and location of the file. In general, you can find upgrade log files in:

Log File Path:

Component_install_dir\identity|access\oblix\tools\migration_tools*toolname*.log

where *Component_install_dir* is the directory where the specific component is installed; identity|access represents the system to which the component belongs (Identity System or Access System, respectively); and *toolname* represents the name of the utility that produced the log.

Each log file contains information about a particular activity that occurs during the component upgrade. For example, a separate log file might be generated for file upgrades, or message and parameter upgrades, or the Oracle Access Manager schema upgrade to name a few. For information about specific log files and their content, see Appendix C.

In addition, the log files here are created to inform you of any ldap specific errors:

- During Identity Server data migration, error_output_*fromversion*_to_*toversion*_osd.ldif file is created in the *IdentityServer_install_dir*\identity\oblix\tools\migration_tools\obmigratedata directory.
- During Policy Manager data migration, error_output_*fromversion*_to_*toversion*_psc.ldif file is created in the *PolicyManager_install_dir*\access\oblix\tools\migration_tools\obmigratedata directory

For the zero downtime upgrade, a new log file is also provided to log activities performed during the make branch (Mkbranch) operation of the MigrateOAM script. For details, see "Zero Downtime Upgrade Tools, Processes, and Logs" on page 15-23.

For details about using log files, and other troubleshooting tips, see Appendix G.

Upgraded Items

Regardless of which methodology you choose, either in-place or zero downtime, the following items are upgraded during component upgrades:

- Program and library files
- Message and parameter catalogs
- The Oracle Access Manager schema and configuration and policy data are upgraded only with the master Identity Server and Policy Manager installed for this purpose

- Web server configuration files and filters are upgraded only for Web components (WebPass, Policy Manager, WebGate)
- Component-specific information, including component configuration files and system environment settings such as registry entries for Win32
- Product and component names are changed as described in "Product and Component Name Changes" on page -xxviii
- Certain configuration files, including those for failover and the software developer kit (SDK) are upgraded as indicated in the following list:
  - **Identity Server:** sample_failover.xml
  - **Access Server:** failover files

    See Also: "Directory Server Failover" on page 3-7 and Chapter 4, "System Behavior and Backward Compatibility"

  - **SDK Configuration**: This upgrade is invoked automatically as the last step when upgrading the Identity Server (and integration components that rely on the Software Developer Kit libraries). Oracle recommends that you accept the automatic upgrade to preserve current configuration settings. Otherwise, you must reconfigure the SDK later using the configureAccessGate tool, as described in Chapter 11.

    Note: Independently Installed SDKsmust be upgraded manually, as described in Chapter 11.

    Only supported components can be upgraded.

    See Also: "Support Deprecated" on page 2-12

Preserved Items

The following information applies regardless of the upgrade methodology that you choose: either in-place or zero downtime.

Any names assigned by an administrator during product installation and configuration are retained during an upgrade (not changed). Therefore if you have named a service "COREid Identity Server" or "NetPoint Identity Server" these names will be the same in the upgraded environment.

Earlier authentication schemes and policy domains assigned by administrators are also retained during the upgrade. After the upgrade, these names are still available.

The items in the following list are preserved in the time-stamped directory and copied into the new target directory:

- certificate files (simple/cert mode)
- password.xml and .lst (.lst is converted to .xml for the Access System)
- configuration files (.oblix/config, .oblix/data)
- obnavigation.xml
- oblixpppcatalog.lst—not converted to .xml
- cert7.db

Starting with release 7.0 and continuing with 10*g* (10.1.4.0.1), the default certificate store format and name has changed to cert8.db from cert7.db. After the upgrade, the old certificate store is used. 10*g* (10.1.4.0.1) (and release 7.x) work with both the cert7.db (upgraded environments) and cert8.db (new installations) certificate store. See "Certificate Store and Localized Certificates" on page 4-13.

For additional information, see the topics:

- Directory Server Failover
- Connection Pool Details
- Encryption Schemes and the Shared Secret

Note: The following topics apply regardless of the upgrade methodology that you choose: either in-place or zero downtime. For more information about system behavior and backward compatibility, see Chapter 4.

Directory Server Failover

Starting with the Access System release 6.5, directory profiles are created during Policy Manager setup and are used by the Access System to access user directory data. These profiles replace the UserDB.lst and GroupDB.lst files and the UserDBFailover.lst and GroupDBFailover.lst configuration files that were used in earlier releases of the Access System.

During the Access System upgrade from release 6.1.1, new directory profiles are created based on the UserDB.lst and GroupDB.lst files and the UserDBFailover.lst and GroupDBFailover.lst configuration files.

Your earlier implementation might also include failover between an Identity Server and the directory server. The Identity Server failover configuration has resided in the directory server profiles since release 5.2. As a result, during the Identity Server upgrade there is no migration of parameters from failover configuration files to directory profiles. Although the schema itself has changed, migration of these changes is performed automatically during the upgrade.

Impact of the Upgrade on Directory Server Failover

Starting with release 6.5, the Access System began partially using directory profiles and database instances for accessing user data. Directory profiles replace the UserDB.lst, GroupDB.lst, UserDBFailover.lst, and GroupDBFailover.lst configuration files that were used in earlier Access System releases. During the incremental upgrade to release 6.5, directory profiles for the Access Server are automatically created and replace certain earlier configuration files where:

- Primary directory server information was stored in: *AccessServer_install_dir*/access/oblix/config/UserDB.lst and GroupDB.lst
- Information for all the failover and load-balancing directory servers (primary and secondary) was stored in: *AccessServer_install_dir*/access/oblix/config/UserDBFailover.lst and GroupDBFailover.lst

When creating the Directory Server Profile for the Policy Manager, directory server credentials are read from *PolicyManager_install_dir*/access/oblix/config/userDB.lst.

Note: If the configuration tree is in the user directory server and under the user node, then the configuration directory profile is not created. Otherwise, a configuration directory profile is created using directory server information from *PolicyManager_install_dir*/oblix/config/ldap/configdb.lst and marked for use only by the Policy Manager.

Profiles are *not* created for Policy Manager failover servers. In the case of release 6.1, if the policy tree was on a separate directory server a profile for policy data existed.

After upgrading the Identity System and Access System, it is a good idea to validate your failover and load balancing configurations and to test that these are still operating as expected. For details, see discussions in:

- Chapter 12, "Upgrading Your Identity System Customizations"
- Chapter 13, "Upgrading Your Access System Customizations"

See also "Connection Pool Details" next.

Connection Pool Details

As described in the *Oracle Access Manager Deployment Guide*, the number of connections opened to the directory is specified by the `Initial Connections` parameter in the Database Instance Profile. More connections are opened, as needed, until they equal the number specified by `Maximum Connections` parameter in the database instance profile. Connections remain open until the Identity or Access Server shuts down or the directory server stops responding. Those connections are then pooled and used by the Identity and Access Server.

Note: Starting with Oracle Access Manager release 7.0, connection pooling was consolidated to support failover across the entire system. The directory connection pool does not depend on directory type.

There might be some impact when upgrading the Access System, depending on the earlier configuration of Oracle Access Manager to each directory server used. For details, see "Confirming Access System Failover and Load Balancing" on page 13-3.

See also the previous discussion on "Directory Server Failover".

Impact of the Upgrade on Connection Pools

There might be some impact when upgrading, depending on the earlier configuration of Oracle Access Manager to each directory server used. For instance:

- **Identity System Connection Pools**: There is no impact. `Initial Connections` and `Maximum Connections` specified in the database instance profile are retained and will operate as they did previously.
- **Access System Connection Pools Before release 6.5**: Values for the `Initial Connections` and `Maximum Connections` in the UserDB.lst and UserDBFailover.lst might **not** be retained. After upgrading Access System components, it is a good idea to verify the values in the database instance profile of the newly created directory server profile.

- **On NDS**: For concurrent authentication requests on NDS directory servers, Oracle recommends that you increase the connection pool size to something higher than the default (1) for the user directory profile using the System Console.

Encryption Schemes and the Shared Secret

The shared secret encryption algorithm is an Oracle Access Manager-wide setting. It affects all encrypted cookies. For example, the ObSSOCookie cookie is encrypted using a configurable encryption scheme known as a *shared secret*. During the upgrade, the earlier encryption scheme is retained.

In release 7.0.4 and earlier, WebGates/AccessGates handled encryption and decryption using the shared secret value. Starting in 10*g* (10.1.4.0.1), however, the Access Server handles encryption/decryption. As a result, the shared secret is no longer needed on WebGate.

Oracle recommends that you upgrade earlier WebGates. However, earlier WebGates can coexist with 10*g* (10.1.4.0.1) Access Servers when specific conditions are met. For more information on encryption schemes, the shared secret, Access Servers, and WebGates in Chapter 4.

Items that You Must Manually Upgrade

The following topics apply regardless of the upgrade methodology you choose: in-place upgrades or zero downtime upgrades. Items that require you to perform manual upgrade tasks to ensure compatibility and proper operation with release 10*g* (10.1.4.0.1) include:

- Auditing and Access Reporting
- C++ Programs
- Customized Styles
- Language Packs
- Plug-ins

In addition to the topics in the preceding list, see details in:

- Chapter 8: "Preparing Earlier Customizations"
- Chapter 12, "Upgrading Your Identity System Customizations"
- Chapter 13, "Upgrading Your Access System Customizations"

Auditing and Access Reporting

Oracle Access Manager 10.1.4 supports the Unicode standard. To support all the languages available with Oracle Access Manager 10.1.4, the definitions of auditing and reporting tables have changed. Simply upgrading or altering existing database instances and tables is not supported and could result in permanent truncation and loss of existing data.

After upgrading the Identity System (and Access System), you need to create a new database instance to operate with 10.1.4. To upload the new Audit table schema to support the auditing of 10.1.4 UTF-8 data and writing this data to the new SQL Server instance, you must create a new oblix_audit_events table. This schema upgrade includes datatype changes within Audit table columns. Next you need to create tables for the reporting application (oblix_rpt_as_reports, oblix_rpt_as_resources, and oblix_rpt_as_users) in 10.1.4.

To query or generate any report that requires data from both the old and new database, you need to import data from the original instance into the new instance *before* you start auditing with 10.1.4. This is an optional step that might or might not be needed in your environment.

> **Note:** Retain the earlier database to preserve the original data. Importing earlier data can result in some data loss through truncation. However, if you do not import old data before you start auditing, you cannot generate any report that requires the data from both the old and new database.

The steps you need to perform, even when you have an English only environment, depend on the type of database you are using. For details, see:

- Chapter 12, "Upgrading Your Identity System Customizations"
- Chapter 13, "Upgrading Your Access System Customizations"
- See also "Auditing and Access Reporting" on page 4-12

C++ Programs

You will need to recompile C++ programs created with the Software Developer Kit and Oracle Access Manager APIs following that upgrade, for the reasons stated in "Plug-ins" on page 3-11.

> **Note:** Oracle recommends that you begin migrating your earlier customizations in a test environment well before you begin upgrading components. This will help reduce system downtime when upgrading your production environment and redeploying customizations.

For more information about C++ programs and upgrading these for the Identity and Access Systems, see Chapter 4, Chapter 12, and Chapter 13 respectively.

Challenge and Response Attributes Must Appear on a Panel

In earlier releases, the challenge phrase and response attributes were allowed on different panels of Profile pages. In 10.1.4, however, both the challenge phrase and response attributes must be on the same panel. In 10.1.4, challenge phrases and responses are displayed one after the other even though these are not configured one after the other in the panel.

For details about combining challenge and response attributes on a single panel, see "Combining Challenge and Response Attributes on a Panel" on page 12-8.

Customized Styles

Default product stylesheets are periodically updated by Oracle to instantiate improvements. For example, to support multiple languages, the location of java scripts, stylesheets, and images changed starting with Oracle Access Manager release 6.5. The directory structure introduced with release 6.5 continues with 10.1.4.

Upgraded functionality depends, in part, on stylesheet files in the new release \style0 and \shared directories.

> **Note:** If files in your earlier Oracle Access Manager \style0 directory were customized, you must manually edit the newer version files in \style0 and \shared directories after the upgrade.

It is important to understand the new file hierarchy and stylesheet structure before you can successfully migrate custom images and stylesheets to 10.1.4. If you simply copy the old stylesheets, images, JavaScript files, and related items to the new release, Oracle Access Manager can experience problems.

The following files must be processed manually after the upgrade:

- XSL stylesheets
- Images (.gifs for Oracle Access Manager)
- JavaScript Files

> **Note:** Oracle recommends that you begin migrating your earlier customizations in a test environment well before you begin upgrading components. This will help reduce system downtime when upgrading your production environment and redeploying customizations.

For details about upgrading Identity System customizations, see Chapter 12. For details about the Oracle Access Manager directory structure, see Appendix A, "Oracle Access Manager Directory Structure Changes".

Language Packs

A 10*g* (10.1.4.3) environment supports only 10*g* (10.1.4.3) Language Packs. Using 10*g* (10.1.4.0.1) Language Packs is deprecated in release 10*g* (10.1.4.3).

Oracle recommends that you remove (uninstall) existing 10*g* (10.1.4.0.1) Language Packs after upgrading to either:

- Oracle Access Manager 10*g* (10.1.4.0.1), with 10*g* (10.1.4.0.1) Language Packs installed
- Oracle Access Manager 10*g* (10.1.4.2.0), with 10*g* (10.1.4.0.1) Language Packs installed

> **Note:** There are no 10*g* (10.1.4.2.0) Language Packs.

For more information, see "Acquiring and Using Multiple Languages" on page 4-11.

Plug-ins

Plug-in behavior has changed in recent releases. Following are important details that you need to be aware of with regard to custom plug-ins.

All earlier plug-ins send and receive data using Latin-1 encoding. Starting with 10*g* (10.1.4.0.1), Oracle Access Manager components and plug-ins send and receive data in UTF-8 format. Identity and Access Servers that are upgraded to 10.1.4 provide backward compatibility with earlier plug-ins using Latin-1 encoding automatically. However, to send and receive internationalized data, earlier plug-ins should be redesigned to communicate using UTF-8 encoding. This includes Identity Event

plug-ins and custom authentication and authorization plug-ins. For more information about globalization, see Chapter 4.

Starting with Oracle Access Manager release 7.0, components on Solaris and Linux are compiled using the GCC v3.3.2 C++ compiler to address multi-threading issues encountered with earlier compiler releases. As a result, after the upgrade you must recompile custom plug-ins from release 5.x or 6.x using GCC v3.3.2 C++ compiler. This includes Identity Event plug-ins and custom authentication and authorization plug-ins. You must use the GCC v3.3.2 compiler, regardless of the one that is provided by your Operating System.

Note: Release 7.0 plug-ins as well as earlier plug-ins implemented as executables or those using a scripting language (such as perl) do not require recompiling after the upgrade. However, to send and receive internationalized data, earlier plug-ins should be redesigned to communicate using UTF-8 encoding.

Identity Event API Plug-Ins: Some plug-ins are copied during the upgrade; however, Identity Event API plug-ins are not. After the upgrade you must move earlier Identity Event plug-ins. These plug-ins might also need to be re-compiled or re-designed. For more information, see "Migrating Custom Identity Event Plug-Ins" on page 12-10.

Authentication and Authorization Plug-Ins: After the Access System upgrade, see "Recompiling and Redesigning Custom Authentication and Authorization Plug-Ins" on page 13-5. Also, the *Oracle Access Manager Access Administration Guide* provides more information about:

- Adding customized plug-ins and parameters to an authentication scheme to be used for any of the scheme's steps
- Installing a custom authorization plug-in on application servers that you want to protect and creating custom schemes that include custom plug-ins to perform different (or additional) tasks from those of the default scheme

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Note: Oracle recommends that you begin migrating your earlier customizations in a test environment well before you begin upgrading components. This will help reduce system downtime when upgrading your production environment and redeploying customizations. For more information, see "Customization Upgrade Planning" on page 1-16.

The Latest Patch Sets

Oracle recommends that you obtain and apply the latest patch sets to obtain the latest fixes to known issues. These are available on My Oracle Support (formerly MetaLink). Patch sets can include enhancements. For instance, Release 10.1.4 Patch Set 1 (10.1.4.2.0) includes new functionality that supports a zero downtime upgrade method.

Following are specific patch details for each upgrade method:

In-place Method: After upgrading to Oracle Access Manager 10*g* (10.1.4.0.1):

1. Apply 10*g* (10.1.4.2.0)
2. Apply 10*g* (10.1.4.3): The 10*g* (10.1.4.3) patch must be applied to a 10*g* (10.1.4.2.0) base.

Zero Downtime Method: In this case, each component instance is upgraded using the 10*g* (10.1.4.2.0) MigrateOAM script., as described in Part VI, "Upgrading Using the Zero Downtime Upgrade Method". After this upgrade, the instance is already at release 10*g* (10.1.4.2.0). In this case, you apply the 10*g* (10.1.4.3) patch set.

See Also: "Obtaining Packages for Upgrades" on page 4-4

4

System Behavior and Backward Compatibility

This chapter provides a centralized summary of expected system behaviors and changes between Oracle Access Manager 10.1.4 and earlier releases. Unless explicitly stated, all 10.1.4 releases operate in the same way. Behaviors that have not changed are, for the most part, not included in this chapter.

> **Note:** Unless explicitly stated, 10*g* (10.1.4.0.1) refers to any Oracle Access Manager release in the 10.1.4 series. This includes base 10*g* (10.1.4.0.1) and 10*g* (10.1.4.3) installations and the 10*g* (10.1.4.2.0) patch set.

This chapter provides the following topic categories:

> **Note:** For a quick reference table of Oracle Access Manager 10.1.4 behaviors (as well as an overview of new functions and features), see the *Oracle Access Manager Introduction*. See also "Product and Component Name Changes" on page xxviii.

Platform and SDK .NET Support

There are no significant changes in platform support between releases 7.0.4 (also available as part of Oracle Application Server 10g Release 2 (10.1.2)) and 10.1.4. However, there are significant differences in support prior to release 7.0.4 and 10.1.4.

Note: Oracle COREid 7.0.4 is also available as part of Oracle Application Server 10g Release 2 (10.1.2).

10*g* (10.1.4.3) SDK with .NET 1 Support: Oracle Access Manager software developer kit (SDK) for Windows continues to support .NET Framework 1.1 and Microsoft Visual Studio 2002. AccessGates created using this SDK will continue this support.

10*g* (10.1.4.3) SDK with .NET 2 Support: A new and optional SDK for Windows is also provided which supports .NET version 2 and MSDE Visual Studio 2005. This is specific to only custom AccessGates. This SDK can be added to your deployment whether it is a fresh installation or an upgraded environment that includes the 10*g* (10.1.4.3) patch.

See Also:

- Table 4–1, " Backward Compatibility for Oracle Access Manager Components"
- "Access Manager SDK Support for .NET" on page 4-42
- "Recompiling Custom AccessGates for .NET 2 Support" on page 13-5
- "Installing the Access Manager SDK" in the *Oracle Access Manager Developer Guide*

Oracle continually certifies Oracle Access Manager support with various third-party platforms, Web server releases, directory server releases, and applications. Certain Web server-pecific packages will be available some time after the initial release.

See Also: "Web Server-Specific Installation Packages" in the *Oracle Access Manager Installation Guide*

For the latest support details, see the certification matrix that is available on the Oracle Technology Network as described in the following procedure.

To locate the latest certification details

1. Go to Oracle Technology Network:

   `http://www.oracle.com/technology/software/products/ias/files/fusion_certification.html`

2. Locate Oracle Identity and Access Management, and then click the link for the latest release. For example:

   System Requirements and Supported Platforms for Oracle Access Manager 10gR3 (xls)

3. See "Obtaining Packages for Upgrades" on page 4-4.

For a quick reference table of components and third-party products that are no longer supported, see the *Oracle Access Manager Upgrade Guide*.

About Installers, Patch Sets, Bundle Patches, and Newly Certified Components

This section includes the following sections:

Definitions

Installers: Oracle provides installers for a fresh installation. With a major release, installation packages can also be used to upgrade earlier instances. For example, 10*g* (10.1.4.0.1) installers can be used for in-place component upgrades. However, 10*g* (10.1.4.3) installers can be used for only a fresh installation, not an upgrade.

Patch Sets: A patch set is a mechanism for delivering fully tested and integrated product fixes. Each patch set release updates specific software and configuration files in your installation. Patch sets can include new functionality.

Bundle Patches: A bundle patch is an official Oracle patch for Oracle Access Manager components on baseline platforms. Bundle patches are available *following* one release or patch set and *before* the next.

Newly Certified Components: Oracle provides Oracle Access Manager full installers and patch packages for components on newly certified platforms. These packages are available under the Oracle Access Manager 3rd Party Integration link on the Oracle Technology Network (OTN):

`http://www.oracle.com/technology/software/products/ias/files/fusion_certification.html`

For more information, see "Package Types" on page 2-2.

Packages for Upgrades

The required base release for 10*g* (10.1.4.3) is 10*g* (10.1.4.2.0). Oracle Access Manager 10*g* (10.1.4.3) packages cannot be used to upgrade an earlier Oracle Access Manager release. However, 10*g* (10.1.4.3) patch packages are available to apply to 10*g* (10.1.4.2.0) instances.

To upgrade earlier Oracle Access Manager instances (6.x or 7.x) to 10.1.4, you must use either:

- In-Place Upgrade Method: 10*g* (10.1.4.0.1) installers must be used to perform an in-place component upgrade. After upgrading, you can apply the 10*g* (10.1.4.2.0) patch and then apply the 10*g* (10.1.4.3) patch.

  or

- Zero Downtime Method: 10*g* (10.1.4.2.0) packages provide the tools you need to perform a zero downtime upgrade. After upgrading you can apply the 10*g* (10.1.4.3) patch.

> **Note:** Both 10*g* (10.1.4.0.1) installers and 10*g* (10.1.4.2.0) patch packages are required for the zero downtime upgrade method.

For more information, see "Obtaining Packages for Upgrades".

Obtaining Packages for Upgrades

The following procedure describes how to obtain the 10.1.4 installers and patch sets you need to upgrade an earlier Oracle Access Manager deployment. If you plan to use the in-place upgrade method, skip step 4.

To obtain the 10.1.4 base release and patch sets

1. **10*g* (10.1.4.0.1) Packages for In-place and Zero Downtime Upgrade Methods**:
   a. Go to Oracle Technology Network at the following URL to download 10*g* (10.1.4.0.1):

      http://www.oracle.com/technology/software/products/ias/htdocs/101401.html

   b. On the Oracle Identity Management 10*g* (10.1.4.0.1) Downloads page, click Oracle Access Manager **Readme**, and then review the contents of each CD on this page.
   c. Core Components: In the Platform columns, click the links of appropriate CDs to download their contents.
   d. Web Components: Locate and select Oracle Access Manager - 3rd Party Integration (Last updated ...) **Readme**; review the contents of each CD and click the links of appropriate CDs to download packages for WebGate, WebPass, Policy Manager, and Application Server Connectors.
2. **Documentation**: Perform the following steps to acquire 10*g* (10.1.4.0.1) manuals.
   a. Go to the following URL:

      http://www.oracle.com/technology/documentation/oim1014.html

   b. In the table for Oracle Access Manager, locate part number **B28196-01** (Oracle Identity Management 10g (10.1.4.0.1) Online Documentation Library), then click **View Library** or **Download**.
   c. In the online documentation library, locate **Release Notes**.
   d. Within the release notes, click the bookmark for **Oracle Access Manager**.
3. **In-Place Component Upgrade**: Use instructions in the *Oracle Access Manager Upgrade Guide* to upgrade earlier 6.x and 7.x instances in place.
4. **10*g* (10.1.4.2.0) Packages for Zero Downtime Upgrades (or Patching)**: Perform Steps 1 and 2, and then perform remaining activities here:

   Note: You cannot perform a zero downtime upgrade using 10*g* (10.1.4.3) packages. However, you need both 10*g* (10.1.4.0.1) and 10*g* (10.1.4.2.0) packages.

   a. Go to My Oracle Support (formerly MetaLink) and log in as usual:

      http://metalink.oracle.com

   b. From the **Quick Find** list, choose **Patch Number**, in the empty field to the right, enter **5957301**, and then click **Go**.
   c. On the Patch 5957301 page, click the **Download** button beside each zip file name.

d. **Readme**: Click the **View Readme** button to display the Release Notes, which you can print to review the list of bugs fixed, enhancements, and more.

e. **Documentation**: Perform the following steps to acquire 10*g* (10.1.4.2.0) manuals.

   a. Go to the following URL:

      `http://www.oracle.com/technology/documentation/oim1014.html`

   b. In the table for Oracle Access Manager, locate part number **E10761-01** Oracle Access Manager (10*g* (10.1.4.2.0) Online Documentation Library), then click **View Library** or **Download**.

f. Proceed as follows, depending on your needs:

   Zero-Downtime Upgrade: See Part VI, "Upgrading Using the Zero Downtime Upgrade Method" for details.

   Patch Installation: See the **Release Notes** for all prerequisites, patch install, and post-patching instructions.

5. **10*g* (10.1.4.3) Patch**: Perform the following steps to acquire the 10*g* (10.1.4.3) patch packages.

   Note: You cannot use 10*g* (10.1.4.3) packages for upgrades.

   a. Go to My Oracle Support (formerly MetaLink) and log in as usual:

      `http://metalink.oracle.com`

   b. From the **Quick Find** list, choose **Patch Number**, in the empty field to the right, enter **Oracle Access Manager**, and then click **Go**.

   c. On the Patch 8276055 page, click the **Download** button beside each zip file name.

   d. **Readme**: Click the **View Readme** button to display the Release Notes, which you can print to review the list of bugs fixed, enhancements, and more.

   e. **Patch Installation**: See the 10*g* (10.1.4.3) Readme for all prerequisites, patch install, and post-patching instructions.

   f. **Documentation**: Perform the following steps to acquire 10*g* (10.1.4.3) manuals.

      a. Go to the following URL:

         `http://www.oracle.com/technology/documentation/oim1014.html`

      b. In the table for Oracle Access Manager, locate part number **E15217-01** Oracle Access Manager (10*g* (10.1.4.3) Online Documentation Library, then click **View Library** or **Download**.

About Expanding Environments

Oracle recommends that you maintain your upgraded environment according to the conditions for the upgrade method that was used:

- **In-Place Upgrades**: After upgrading to 10*g* (10.1.4.0.1), apply the latest patch sets (10*g* (10.1.4.2.0) and then 10*g* (10.1.4.3)). After applying the patch sets, you can expand the environment by adding new 10*g* (10.1.4.3) instances.

Patch sets are available on My Oracle Support (formerly MetaLink). For more information, see Steps 5 and 7 in "Obtaining Packages for Upgrades" on page 4-4

- **Zero Downtime Upgrades**: Oracle recommends that you expand the environment before upgrading with this method. Just add earlier instances as described in Part VI.

> **Note:** You can expand an upgraded environment after applying the 10*g* (10.1.4.3) patch by using 10*g* (10.1.4.3) installers to add fresh instances. You cannot use patch set packages to install fresh instances.

To add fresh instances, you must acquire 10*g* (10.1.4.3) installers from the Oracle Technology Network: `http://www.oracle.com/technology/software/products/middleware/htdocs/111110_fmw.html`.

About Upgrading and Backward Compatibility

Backward compatibility with earlier plug-ins and most components is enabled automatically regardless of the upgrade method you use. However, not all components provide backward compatibility with earlier components. Table 4–1 provides an overview with pointers to additional information.

Table 4–1 Backward Compatibility for Oracle Access Manager Components

Component	Backward Compatibility Enabled Automatically	For More Information See
Identity Servers (formerly known as the NetPoint or COREid Server)	When you upgrade Identity Servers, backward compatibility with earlier custom plug-ins is enabled automatically. If you add a 10*g* (10.1.4.0.1) Identity Server after an in-place upgrade, you must set a flag manually to enable backward compatibility with earlier custom plug-ins. You cannot use patch set packages to install fresh instances. Upgraded Identity Servers are not backward compatible with earlier WebPass instances. Identity Servers now use the value of the obVer attribute in OblixOrgPerson to support user data migration of multiple value in challenge and response attributes for Lost Password Management.	Identity Server Backward Compatability on page 4-33 obVer Attribute Changes on page 4-26
WebPass	After upgrading all earlier Identity Servers, you must upgrade all earlier WebPass instances. Earlier WebPass instances are not compatible with 10*g* (10.1.4.0.1) Identity Servers (or Policy Managers). You can install 10*g* (10.1.4.0.1) WebPass instances in your upgraded environment. However, 10*g* (10.1.4.0.1) WebPass instances are not compatible with earlier Identity Servers (or Policy Managers). You cannot use Release 10.1.4 Patch Set 1 (10.1.4.2.0) packages to install fresh instances.	Web Components and Backward Compatibility on page 4-29
Policy Managers (formerly known as the Access Manager component)	After upgrading the schema and data, and all Identity System components, you must upgrade all earlier Policy Managers.	Policy Manager on page 4-50

Table 4–1 (Cont.) Backward Compatibility for Oracle Access Manager Components

Component	Backward Compatibility Enabled Automatically	For More Information See
Access Servers	When you upgrade earlier Access Servers, backward compatibility with earlier custom plug-ins and earlier WebGates is enabled automatically. However, if you add a 10*g* (10.1.4.3) Access Server to an upgraded environment, you must set a flag to enable backward compatibility. You cannot use patch set packages to install fresh instances. Earlier Access Servers are not compatible with 10.1.4 WebGates. Access Servers now use the obVer attribute in OblixOrgPerson to support user data migration of multiple values in challenge and response attributes for Lost Password Management. Access Servers are compatible with custom AccessGates created using either. the SDK for NET 1 or the SDK with NET 2 support.	Access Server Backward Compatibility on page 4-40 obVer Attribute Changes on page 4-26 Access Manager SDK in this table
WebGates	Release 6.1.1, 6.5, and 7.x WebGates can coexist with upgraded 10.1.4 Access Servers. If you add a 10*g* (10.1.4.0.1) Access Server to the upgraded environment, you must set a flag to enable backward compatibility with earlier WebGates. You can add 10*g* (10.1.4.3) WebGates to your upgraded environment. However, 10.1.4 WebGates are not compatible with earlier Access Servers. You cannot use patch set packages to install fresh instances.	WebGates on page 4-52 Access Server Backward Compatibility on page 4-40
Access Manager SDK	Release 10*g* (10.1.4.3) includes both: ▪ A software developer kit (SDK) with .NET 1 support, which is available as a full installer (and later with the patch set). With this SDK you can create AccessGates that are .NET 1 compatible. ▪ An optional SDK for Windows provides .NET 2 support. This SDK can be added or used instead of the .NET 1 SDK to create custom AccessGate. If you create .NET 2 AccessGates and have earlier custom AccessGates, you might want to recompile the earlier AccessGates with .NET 2.	"Recompiling Custom AccessGates for .NET 2 Support" on page 13-5

Oracle Access Manager 10.1.4 retains customizations made in your earlier installation as described in "Preserved Items" on page 3-6. However, in certain cases, you must perform manual tasks to upgrade or integrate customized items from your earlier environment into the upgraded environment, as outlined in Table 4–2. For more information, see "Customization Upgrade Planning" on page 1-16.

Table 4–2 Manual Tasks You Must Perform to Upgrade Customizations

Manual Tasks for Customizations	Details
Upgrading Auditing and Access Reporting for the Identity System	Chapter 12 on page 12-2
Combining Challenge and Response Attributes on a Panel	Chapter 12 on page 12-8
Confirming Identity System Failover and Load Balancing	Chapter 12 on page 12-9
Migrating Custom Identity Event Plug-Ins	Chapter 12 on page 12-10
Ensuring Compatibility with Earlier Portal Inserts	Chapter 12 on page 12-11
Incorporating Customizations from Release 6.5 and 7.x	Chapter 12 on page 12-12
Incorporating Customizations from Releases Earlier than 6.5	Chapter 12 on page 12-14
Validating Identity System Customization Upgrades	Chapter 12 on page 12-24
Upgrading Auditing and Reporting for the Access Server	Chapter 13 on page 13-2

Table 4–2 (Cont.) Manual Tasks You Must Perform to Upgrade Customizations

Manual Tasks for Customizations	Details
Confirming Access System Failover and Load Balancing	Chapter 13 on page 13-3
Upgrading Forms-based Authentication	Chapter 13 on page 13-4
Recompiling and Redesigning Custom Authentication and Authorization Plug-Ins	Chapter 13 on page 13-5
Associating Release 6.1.1 Authorization Rules with Access Policies	Chapter 13 on page 13-6
Recompiling Custom AccessGates for .NET 2 Support	Chapter 13 on page 13-5
Assuring Proper Authorization Failure Re-directs After Upgrading from 6.1.1	Chapter 13 on page 13-7
Updating the ObAMMasterAuditRule_getEscapeCharacter in Custom C Code	Chapter 13 on page 13-7
Validating Access System Customization Upgrades	Chapter 13 on page 13-8

Only Oracle Access Manager 10*g* (10.1.4.0.1) provides a method to switch from a Solaris platform to a Linux platform while upgrading earlier releases (6.1.1, 6.5, or 7.x) to 10*g* (10.1.4.0.1). For more information, see Appendix B. After the upgrade you can apply the latest patch sets.

10*g* (10.1.4.2.0) Patch Set: Release 10.1.4 Patch Set 1 (10.1.4.2.0) provides the tools required to perform a zero downtime upgrade while upgrading earlier releases (6.1.1, 6.5, or 7.x). For more information about zero downtime upgrades, see Chapter 15.

10*g* (10.1.4.3): This release provides a patch set that you can apply to 10*g* (10.1.4.2.0) instances. In addition, installation packages for a fresh 10*g* (10.1.4.3) installation are available on Oracle Technology Network (OTN). However, you cannot use 10*g* (10.1.4.3) installers to perform an upgrade.

In addition to the preceding tables, this chapter provides a consolidated and centralized summary of expected behaviors in Oracle Access Manager 10.1.4 so that you do not need to look through all the manuals to locate this information

Schema Changes

Changes to the Oracle Access Manager schema are made periodically. Be sure to check the *Oracle Access Manager Schema Description* for any schema changes that were made between your starting release and the latest release. For example, new attributes and object classes might have been added to supoprt enhancements.

General Behavior Changes

This discussion provides information about previous behaviors that apply equally to the Identity and Access Systems. The focus is on changes to previous behaviors and what to expect after upgrading to 10.1.4. Topics include:

- Acquiring and Using Multiple Languages
- Auditing and Access Reporting
- Automatic Schema Update Support for ADAM
- C++ Programs
- Cache Flush
- Certificate Store and Localized Certificates
- Compilers for Plug-ins
- Configuration Files

- Connection Pool Details
- Console-based Command-line Interfaces
- Customized Styles, Images, and JavaScript
- Database Input and Output
- Date and Time Formats
- Default Product Pages
- Detecting Cross-site Scripting and SQL Injection
- Diagnostic Tools for Identity and Access Servers
- Directory Profiles and Database Instance Profiles
- Directory Server Connection Details
- Directory Server Failover
- Directory Server Interface
- Directory Structure
- Domain Names, URIs, and URLs
- Encryption Schemes
- Failover and Failback
- File and Path Names
- Graphical User Interface
- HTML Pages
- Installation Packages
- LDAP Bind Password
- Message and Parameter Files
- Migrating User Data At First Login
- Minimum Number of Search Characters
- Multiple Values in Challenge Phrase and Response Attributes
- Names Assigned by Administrators and Product Names
- Namespaces for Policy Data and User Data Stored Separately
- Native POSIX Thread Library (NPTL) for Linux
- Object Classes and Attributes
- obVer Attribute Changes
- Password Policies and Lost Password Management
- Reconfiguring the Logging Framework without a Restart
- Secure Logging
- Support Changes
- Transport Security for the Directory Server
- Upgrade Enhancements
- Web Components and Backward Compatibility

- Web Server Configuration Files
- Writing a Stack Trace to a Log File
- XML Catalogs and XSL Stylesheet Encoding

10*g* (10.1.4.3) Packages

This topic provides the following information:

- Definitions
- Packages for Upgrades

Definitions

Installers: Oracle provides installers for a fresh installation. With a major release (10*g* (10.1.4.0.1)), installers can also be used to upgrade earlier instances. However, you cannot use 10*g* (10.1.4.3) installation packages to upgrade an earlier Oracle Access Manager installation.

Patch Sets: A patch set is a mechanism for delivering fully tested and integrated product fixes. Each patch set release updates specific software and configuration files in your installation. Patch sets can include new functionality.

Bundle Patches: A bundle patch is an official Oracle patch for Oracle Access Manager components on baseline platforms. Bundle patches are available *following* one patch set release and *before* the next.

Newly Certified Components: Oracle provides Oracle Access Manager full installers and patch packages for components on newly certified platforms. These packages are available under the Oracle Access Manager 3rd Party Integration link on the Oracle Technology Network (OTN).

For more information, see the "About Installation Packages, Patch Sets, Bundle Patches, and Newly Certified Components" in the *Oracle Access Manager Installation Guide*.

See Also: "Packages for Upgrades" on page 4-10

Packages for Upgrades

The base release required for 10*g* (10.1.4.3) is 10*g* (10.1.4.2.0). Oracle Access Manager 10*g* (10.1.4.3) installers cannot be used to upgrade an earlier Oracle Access Manager release. The 10*g* (10.1.4.3) patch set can be applied to only 10*g* (10.1.4.2.0) instances.

To upgrade earlier Oracle Access Manager instances (6.x or 7.x) to 10.1.4, you must use either:

- 10*g* (10.1.4.0.1) installers available on OTN can be used to perform an in-place component upgrade. After upgrading, you can apply the 10*g* (10.1.4.2.0) patch and then apply the 10*g* (10.1.4.3) patch.

  or

- 10*g* (10.1.4.2.0) packages available on My Oracle Support (formerly MetaLink) provide the tools you need to perform a zero downtime upgrade. After upgrading you can apply the 10*g* (10.1.4.3) patch.

For more information, see "Obtaining Packages for Upgrades" on page 4-4.

Acquiring and Using Multiple Languages

Early product releases provided messages for end users and administrators in only the English language. Starting with release 6.5, support for translatable messages was provided through Language Packs for certain Latin-1 languages (French and German).

See Also: "Preparing Multi-Language Installations" on page 8-7

Oracle Access Manager 10.1.4 provides support for nearly a dozen Administrator languages and over two dozen end-user languages, as described in the *Oracle Access Manager Introduction*.

Oracle Access Manager 10*g* (10.1.4.3) provides new Lanauage Pack installers for use in either a fresh installation or an upgraded and patched deployment. Messages for minor releases (10*g* (10.1.4.2.0) and 10*g* (10.1.4.3) added as a result of new functionality might not be translated and can appear in only English.

Applying the 10*g* (10.1.4.3) Patch: After upgrading using either method described in this book, Oracle recommends that you remove (uninstall) existing 10*g* (10.1.4.0.1) Language Packs before you patch. After applying the 10*g* (10.1.4.3) patch, you can install 10*g* (10.1.4.3) Language Packs. If needed, you can reinstate a non-English default language. For details, see "Preparing Upgraded Environments for 10g (10.1.4.3) Language Packs" on page 14-3.

Installing 10*g* (10.1.4.3): When installing 10*g* (10.1.4.3) components, you choose the language (locale) to be used as the default for Administrative tasks. Administrative information for the Identity System Console, Access System Console, and Policy Manager can be displayed in only installed Administrator languages. In earlier releases, a drop-down list of languages appeared in the top-right corner of the System Console. However, this is not available in 10.1.4. The only way to select the language is by changing the browser setting on the user's or administrator's computer. If administrative pages are requested in any user language (based on the language selected for the browser), the language that was selected as the default Administrator language during product installation (or upgrades) is used to display administrative pages. See the *Oracle Access Manager Installation Guide* for details about installing and enabling Language Packs.

Enabling Language Packs: After installing Oracle-provided Language Packs, you must enable all languages to be used, then configure Oracle Access Manager to use the installed languages by entering display names for attributes, tabs, and panels. See the *Oracle Access Manager Identity and Common Administration Guide* for details about enabling languages after installing.

Messages: Messages in Oracle Access Manager stylesheets depend upon a language. Beginning with release 6.5 multiple language capability, messages have been brought out of the stylesheets and defined separately as variables in msgctlg.xsl (and msgctlg.js for JavaScript files). In addition, each stylesheet has a corresponding language-specific thin wrapper stored in *IdentityServer_install_dir*\identity\oblix\lang*langTag*\style0. Each wrapper in \style0 includes the main language-neutral stylesheet stored in *IdentityServer_install_dir*\identity\oblix\lang\shared. The purpose of this new thin wrapper is to segregate the main functionality of the stylesheet template, which is language independent, from language-specific messages in the stylesheets. For more information, see the *Oracle Access Manager Customization Guide*.

Note: While 10*g* (10.1.4.0.1) message files should work with10*g* (10.1.4.3) components, Oracle recommends that you upgrade older message files to 10*g* (10.1.4.3) when upgrading components.

For more information, see "Console-based Command-line Interfaces" on page 4-14.

Auditing and Access Reporting

The Crystal Reports package is no longer provided with the Oracle Access Manager package. You must obtain this product from the vendor.

Oracle Access Manager 10*g* (10.1.4.0.1) supports the Unicode standard. To support all the languages available with Oracle Access Manager 10*g* (10.1.4.0.1), the definitions of auditing and reporting tables have changed. Simply upgrading or altering existing database instances and tables is not supported and could result in permanent truncation and loss of existing data. For more information, see "Auditing and Access Reporting" on page 3-9.

For the steps you must take to ensure a properly working auditing and reporting environment after upgrading Oracle Access Manager components to 10*g* (10.1.4.0.1), see auditing and access reporting topics in:

- Chapter 12, "Upgrading Your Identity System Customizations"
- Chapter 13, "Upgrading Your Access System Customizations"

Also, when configuring Audit Policies in the Identity System Console, you can specify a list of profile attributes for every audit record. Profile attributes (Full Name, Employee Number, Department Number, and the like) are specific to the user performing the action/event being audited (Search or View Profile or Modify Profile, for example). The purpose of profile attributes is to help you identify the user performing the action/event.

WARNING: To avoid exposing a challenge phrase or response attribute, Oracle recommends that you do not select these as profile attributes for auditing. If you add a challenge phrase or response as a profile attribute, it is audited in proprietary encoded format.

Automatic Login and the Password Redirect URL

Using an enhancement in Release 10.1.4 Patch Set 1 (10.1.4.2.0), users can be logged in automatically after changing their password. To configure automatic login, the change password redirect URL must include `STLogin=%applySTLogin%` as a parameter.

The following is an example of a change password redirect URL that logs the user in:

```
/http://hostname:portnumber/identity/oblix/apps/lost_password_mgmt/bin/lost_
password_mgmt.cgi? program=redirectforchangepwd&login=%login%%userid%&backURL=%
HostTarget%%RESOURCE%&STLogin=%applySTLogin%&target=top
```

To implement this with a form-based authentication scheme, you must configure the challenge parameter `creds` by supplying the user name credential parameter as the first token, the password credential parameter as the second token, then any other credential parameters.

See the *Oracle Access Manager Identity and Common Administration Guide* for details.

Automatic Schema Update Support for ADAM

This has been removed due to an ldifde.exe tool licensing issue. For ADAM, the schema must be updated manually. For details, see the *Oracle Access Manager Installation Guide*.

C++ Programs

When upgrading from releases earlier than 7.0, you might need to recompile C++ programs created with the Access Manager SDK and Oracle Access Manager APIs following the upgrade. For more information, see:

- Identity System Event Plug-ins
- Access Manager SDK, Access Manager API, and Custom AccessGates
- Custom Authentication and Authorization Plug-ins and Interfaces

Cache Flush

A 10*g* (10.1.4.0.1) Identity Server cannot flush the cache of an earlier Access Server. To eliminate any problems, be sure to upgrade your Access Servers to 10*g* (10.1.4.0.1).

For more information, see "Access Server Backward Compatibility" on page 4-40.

Certificate Store and Localized Certificates

Communication between a directory server and Oracle Access Manager Servers, and the Policy Manager can be either open (no security) or use the Secure Sockets Layer (SSL). SSL-enabled requires a signer's certificate (root certification Authority (CA) certificate) in Base64 format from a third-party Certificate Authority.

Three transport security modes are provided for communication between Web clients (WebPass and Identity Server and between Policy Manager and WebPass and between Access Server and WebGate. These security modes are Open, Simple (Oracle-provided), and Cert (third-party CA).

In both Simple and Cert mode, Oracle Access Manager components use X.509 digital certificates only. This includes Cert Authentication between WebGates and the Access Server where the standard cert-decode plug-in decodes the certificate and passes certificate information to the standard credential_mapping authentication plug-in.

Both Oracle and third-party vendors provide localized certificates for LDAP SSL communication between components and the directory server and for Oracle Access Manager components installed in Cert mode. With localization and UTF-8 support in 10*g* (10.1.4.0.1), you can request and add localized certificates containing non-ASCII text in all fields except Email and Country (according to x509 standards). After receiving a localized certificate, you must install it using one of the Oracle Access Manager command-line tools as described in the *Oracle Access Manager Identity and Common Administration Guide*. If the server is running a non-English operating system, you *might* want to set the Oracle National Language Support NLS_LANG or COREID_NLS_LANG environment variables (or both) to override the automatic server locale detection as described in the *Oracle Access Manager Installation Guide*. Setting these variables is optional because Oracle Access Manager automatically detects and uses the server locale.

Starting with Oracle Access Manager 7.0 (also available as part of Oracle Application Server 10g Release 2 (10.1.2)), the default certificate store format and name has changed from cert7.db to cert8.db for LDAP SSL certificates. When you upgrade to 10*g* (10.1.4.0.1), the old certificate store (cert7.db) is used. Oracle Access Manager 10*g* (10.1.4.0.1) works with both the cert7.db (upgraded environments) and cert8.db (new installations) certificate stores. You are not required to manually generate a new certificate store after upgrading. However, this will happen transparently whenever you add, modify, or delete certificates using configureAAAServer, setup_ois, or setup_accessmanager utilities that automatically modify the certificate store format and name to cert8.db.

For more information, see the *Oracle Access Manager Identity and Common Administration Guide*.

Compilers for Plug-ins

Starting with Oracle Access Manager release 7.0, components on Solaris and Linux are compiled using the GCC v3.3.2 C++ compiler to address multi-threading issues encountered with earlier compiler releases. As a result, after the upgrade you must recompile custom plug-ins from release 5.x or 6.x using GCC v3.3.2 C++ compiler. This includes Identity Event plug-ins and custom authentication and authorization plug-ins.

For more information, see:

- Migrating Custom Identity Event Plug-Ins
- Recompiling and Redesigning Custom Authentication and Authorization Plug-Ins

WARNING: You must use the GCC v3.3.2 compiler, regardless of the compiler that might be provided with the Operating System.

Configuration Files

Previous versions of Oracle Access Manager managed certain information (including but not limited to directory connection information and WebGate parameters) solely through XML and LST configuration files. In 10*g* (10.1.4.0.1), Oracle Access Manager provides the ability to manage this information through the graphical user interface (GUI). See also "Directory Server Connection Details" on page 4-18 and "WebGates" on page 4-52.

Connection Pool Details

Starting with Oracle Access Manager release 7.0, connection pooling was consolidated to support failover across the entire system. The directory connection pool does not depend on directory type.

There might be some impact when upgrading, depending on the earlier configuration of Oracle Access Manager to each directory server used:

- **Identity System Connection Pools**: There is no impact. Initial Connections and Maximum Connections specified in the database instance profile are retained and will operate as they did previously.
- **Access System Connection Pools Before Release 6.5:** Values for `Initial Connections` and `Maximum Connections` in the UserDB.lst and UserDBFailover.lst might not be retained. After upgrading Access System Components, it is a good idea to verify the values in the database instance profile of the newly created directory server profile.
- **On NDS:** For concurrent authentication requests on NDS directory servers, Oracle recommends that you increase the connection pool size to something higher than the default (1) for the user directory profile using the System Console.

See also "Directory Server Failover" on page 4-18.

Console-based Command-line Interfaces

Oracle Access Manager provides console-based command-line tools for administrators to configure Access and Identity components. 10.1.4 command-line tools automatically

detect the server locale and use it for processing. You can optionally set either the COREID_NLS_LANG or NLS_LANG environment variables (or both), which toggle auto-detection off and take precedence over the server locale.

To ensure correct behavior of command-line interfaces with a non-English operating system, the Master Administrator must complete several tasks as described in the *Oracle Access Manager Installation Guide*.

Customized Styles, Images, and JavaScript

Default product stylesheets are periodically updated by Oracle to instantiate improvements. Upgraded functionality depends, in part, on stylesheet files in the latest \style0 and \shared directories.

Customized .XSL style files, images, and JavaScript files are not migrated during the upgrade. If your earlier Oracle Access Manager installation includes customized images, JavaScript files, and stylesheets, you must complete manual processing to use these with 10*g* (10.1.4.0.1). If you use a style other than the Oracle Access Manager default Classic Style, you must manually include those changes in 10*g* (10.1.4.0.1) stylesheets, images, and JavaScript files.

Starting in Oracle Access Manager 6.5, you must reference images using the two variables ($gifPathName and jsPathName) to make your customization language and style independent.

> **Note:** Any style directories created in the earlier installation are **saved**, not migrated, and are stored in the renamed (backup) source directory during the upgrade. After upgrading the Identity System, you must complete manual processing to use customized styles with 10*g* (10.1.4.0.1). See "Incorporating Customizations from Releases Earlier than 6.5" on page 12-14.

To support multiple languages, the location of java scripts, stylesheets, and images changed starting with Oracle Access Manager release 6.5. The directory structure introduced with release 6.5 continues with 10*g* (10.1.4.0.1).

Database Input and Output

Earlier releases used the Latin-1 character set. With 10*g* (10.1.4.0.1), Oracle Access Manager supports the Unicode character set and internationalized characters (Chinese, Japanese, Arabic, and the like).

In new installations, Oracle recommends that you choose a Unicode character set for your database. If you upgrade an earlier installation to 10*g* (10.1.4.0.1), be sure to change your database character set to Unicode.

In earlier releases with the Latin-1 character set, the varchar type for columns of audit and reporting related tables was sufficient. 10*g* (10.1.4.0.1), the audit record can contain data with non Latin-1 characters. For more information, see "Auditing and Access Reporting" on page 4-12.

Date and Time Formats

Formats differ between the Identity System and Access System, as follows:

Identity System: In the 10*g* (10.1.4.0.1) Identity System, the date format remains the same as in the last release and is not internationalized (on the Diagnostics page and

Ticket Information page for example). However, month names taken from Identity System message catalogs will be displayed in the locale specified by the browser.

As in earlier releases, date order formats (MM/DD/YYYY versus /MM/YYYY and the like) can be configured by modifying object class attributes in the Identity System Console as described in the *Oracle Access Manager Identity and Common Administration Guide*. On the Ticket Information page, the date is displayed in the format specified in the `obDateType` parameter in the globalparams.xml file. Weekday names do not appear anywhere within the Identity System.

Access System: In the 10*g* (10.1.4.0.1) Access System, month names, the date-order format (MM/DD/YYYY versus DD/MM/YYYY), and weekday names are displayed according to the locale specified for the browser. In the Access System, month and weekday names are not taken from message catalog files. The following information can vary from one locale to another:

Access System Date Format: In the Access System only, the date format is internationalized and will appear in the locale specified for the browser. In India, for example, the date format is typically expressed as DD/MM/YYYY. In the United States the date format is typically expressed as MM/DD/YYYY.

Access System Month Names: Earlier releases presented the names of months from language-specific message catalogs on the server. However, this meant that the user would see the month name in the server's locale. In the 10*g* (10.1.4.0.1) Access System, the name of the month will reflect the user's browser locale.

> **Note:** Month names, and weekday names, (both full and abbreviated) have been removed from the globalmsg.xml file. Time zone locations have been removed from the oblixadminmsg.xml and policyservcenmsg.xml. These files are located in *\AccessServer_install_dir*\access\oblix\lang\en-us.

Access System Weekday Names: In earlier releases, the names of weekdays (like the names of the month) were taken from language-specific message catalogs in the server's locale. In the Access System 10*g* (10.1.4.0.1), the name of the day will reflect the locale specified by the user's browser.

Access System Time Zone List: In earlier releases, the names of the location/city appeared with the Greenwich Mean Time (GMT) offset. However, the location/offset pair was not static because of the daylight savings time rule.

In 10*g* (10.1.4.0.1), the Time zone list shows only the offset expressed as Universal Time Coordinated (UTC) plus or minus from 00:00 to 12:00 hours. For example, UTC-00:00 or UTC+01:00 or UTC-03:30, and so on.

> **Note:** Universal Time Coordinated (UTC) is also known as Coordinated Universal Time and sometimes as Universal Coordinated Time. All are abbreviated as UTC and refer to the standard time common to every place in the world (formerly and still widely referred to as Greenwich Mean Time (GMT) or World Time. UTC reflects the mean solar time along the Earth's prime meridian. The Time format remains the same as it was in the last release (7.0, also available as part of Oracle Application Server 10g Release 2 (10.1.2).

You will see examples of these behaviors on the Access Server Diagnostics page; the Timing Conditions page under the Authorization Rules in access policies created in

the Policy Manager; on the Manage Reports page under the System Management tab in the Access System Console; and the Manage Sync Records page under the System Management tab of the Access System Console.

Default Product Pages

With Oracle Access Manager 10*g* (10.1.4.0.1), there can be only one static HTML page at the address /identity/oblix/index.html and one static HTML page at the address /access/oblix/index.html.

These static product pages always use the default Administrator language selected during Identity Server and Access Server installation at this location. Starting with release 6.5, the product supported multiple Latin-1 languages (French, German). The default product page behavior remains the same as in previous releases.

See also "HTML Pages" on page 4-21.

Detecting Cross-site Scripting and SQL Injection

Release 10.1.4 Patch Set 1 (10.1.4.2.0) provides enhancements for detecting and handling cross-site scripting and SQL injection. These enhancements guard against malicious data entry in the Oracle Access Manager user applications and administration consoles.

Diagnostic Tools for Identity and Access Servers

Release 10.1.4 Patch Set 1 (10.1.4.2.0) includes new diagnostic tools for the Identity and Access Server to help you work with an Oracle Technical Support representative to troubleshoot problems.

The diagnostic tools enable you to do the following:

- Obtain hard-to-locate information about component configuration and behavior.
- Automatically capture events that immediately precede a core dump.
- Manually capture a stack trace of any event in the Identity or Access System.

See the *Oracle Access Manager Identity and Common Administration Guide* for details.

Directory Profiles and Database Instance Profiles

Starting with release 5.2, the Identity System included directory profiles and database instances. Starting with release 6.5, the Access System began partially using directory profiles and database instances for accessing user data. Directory profiles replace the UserDB.lst, GroupDB.lst, UserDBFailover.lst, and GroupDBFailover.lst configuration files that were used in earlier Access System releases.

A directory profile (also known as a directory server profile) contains the connection information for one or more directory servers that share the same namespace and operational requirements for Read, Write, Search, and so on. The connection information includes a name, a domain or namespace to which it applies, a directory type, and a set of operations.

Each directory profile can contain multiple primary/secondary "database instances". Each database instance profile represents connection information to and for a single directory server, including connection pool information.

A directory profile is created automatically each time you install an Identity Server, Policy Manager, or Access Server and specify new directory server connection

information. You can create additional directory server profiles for load balancing and failover.

When you upgrade an earlier Policy Manager or Access Server, a message appears during the interval to release 6.5 informing you that a new directory profile was created. The message "DB Profiles created" refers to the directory server profile. During the creation of new Access System directory profiles, connection pool values from earlier configuration files cannot be retained. After the upgrade, Oracle recommends that you verify these values in the Database Instance profile of the newly created directory profile. See also "Connection Pool Details" on page 4-14.

Directory Server Connection Details

Previous versions of Oracle Access Manager managed directory connection information solely through XML configuration files. Recently, Oracle Access Manager provided the ability to manage this information through the interface using the Directory Profile page in the Identity System Console and the Access System Console. However, some configuration and policy data are still managed through the XML files. See also "Directory Profiles and Database Instance Profiles" on page 4-17.

Directory Server Failover

The Identity Server failover configuration has resided in the directory server profile in the System Console since release 5.2. Starting with release 6.5:

- A directory server profile is created for the master directory server as well as any failover directory servers.
- Directory server information from certain configuration files is used to create one Database Instance Profile each for all configured primary (and secondary) directory servers.

  For example, during the incremental upgrade to release 6.5, directory profiles for the Access Server are automatically created and replace certain earlier configuration files where:

  – Primary directory server information was stored in:

    AccessServer_install_dir/access/oblix/config/UserDB.lst and GroupDB.lst

  – Information for all the failover and load-balancing directory servers (primary and secondary) was stored in:

    AccessServer_install_dir/access/oblix/config/UserDBFailover.lst

    and GroupDBFailover.lst

- When creating the directory server profile for the Policy Manager, directory server credentials are read from *PolicyManager_install_dir*/access/oblix/config/userDB.lst.

Note: If the configuration tree is in the user directory server *and* under the user node, then the configuration directory profile is **not** created. Otherwise, a configuration directory profile is created using directory server information from *PolicyManager_install_dir*/oblix/config/ldap/configdb.lst and marked for use only by the Policy Manager.

- Profiles are not created for Policy Manager failover servers. In the case of release 6.1, if the policy tree was on a separate directory server a profile for policy data existed.
- The Access Server will handle multiple directory servers following data upgrades.

After upgrading, to verify that the failover configuration you had in the previous release operates as expected see:

- Confirming Identity System Failover and Load Balancing
- Confirming Access System Failover and Load Balancing

Former .lst files are transformed into .xml files, as described in "Message and Parameter Files" on page 4-22. See also "Connection Pool Details" on page 4-14.

An enhancement with Release 10.1.4 Patch Set 1 (10.1.4.2.0) provides a new parameter in globalparams.xml named `LDAPOperationTimeout` sets an amount of time that the Identity Server, Access Server, or Policy Manager waits for a response from the directory server for a single entry of a search result before the component fails over to a secondary server, if one is configured.

A `heartbeat_ldap_connection_timeout_in_millis` parameter in globalparams.xml determines the time limit for establishing a connection with the directory server. If the time limit is reached, the Identity and Access Servers start establishing connections with another directory server. This parameter enables the Identity and Access Servers to proactively identify when a directory server is down, and it enables failover without requiring an incoming directory service request and a subsequent TCP timeout.

See the chapter on failover in the *Oracle Access Manager Deployment Guide* and the appendix on parameter files in the *Oracle Access Manager Identity Customization Guide* for details.

Directory Server Interface

The 10*g* (10.1.4.0.1) directory server interface reads, processes, and stores data in UTF-8 encoding. Earlier releases behaved in this same way. Therefore, there is no impact in upgraded environments. Oracle Access Manager used UTF-8 encoding for directory server communications even in earlier releases

Directory Structure

Product releases before release 6.5 did not include any language directories, because English was the only language. When you install 10*g* (10.1.4.0.1) components, you can name the top-level directory as you like. During installation, Oracle Access Manager appends an identifier is appended to the directory name you assign to identify the type of components installed therein. For example, the top-level structure is:

- *OracleAccessManager*\access: Created with the installation of the Access Server
- *OracleAccessManager*\identity: Created with the installation of the Identity Server
- *OracleAccessManager*\webcomponent: Created with the installation of Oracle Access Manager Web components (WebPass, Access Manager, WebGate)

Release 6.5 through 10*g* (10.1.4.0.1) installations provide a language directory containing a named subdirectory for each installed language (which contains .XML message catalog files for various applications that you can customize):

IdentityServer_install_dir\identity\oblix\lang\en-us: English messages
IdentityServer_install_dir\identity\oblix\lang\fr-fr: French messages

IdentityServer_install_dir\identity\oblix\lang\shared: default global stylesheets in all languages

For more information, see Appendix A.

Domain Names, URIs, and URLs

As in earlier releases of the product, 10*g* (10.1.4.0.1) supports ASCII characters for domain names and Uniform Resource Identifiers (URIs). The most common form of a URI is a Web page address (a subset of the URI is known as a Uniform Resource Locator or URL).

With Oracle Access Manager10*g* (10.1.4.0.1), there is no support for international characters in domain names (internationalized domain names) nor in the Uniform Resource Identifiers (internationalized resource identifiers) nor, by extension, in the URL.

Encryption Schemes

Starting in Oracle Access Manager release 7, AES became the encryption scheme used by Access System components. The Identity System continues to use RC6 encryption for Lost Password Management responses.

The shared secret encryption algorithm is an Oracle Access Manager-wide setting that affects all encrypted cookies. For example, the ObSSOCookie cookie is encrypted using a configurable encryption key known as a *shared secret*.

- For shared secret keys used in release 5.x, the RC4 encryption scheme was recommended.
- For shared secret keys used in release 6.x, the RC6 encryption scheme was recommended. (RC6 encryption is deprecated in Oracle Access Manager 10*g* (10.1.4.0.1), and its support will be deprecated in future releases.)
- AES is a new encryption scheme introduced in release 7.0 which continues in to 10*g* (10.1.4.0.1). AES is the default encryption scheme.

In environments that include earlier WebGates, the earliest encryption algorithm should be used.

For more information, see "Shared Secret" on page 4-51 and details about setting encryption schemes in the *Oracle Access Manager Access Administration Guide*.

Failover and Failback

Oracle Access Manager release 7 introduced a heartbeat polling mechanism to facilitate immediate failover to a secondary directory server when the number of connections in the connection pool is less than the specified threshold level. Additionally, a failback mechanism facilitates switching from the secondary directory server back to the primary server as soon as the preferred connection has been recovered.

The heartbeat feature polls all the primary directory server connections periodically to verify the availability of the directory service (and by implication, the network). You configure the polling interval by setting the `Sleep For (Seconds)` parameter for each Directory Profile in the System Console as described in the *Oracle Access Manager Identity and Common Administration Guide*.

When the host cannot be reached, further attempts to connect to that host are blocked for the specified the `Sleep For` interval, rather than for the TCP timeout used previously.

A new `heartbeat_ldap_connection_timeout_in_millis` parameter in globalparams.xml determines the timeout interval for establishing a connection. The default value for this parameter is 4000 (4 seconds). See the *Oracle Access Manager Deployment Guide*.

If the directory service is not available, the heartbeat mechanism immediately initiates failover to the secondary directory server. Thus, failover can take place without being triggered by an incoming directory service request and a subsequent TCP timeout.

In situations where the enterprise network performance is poor, the heartbeat feature can trigger false alarms and tear down already-established connections. Therefore, the `heartbeat_enabled` parameter in the globalparams.xml files enables you to activate or deactivate the heartbeat mechanism in response to current network conditions. By default the heartbeat feature is activated.

File and Path Names

As with earlier releases, only ASCII characters are supported in file and path names.

> **Note:** Be sure that all file and path names include only English language characters. In file and path names, no international characters are allowed.

Graphical User Interface

A number of changes have been made to improve and clarify the Web-based graphical user interface. These changes are introduced in the *Oracle Access Manager Introduction* and are illustrated throughout the suite of manuals.

HTML Pages

Each Identity System application, such as the User Manager, Group Manager, and Org Manager, generates HTML for each page within the application. Access System components, such as the Policy Manager and WebGate, generate HTML pages. In earlier releases, HTML pages were generated and displayed using a superset of the Latin-1 character set.

In 10*g* (10.1.4.0.1), all HTML pages generated by Oracle Access Manager use UTF-8 encoding. This encoding is communicated to Web browsers using the Content-Type HTTP header and META tags.

UTF-8 encoding is rendered correctly on all supported browsers with the Unicode version of the font to be used. For browser support, see the *Oracle Access Manager Installation Guide*.

Certain Web servers (Apache, for example) allow administrators to specify the default encoding using the Content-Type HTTP header. However if the Web server setting specifies a different character encoding, Oracle Access Manager HTML pages are displayed incorrectly.

> **Note:** To prevent incorrect behavior, Oracle recommends disabling such Web server settings.

See also, "Default Product Pages" on page 4-17.

Installation Packages

Oracle Access Manager 10*g* (10.1.4.3) provides installation packages that you can use for a fresh installation only. Do not use 10*g* (10.1.4.3) installers to upgrade an earlier Oracle Access Manager deployment.

> **Note:** 10*g* (10.1.4.3) patch set packages that can be applied to 10*g* (10.1.4.2.0) instances are available on My Oracle Support (formerly Metalink), as described in "Packages for Upgrades" on page 4-3.

For more information, see the *Oracle Access Manager Installation Guide*.

LDAP Bind Password

Release 10.1.4 Patch Set 1 (10.1.4.2.0) provides an enhancement in the form of `ModifyLDAPBindPassword`. This command enables you to periodically update the LDAP bind password for the directory servers that communicate with Oracle Access Manager components in Oracle Access Manager configuration files.

Using the `ModifyLDAPBindPassword` command, you can reset the LDAP bind password without restarting any servers or re-running setup.

See the chapter on reconfiguring the system in the *Oracle Access Manager Deployment Guide* for details.

Message and Parameter Files

Prior to release 6.5, Oracle Access Manager messages were controlled by an XML file for a specific application and stored in application specific directories. For example:

IdentityServer_install_dir/identity/oblix/apps/*appname*/bin/*appnamemsg*.xml

where *IdentityServer_install_dir* is the directory where the Identity Server is installed and *appname* matches a specific application, as follows:

groupservcenter--Group Manager

objservcenter--Organization Manager

userservcenter--User Manager

In 10*g* (10.1.4.0.1), these message files now reside in language-specific directories. For example: *IdentityServer_install_dir*/identity/oblix/lang/*langTag*/oblixbasemsg.xml.

Earlier release also provided a mix of parameter and message catalogs in .xml and .lst (proprietary) format. For example, Access System and SNMP Agent messages and parameters were stored in .LST files. To accommodate translation, .lst files were converted to .xml.

During an upgrade to Oracle Access Manager10*g* (10.1.4.0.1), any customizing in earlier message and parameter catalogs is preserved automatically. Also, .lst files are converted to XML format.

> **Note:** During the upgrade, messages are displayed in English.

New installations of Oracle Access Manager 10*g* (10.1.4.0.1) include .xml parameter and message catalog files. The exception to this rule includes files that are used during an upgrade to Oracle Access Manager10*g* (10.1.4.0.1), such as ois_520_to_600_msg.lst, which remain in the proprietary .lst format. 10*g* (10.1.4.0.1) upgrade tools use .lst message and parameter catalogs.

Migrating User Data At First Login

Oracle Access Manager 10*g* (10.1.4.2.0) includes a new parameter in the globalparams.xml, file `MigrateUserDataTo1014`. This parameter comes into play only when you upgrade using the zero downtime upgrade method described in Chapter 15. The parameter is used by the Identity Server and Access Server during a user's first login after upgrading using the zero downtime upgrade method.

This user data migration is also known as *on-the-fly user data migration*. This migration impacts the obVer attribute in user or person entries in the directory server (OblixOrgPerson). It also impacts the challenge and response attributes for Lost Password Management. Multiple values in challenge and response attributes were introduced with Oracle Access Manager 10*g* (10.1.4.0.1). No other user data attributes are migrated during a user's first login.

The `MigrateUserDataTo1014` flag is not present in globalparams.xml until you have a 10*g* (10.1.4.2.0) or later instance. After 10*g* (10.1.4.2.0), there are two possible values for `MigrateUserDataTo1014` in the globalparams.xml, file:

- `true`: A value of true enables the automatic migration of a user's Lost Password Management challenge parameters during their first login (whether a user or an administrator). The value is set to `true` by default when you:
  - Install a fresh Oracle Access Manager 10*g* (10.1.4.0.1) instance and then apply Release 10.1.4 Patch Set 1 (10.1.4.2.0).
  - Perform an in-place upgrade to Oracle Access Manager 10*g* (10.1.4.0.1) and then apply Release 10.1.4 Patch Set 1 (10.1.4.2.0).
  - Install a fresh Oracle Access Manager 10*g* (10.1.4.3) instance.
- `false`: A value of `false` halts the automatic migration of a user's Lost Password Management challenge parameters during their first login.

  The value is set to `false` by default only when you upgrade using the zero downtime upgrade method. During a zero downtime upgrade, you install Oracle Access Manager 10*g* (10.1.4.0.1) and then apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) before finishing the upgrade. As a result, components are upgraded to Oracle Access Manager 10*g* (10.1.4.2.0).

  Note: After applying the 10*g* (10.1.4.3) patch,, the value for the MigrateUserDataTo1014 parameter is retained

  After finishing the zero downtime upgrade and validating that it is successful, you must change the `MigrateUserDataTo1014` parameter value to `true` in the globalparams.xml file of each 10.1.4.2.0 Identity Server and Access Server. Automatic propagation of changes to globalparams.xml is not provided. As mentioned in the first bullet, a value of `true` starts the automatic migration of a user's Lost Password Management challenge parameters during their first login.

A globalparams.xml file is located in the following directories:

IdentityServer_install_dir/identity/oblix/apps/common/bin

WebPass_install_dir/Webcomponent/identity/oblix/apps/common/bin

PolicyManager_install_dir/Webcomponent/access/oblix/apps/common/bin

AccessServer_install_dir/access/oblix/apps/common/bin

Only the Identity Server and Access Server use the `MigrateUserDataTo1014` parameter. In general, some parameters in the globalparams.xml file are the same for all components while other parameters are specific to only a few components. For more information about the content of the globalparams.xml file, see the *Oracle Access Manager Customization Guide*.

See Also: "Multiple Values in Challenge Phrase and Response Attributes" on page 4-24

"obVer Attribute Changes" on page 4-26

"Introduction to the Zero Downtime Upgrade Method" on page 15-1

Minimum Number of Search Characters

In earlier releases, you needed to enter at least three characters when performing a search in Identity System applications. In 10*g* (10.1.4.0.1) there is no minimum number of characters required. As in earlier releases, you can control the minimum number of characters that users must enter in the search field as described in *Oracle Access Manager Customization Guide*.

Multiple Values in Challenge Phrase and Response Attributes

In earlier releases, the lost password management feature supported only a single challenge and a single response. The challenge phrase and response attribute in user entries contained only a single value. For example:

```
ChallengeAttribute: what is your name?
ResponseAttribute: xxxxxxxx (where xxxxxxxx is the encrypted form of the
                             name)
```

In earlier releases, the obVer attribute in user or person entries in the directory server (OblixOrgPerson, for example) indicated the current release for informational purposes only.

Note: OblixOrgPerson is one user object class; however, your deployment might include others. For example, your deployment might include both OblixOrgPerson and gensiteorgperson.

Oracle Access Manager 10*g* (10.1.4.0.1) supports multiple values in challenge phrases and response attributes, and expects these in encoded format (with `@n#` as a delimiter between multiple values). For example:

```
ChallengeAttribute: what is your name?@1#what is your school name?@2#
ResponseAttribute: xxxxxxxx (where xxxxxxxx is the encrypted form of the
                            name@1#SGschool@2#)

ChallengeAttribute: what is your name?@1#
ResponseAttribute: xxxxxxxx (where xxxxxxxx is the encrypted form of the
                             name@1#)
```

Note: In the delimiter @n# between multiple values, *n* is the number of the challenge or response. With Oracle Access Manager 10*g* (10.1.4.0.1), even a single value for the challenge and response uses the encoded format.

Oracle Access Manager 10*g* (10.1.4.0.1) uses the obVer attribute in the user entry (OblixOrgPerson) to indicate the encoding for challenge phrase and response attributes for lost password management. For more information, see "obVer Attribute Changes" on page 4-26.

Names Assigned by Administrators and Product Names

Some product and component names have changed as you will see after an installation or upgrade. During an upgrade, earlier product, component, and functions names are changed to the new name. For example, in 10*g* (10.1.4.0.1), the default Policy domains are Identity Domain and Access Domain and the default authentication schemes are Oracle Access and Identity, Oracle Access and Identity for AD Forest, and Anonymous. These new names replace earlier names during the upgrade.

Certain function names have revised to noun phrases the Access and Identity Systems as noun phrases. The AM Service State name has changed to Policy Manager API Support Mode. For more information, see "Product and Component Name Changes" on page -xxviii.

Any names assigned by an administrator during installation and configuration are retained during an upgrade (not changed). Therefore if you have named a service "COREid Identity Server" or "NetPoint Identity Server" these names will be the same in the upgraded environment. Your earlier authentication schemes and policy domains are also retained as is during the upgrade. See also "Preserved Items" on page 3-6.

Namespaces for Policy Data and User Data Stored Separately

Before release 6.5, the namespaces for Policy data and user data stored in two separate directories had to be unique. During an upgrade to 10*g* (10.1.4.0.1) Oracle recommends that you confirm this uniqueness to ensure that multi-language capability can be enabled.

For more information, see "Configuring Unique Namespaces for Directory Connection Information" on page 5-7.

Native POSIX Thread Library (NPTL) for Linux

Earlier releases of Oracle Access Manager for Linux used the LinuxThreads library only. Using LinuxThreads required that you set the environment variable LD_ASSUME_KERNEL, which is used by the dynamic linker to decide what implementation of libraries is used. When you set LD_ASSUME_KERNEL to 2.4.19 the libraries in /lib/i686 are used dynamically.

RedHat Linux v5 and later releases support only Native POSIX Thread Library (NPTL), not LinuxThreads. Oracle Access Manager 10*g* (10.1.4.3) is compliant with NPTL specifications and can use either Native POSIX Thread Library (NPTL) or LinuxThreads.

The default mode for Oracle Access Manager 10*g* (10.1.4.3) is LinuxThreads. To support the default, the start_ois_server and start_access_server scripts will start in LinuxThreads mode. In this case, the variable LD_ASSUME_KERNEL is automatically

set to 2.4.19. The message "Using Linux Threading Library." appears in the console and in the server's oblog file.

To use NPTL, you must start the server with the start_ois_server_nptl (or restart_ois_server_nptl) and start_access_server_nptl (or restart_access_server_nptl) scripts (or restart the server with restart_ois_server_nptl or restart_access_server_nptl). In this case, the message "Using NPTL Threading Library." appears in the console and in the server's oblog file.

Note: On Linux, Oracle Access Manager Web components for Oracle HTTP Server 11g use only NPTL; you cannot use the LinuxThreads library. In this case, do not set the environment variable LD_ASSUME_KERNEL to 2.4.19.

With NPTL, there is no requirement to manually set the environment variable LD_ASSUME_KERNEL to 2.4.19. Standard stop scripts and the following standard setup scripts will operate successfully: start_setup_ois, start_setup_webpass, start_setup_access_manager, start_configureAAAServer. However, you might need to remove the LD_ASSUME_KERNEL environment variable (or comment it out) from the start_snmp_agent script.

See Also: "NPTL Requirements and Post-Installation Tasks" on page G-10

With NPTL, there is no impact on custom plug-ins and APIs that you have created for Oracle Access Manager. When upgrading, you must still recompile custom plug-ins from Oracle Access Manager 5.x or 6.x using the GCC v3.3.2 C++ compiler.

For the differences between NPTL and LinuxThreads, see http://www.kernel.org/doc/man-pages/online/pages/man7/pthreads.7.html

See Also: *Oracle Access Manager Installation Guide*

- Linux details in "Preparing for Installation"
- "NPTL Requirements and Post-Installation Tasks"
- "Oracle Access Manager Components and Command-line Tools Might Fail with LinuxThreads"
- Oracle HTTP Server Fails to Start with LinuxThreads
- "Oracle HTTP Server WebGate Fails to Initialize On Linux Red Hat 4"

Object Classes and Attributes

There have been several schema changes. For more information, see *Oracle Access Manager Schema Description*.

obVer Attribute Changes

The obVer attribute identifies the current Oracle Access Manager release and is one of several attributes in the class description of many Oracle Access Manager schema objects. For example, the obVer attribute is part of oblixPanel, oblixConfig, oblixLocation, oblixMetaAttribute, oblixEnum, and OblixOrgPerson to name only a few.

Until release 10*g* (10.1.4.0.1), the obVer attribute was purely informational. However starting with release 10*g* (10.1.4.0.1), the obVer attribute is used by the Identity and Access Servers to support encoding of multiple values in challenge phrase and response attributes for lost password management. In this case, Oracle Access Manager 10*g* (10.1.4.0.1) reads the obVer attribute in:

- oblixConfig class: The structural class defines the container node for the Oracle Access Manager configuration data.

  In oblixConfig, the obVer attribute always exists and indicates the COREid or Oracle Access Manager release.

- OblixOrgPerson class: The auxiliary class used for associating Oracle Access Manager person information with the class configured as the structural person object class.

  In OblixOrgPerson obVer might or might not exist. When obVer does not exist in a user entry, the value is assumed to be less than 10.1.4.0.

Oracle Access Manager 10*g* (10.1.4.0.1) uses the obVer value in the OblixOrgPerson class in the following ways:

- An obVer vale of less than 10.1.4.0 indicates that there is a single value for the challenge phrase and the response with no encoding. For example:

```
ChallengeAttribute: what is your name?
ResponseAttribute: xxxxxxxx (encrypted form of Ramakrishna)
```

- An obVer value of 10.1.4.0 or greater indicates that the challenge phrase and response attributes are encoded (with @*n*# as a delimiter between multiple values, where *n* is the number of the challenge or response). For example:

```
ChallengeAttribute: what is your name?@1#what is your school name?@2#
ResponseAttribute: xxxxxxxx (where xxxxxxxx is the encrypted form of the
                            name@1#SGschool@2#)

ChallengeAttribute: what is your name?@1#
ResponseAttribute: xxxxxxxx (where xxxxxxxx is the encrypted form of the
                            name@1#
```

When you upgrade from an earlier release to Oracle Access Manager 10*g* (10.1.4.0.1), configuration data stored in the `oblix` tree is migrated automatically and the value of the obVer attribute is changed to 10.1.4.0. However, user data is not migrated until the first login following the upgrade. Instead, the obVer attribute value remains less than 10.1.4.0 in user data (in the OblixOrgPerson class). In this case, during the first login the user data is migrated and:

- The existing challenge phrase and response values are encoded (@1# is appended to the existing values automatically).
- The value of the obVer attribute in user data (the OblixOrgPerson class) is set to the value of the obVer attribute in migrated configuration data in the root node of the `oblix` tree (oblixConfig).

Caution: The first time a user logs in after the upgrade to 10*g* (10.1.4.0.1), that user entry is migrated immediately. Any existing challenge and response values for that user are encoded (@1# is appended to the end) and the obVer attribute value is changed to 10.1.4.0. However if you restore your earlier release, the rollback process does not revert these changes. If you rollback to your previous release, the obVer value in the user entry in the OblixOrgPerson class remains 10.1.4.0 and challenge and response values remain encoded format.

To temporarily stop the immediate migration of user data (also known as on-the-fly migration) during an in-place upgrade, see "Halting On-the-fly User Data Migration at First Login Temporarily" on page 5-19. This is not needed during a zero downtime upgrade.

For more information about multiple values in challenge phrase and response attributes, see "Multiple Values in Challenge Phrase and Response Attributes" on page 4-24.

Password Policies and Lost Password Management

This release contains password policy and password management enhancements. You can configure the minimum and maximum number of characters users can specify in a password. For lost password management, you can set multiple challenge-response pairs, create multiple style sheets, and configure other aspects of the user's lost password management experience. You can also redirect users back to the originally requested page after resetting a password. For more information, see the *Oracle Access Manager Identity and Common Administration Guide*.

Oracle Access Manager 10*g* (10.1.4.0.1) uses the value of the obVer attribute in the user entry (OblixOrgPerson) to indicate the encoding for challenge phrase and response attributes. This has implications when upgrading from an earlier release to Oracle Access Manager 10*g* (10.1.4.0.1).

Reconfiguring the Logging Framework without a Restart

In 10*g* (10.1.4.0.1), you can reconfigure the logging framework without restarting the servers. To do this an administrator must manually update the log configuration for each component:

Identity Server
WebPass
Policy Manager
Access Server
WebGate

Changes to logging parameters take effect within one minute, rather than requiring you to restart the server where the changes were made. For more information, see the *Oracle Access Manager Identity and Common Administration Guide*.

Secure Logging

Oracle Access Manager handles sensitive information about users, which can include the user password, date of birth,security questions and answers for lost password requests (a challenge response), and more. At certain logging levels, sensitive

information might be captured and could be displayed in plain text. With Oracle Access Manager, you can enable secure logging and filter sensitive information in log files.

For more information, see the chapter on logging in the *Oracle Access Manager Identity and Common Administration Guide*.

Support Changes

There have been a number of changes in supported platforms and third-party versions. You can now locate complete platform support details on Oracle Technology Network at:

`http://www.oracle.com/technology/software/products/ias/files/fusion_certification.html`

Transport Security for the Directory Server

When you configure SSL mode for the directory server, only server authentication is supported. Client certificates are not supported. Oracle Access Manager verifies the server certificate against the Root CA certificate that you imported during product setup. For more information, see the *Oracle Access Manager Identity and Common Administration Guide*.

Upgrade Enhancements

Oracle Access Manager 10*g* (10.1.4.0.1) provides a method to switch from a Solaris platform to a Linux platform while upgrading earlier releases (6.1.1, 6.5, or 7.x) to 10*g* (10.1.4.0.1). For more information, see Appendix B.

Release 10.1.4 Patch Set 1 (10.1.4.2.0) provides the tools required to perform a zero downtime upgrade. For more information on the zero downtime upgrade method, see Part VI.

Web Components and Backward Compatibility

Certain Web server-specific packages will not be available with the initial release of 10*g* (10.1.4.3), but will be available at a later date. For more information, see "Web Server-Specific Installation Packages" in the *Oracle Access Manager Installation Guide*.

Earlier WebPass instances are not compatible with 10*g* (10.1.4.0.1) Identity Servers (or Policy Managers). After upgrading all earlier Identity Servers, you must upgrade all earlier WebPass instances. The exception to this rule is when you upgrade the schema and data against the master Identity System that you add for this purpose. For more information about in-place upgrades, see Part II.

You can install 10*g* (10.1.4.0.1) WebPass instances in your upgraded environment. However, 10*g* (10.1.4.0.1) WebPass instances are not compatible with earlier Identity Servers (or Policy Managers). You cannot use Release 10.1.4 Patch Set 1 (10.1.4.2.0) packages to install fresh instances.

Release 6.1.1, 6.5, and 7.x WebGates can coexist with upgraded Access Servers. You can install 10*g* (10.1.4.0.1) WebGates in your upgraded environment. However, 10*g* (10.1.4.0.1) WebGates are not compatible with earlier Access Servers. Fore more information, see "WebGates" on page 4-52.

If you add a 10*g* (10.1.4.0.1) Access Server to the upgraded environment, you must set a flag to enable backward compatibility with earlier WebGates. For more information, see "Access Server Backward Compatibility" on page 4-40.

Web Server Configuration Files

Security-related changes have been implemented to ensure that sensitive data in the following directories cannot be viewed directly through a browser:

- Configuration files from /access or /identity/oblix/config/*.*
- Log files from /access or /identity/oblix/log/*.* directory

The importantnotes.txt file has been removed and the information that was in this file is now documented in an appendix in the *Oracle Access Manager Installation Guide*.

There have been no changes for globalization and UTF-8 support in any Web server configuration files.

Writing a Stack Trace to a Log File

An enhancement in Release 10.1.4 Patch Set 1 (10.1.4.2.0) enables Oracle Access Manager to write a stack trace to a log file when there is a core dump. To enable this functionality, you turn on logging at any minimal level. You can send the log file that contains the stack trace information to Oracle, along with a report of the problem.

See the appendix on troubleshooting in the *Oracle Access Manager Identity and Common Administration Guide* for details.

XML Catalogs and XSL Stylesheet Encoding

This discussion outlines the encoding schemes you will see in XML message and parameter catalog files and XSL stylesheet files, and what to specify if you customize these files. See also "Acquiring and Using Multiple Languages" on page 4-11.

ISO-8859-1 Encoding: For pure English text, there is no difference between ISO-8859-1 encoding and UTF-8 encoding. For this reason, the encoding scheme for English language XML message and XSL files remains ISO-8859-1. The following example shows an XML message file (auditmsg.xml), from an English directory (\lang\en-us):

IdentityServer_install_dir\identity\oblix\lang\en-us\auditmsg.xml

```
<?xml version="1.0" encoding="ISO-8859-1" ?>
- <MessageCtlg xmlns="http://www.oblix.com" CtlgName="auditmsg">
...
```

> **Note:** XML files in earlier product releases might continue to specify `encoding="ISO-8859-1"`, while earlier LST files that have been converted to XML use UTF-8 encoding. See also "Message and Parameter Files" on page 4-22.

The next example illustrates an XSL stylesheet wrapper (style.xsl), which is the same in all language directories: English \lang\en-us, or German \lang\de-de, or Japanese \lang\ja-jp, and so on). The only difference in these files is the language designation specified by the *langtag* item in the last line of this example, which will differ from language to language:

IdentityServer_install_dir\identity\oblix\lang*langtag*\style0\style.xsl

```
<?xml version="1.0" encoding="ISO-8859-1" ?>
 - <!--  Copyright (c) 1996-2005, Oracle All Rights Reserved.  -->
 - <xsl:stylesheet version="1.0"
  xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
```

```
        xmlns:oblix="http://www.oblix.com/">
        <xsl:variable name="styleName">style0/</xsl:variable>
        <xsl:variable name="localeName">langtag</xsl:variable>
      ...
```

UTF-8 Encoding: For non-English languages, XML message files have encoding set as UTF-8, because ISO-8859-1 encoding cannot represent all characters in all languages. The sample file shown next is from the German language directory *\IdentityServer_install_dir*\identity\oblix\lang\de-de\auditmsg.xml:

```
<?xml version="1.0" encoding="UTF-8" ?>
- <MessageCtlg xmlns:oblix="http://www.oblix.com" CtlgName="">
<Message MsgTag="ExAuditInitHandler">ExçêpäìÖÑExç Öççürrêdöçç ìÑì ähêä AüdìäAü
MÖdülêMÖ ìÑìäìàlìzàäìÖÑìÑìäì. ThêT êxçêpäìÖÑêxç sääçksä ìsì: %1.</Message>
...
```

Even within the English language directory (\lang\en-us) some files state UTF-8 encoding because this encoding scheme is universal. For example, the English version of data_types.xml is:

```
<?xml version="1.0" encoding="UTF-8" ?>  <?xml version="1.0" encoding="UTF-8" ?>
- <MessageCtlg xmlns="http://www.oblix.com" CtlgName="data_types.xml">
<Message MsgTag="OB_BIN">Binary</Message>
<Message MsgTag="OB_DN">Distinguished Name</Message>
<Message MsgTag="OB_TEL">Telephone</Message>
...
```

In other language directories, German for example, the same file appears as:

```
<?xml version="1.0" encoding="UTF-8" ?>
- <MessageCtlg xmlns:oblix="http://www.oblix.com" CtlgName="">
<Message MsgTag="OB_BIN">BìÑàryBì</Message>
<Message MsgTag="OB_DN">DìsäìÑgüìshêdDìsä NàmêN</Message>
<Message MsgTag="OB_TEL">TêlêphÖÑêTêl</Message>
...
```

> **Note:** When customizing XML and XSL files, you can choose either `encoding="ISO-8859-1"` or `encoding="UTF-8"`. In either case, the Oracle Access Manager XML parser reads the encoding tag in the file for correct processing.

For more information about XSL stylesheets and wrapper files, see the *Oracle Access Manager Customization Guide*. See also, "XSLProcessor Parameter" on page 4-39.

Identity System Behavior Changes

This discussion provides information about previous Identity System behaviors with a focus on changes and what to expect after upgrading to 10*g* (10.1.4.0.1). Topics include:

- Challenge and Response Attributes
- Content-length Header in a WebPass Response
- Email Notifications
- Identity Server Backward Compatability
- Identity System Event Plug-ins

- IdentityXML and SOAP Requests and Responses
- Java Applets
- Large Group Evaluations
- Large Static Groups
- Mail Notification Enhancements
- Minimum Number of Search Characters
- Multi-Step Identity Workflow Engine
- Oracle Identity Protocol (OIP)
- New Parameters in globalparams.xml
- Password Policies and Password Management Run Time Changes
- Portal Inserts and the URI Query String
- PresentationXML Directories
- Sorting User Search Results
- Tuning Internal DBAgent Cache
- Web Services Code
- XSLProcessor Parameter

Challenge and Response Attributes

In earlier releases, the challenge phrase and response attributes were allowed on different panels of the User Profile page. In 10*g* (10.1.4.0.1), however, both the challenge phrase and response attributes must be on the same panel. In 10*g* (10.1.4.0.1), challenge phrases and responses are displayed one after the other even though these are not configured one after the other in the panel.

If a panel contains only the challenge attribute, it will be displayed in the User Profile page without a response. If the panel contains only the response (without the challenge attribute), the response will not be displayed in User Profile Page at all. For details about combining these on a single panel, see "Combining Challenge and Response Attributes on a Panel" on page 12-8.

IdentityXML changes have also been made for this feature. For details, see the *Oracle Access Manager Developer Guide*.

Content-length Header in a WebPass Response

You can add the `SetContentLengthHeader` parameter to the WebPass globalparams.xml file. A value of true sets the "Content-length" header in the response coming from WebPass to its Web server. As a result, the Web server does not send the "Connection" header with the value "Close" in its response to the browse. For more information, see the chapter on parameters in the *Oracle Access Manager Customization Guide.*

Email Notifications

Oracle Access Manager 10*g* (10.1.4.3) allows the addition of the `UseDefaultOptionsForAllMails` parameter in the Identity Server globalparams.xml file. This parameter enables you to configure an email ID to be used to send all email notifications.

For more information about this parameter, see Parameter Reference" in *Oracle Access Manager Customization Guide*. For encoding formats, see "Mail Notification Enhancements" on page 4-37.

Identity Server Backward Compatability

Starting with 10*g* (10.1.4.0.1), the Identity Server uses UTF-8 encoding and plug-in data will contain UTF-8 data. Earlier plug-ins send and receive data in Latin-1 encoding.

When you upgrade earlier Identity Servers, backward compatibility with earlier custom plug-ins is enabled automatically. In this case, a new flag (`encoding`) is added to the oblixpppcatalog.lst file automatically to ensure backward compatibility with earlier plug-ins. A backward-compatible Identity Server continues to send data to earlier plug-ins in Latin-1 encoding.

> **Caution: When you add a new 10*g* (10.1.4.0.1) Identity Server to an upgraded environment, you must manually edit *IdentityServer_install_dir*\identity\oblix\apps\common\bin\oblixpppcatalog.lst to enable communication with earlier plug-ins and interfaces that need backward compatibility for Latin-1 data. For details, see the *Oracle Access Manager Installation Guide*. You cannot use Release 10.1.4 Patch Set 1 (10.1.4.2.0) packages to install fresh instances.**

For more information, see the discussion on backward compatibility in "Identity System Event Plug-ins", next. See also "Cache Flush" on page 4-13. Upgraded Identity Servers are not backward compatible with earlier WebPass instances.

Identity System Event Plug-ins

The Identity Event Plug-in API is a standard component installed with the Identity Server that enables you to extend base Identity System functionality by developing your own small applications (called actions) to perform custom business logic and integrate with external systems. The Identity System makes certain data available to the actions, which are then allowed to modify the data and influence the outcome of the event.

Starting with 10*g* (10.1.4.0.1), the Identity Server uses UTF-8 encoding; plug-in data will contain UTF-8 data. Also, on Solaris and Linux, plug-ins earlier than release 7.x must be re-compiled using the GCC v3.3.2 C++ compiler as described in "Plug-ins" on page 3-11.

Identity Event Plug-in Backward Compatibility

In earlier releases, data was sent to Identity Event plug-ins using Latin-1 encoding. In an upgraded environment, any earlier Identity Event plug-in still uses Latin-1 encoding. You might need to redesign earlier custom plug-ins to use UTF-8 encoding. In some cases, however, you might want 10*g* (10.1.4.0.1) Identity Servers to communicate with earlier plug-ins.

Backward compatibility with earlier Identity Event plug-ins is automatic when you upgrade an earlier Identity Server to 10*g* (10.1.4.0.1). During the upgrade, a new flag is added to the oblixpppcatalog.lst file (`encoding`). A backward-compatible Identity Server continues to send data to earlier plug-ins in Latin-1 encoding; earlier plug-ins receive and send data in Latin-1 encoding. There is no change in plug-in data encoding.

When you add a new 10*g* (10.1.4.0.1) Identity Server to an upgraded environment, you need manually set the `encoding` flag in the Identity Server oblixpppcatalog.lst to enable communication with earlier plug-ins and interfaces.

The catalog is stored in *IdentityServer_install_dir*\oblix\apps\common\bin\oblixpppcatalog.lst. It contains event handler entries and their mapping to the various events. The format of the entries is:

```
actionName;exectype;netpointparam1,...;path;execparam,...;apiVersion;encoding;
```

The next sample line shown here illustrates how to use the encoding flag to enable backward compatibility with Latin-1 plug-ins:

```
userservcenter_view_post;lib;;..\..\..\unsupported\ppp\ppp_dll
\ppp_dll.dll;PostProcessingTest;Latin-1;
```

Note: In the catalog file, the `encoding` flag is similar to the `apiVersion` flag, which sets the version of the Event API to be used by the event handler. As described in the catalog file, you can use `apiVersion` to set backward compatibility for the Event API. For example, if `apiVersion` is set to preNP60 then the API format for versions prior to Oracle Access Manager v60 and Latin-1 encoding is used by default. In this case, setting the encoding flag is redundant.

Common Uses of the Identity Event Plug-in API

Common uses of the Identity Event Plug-in API include password validation, integration, and provisioning. For example, you can develop an event handler for password management events that use the Identity Event API and add this event handler to the Oracle Access Manager password policy function. Or, you can develop an event handler for the Enable step of each registration workflow instance to either update the remote database using the RDBMS vendor's API or to generate a unique string in the required format and pass it back to the Identity System to use as the uid attribute value. For details, see the *Oracle Access Manager Developer Guide*

Identity Event Plug-in Action Types

An action is a unit of external logic (also known as an event handler) written by a developer and configured by an Oracle Access Manager administrator to execute in response to a particular event. Actions might perform their tasks without accessing external components, or use any available mechanism to access third-party applications and resources such as Web services, RDBMS services, and ERP applications. You connect actions to the event using the oblixpppcatalog.lst file. At startup the Identity Server reads the catalog, which identifies the events that have actions. When an event occurs, the server executes the associated action.

There are three types of actions with the Identity Event Plug-in API:

- **LIB Action**: A function within a shared library (DLL on Windows systems) that the Identity Server calls. Once dynamically loaded, the action executes in the same process space as the Identity Server and has direct access through API functions to data objects held by the server. The Identity Server sends a C++ object containing plug-in data to the library.
- **MANAGEDLIB Action**: A function for Windows systems only, written in any .NET language for which a Microsoft Intermediate Language (MIL) compiler exists. MIL instructions are compiled once into native machine instructions and stored in dynamic memory, then executed by the Microsoft .NET Common

Language Runtime (CLR). MANAGEDLIB actions are similar to LIB actions with the benefits of managed code. The Identity Server sends a C++ object containing plug-in data to the library.

- **EXEC Action**: A standalone executable program that run in their own process space. Communication with the Identity Server is limited to startup parameters and an XML stream for input, and an XML stream plus an exit status code for output. Actions can also use any other APIs, such as an LDAP Identity Event Plug-in.

Identity Event Plug-in Event Types

An event is a state change within the Identity System. Examples of events include when a request is received and is about to be passed to an application (such as the User Manager view program), or results have been generated by an application (such as the Group Manager search program), or a user has entered a challenge response while attempting a password reset, or an attribute on a profile page for an application (such as the Organization Manager) has been modified, or a workflow ticket awaiting approval the by corporate IT group has been approved.

The most frequently used type of events are pre-processing and post-processing events, which are generated in pairs. Each application (User, Group, or Org Manager) contains a number of programs (view, search, and so on) that generate HTML for each page within the application. Each program recognizes the event pair. Pre-processing events are generated before the program begins to create the page and allows an event handler to work with a request before it reaches a program. The Post-processing event is generated after the program has created the page and before responding to the user with an HTML page. The post-processing event allows an event handler to work with the results of processing a request.

IdentityXML and SOAP Requests and Responses

Rather than interacting with the application through a browser, you can write a program. IdentityXML provides a programmatic interface for carrying out the actions that a user can perform when accessing an Identity System application from a browser. IdentityXML enables you to process simple actions and multi-step workflows to change user, group, and organization object profiles. IdentityXML allows external applications to access Identity System functions.

Starting with release 6.5, certain syntax changes were made for IdentityXML requests. Earlier syntax should still operate without problem. For new syntax descriptions, see the *Oracle Access Manager Developer Guide*.

In 10*g* (10.1.4.0.1), UTF-8 encoding is used for XML pages, for SOAP/IdentityXML requests, and for Identity Event Plug-in data sent to executables. Earlier releases used ISO-8859-1 encoding (also known as Latin-1).

To provide backward compatibility, 10*g* (10.1.4.0.1) supports IdentityXML requests in both ISO-8859-1 encoding and UTF-8. For XML documents written to disk, both ISO-8859-1 and UTF-8 encoding are supported. IdentityXML responses are emitted in the same encoding format as the request. Therefore, when a request uses Latin-1 encoding (`encoding="ISO-8859-1"`) the response uses Latin-1 encoding; when a request uses UTF-8 encoding, the response uses UTF-8 encoding.

> **Note:** Oracle recommends that you use `encoding="UTF-8"` in new 10*g* (10.1.4.0.1) installations. In upgraded environments, Oracle recommends that you use `encoding="ISO-8859-1"` for backward compatibility.

If an IdentityXML request uses `encoding="ISO-8859-1"` and the response to it contains any characters outside the Latin-1 character set, the response containing such characters is garbled. For example, when `encoding="ISO-8859-1"` is used for the request and the response includes Japanese or Arabic characters, such characters in the response are garbled.

IdentityXML changes have also been made in 10*g* (10.1.4.0.1) to accommodate challenge and response phrase changes. For details, see the *Oracle Access Manager Developer Guide*.

IdentityXML Enhancement

Starting with Release 10.1.4 Patch Set 2 (10.1.4.3.0), IdentityXML requests for gathering the attribute list pertaining to modifing a profile (modifyUser, modifyGroup, and modifyObject), no longer depend on a panel in the Identity System.

For more information, see the IdentityXML chapter of the *Oracle Access Manager Developer Guide*

Java Applets

An applet is a small program that is sent to a user along with a Web page. Java applets perform interactive animations, immediate calculations, or other simple tasks without having to send a user request back to the server.

In earlier releases, the Identity System Console included a drop-down list that enumerated the languages that were installed and configured in the product. When the user changed the language in this list, applets and other pages would be rendered in the selected language. For example, a user working in an English locale could work with applets displayed in a European language simply by selecting the language in the drop-down list. This model worked well for only European languages.

With the introduction of multibyte languages, such as Japanese, the model has changed to ensure that multibyte characters are rendered correctly. The language list has been eliminated from the Identity System Console. A user working in an English locale cannot view applets in multibyte languages. To work with applets in a multibyte language, the locale on the user's computer must be set to the same language.

> **Note:** There is a known limitation of Java applets in JDK1.1.7. Oracle Access Manager 10*g* (10.1.4.0.1), applets with non-ASCII data can only be displayed properly on computers running with a native encoded operating system. Setting browser encoding will not work.

There are no JavaScript changes that impact the user experience.

Large Group Evaluations

Enhancements with Release 10.1.4 Patch Set 2 (10.1.4.3.0) enable you to set parameters in the groupdbparams.xml file to enhance performance during group evaluation by eliminating dynamic or nested groups when these are not used.

For more information, see the Parameters chapter in the *Oracle Access Manager Customization Guide*

Large Static Groups

With Release 10.1.4 Patch Set 1 (10.1.4.2.0), if a static group is too large (over 10,000 members, for example) you can modify the default evaluation method for the group using the `LargeStaticGroups` parameter in globalparams.xml. For more information on this parameter, see the *Oracle Access Manager Customization Guide*.

If you use this feature, you must make appropriate changes in your Identity System configuration to ensure that subgroups of the modified group are still searched and evaluated as intended. See the chapter on performance tuning in the *Oracle Access Manager Deployment Guide* for details.

Mail Notification Enhancements

Identity Server sends notification mails for various functions, such as attribute modification, workflows, containment limit, and others. The formats that are available for mail include text only, rich HTML, and MHTML (MIME encapsulation of aggregate documents, such as HTML. Both asynchronous and synchronous modes are supported when sending mail. The Identity Server communicates directly with the mail server using the SMTP protocol.

Earlier releases used ISO-8859-1 (Latin-1) "Q" encoding for the header messages, which is a recommended standard when most of the characters to be encoded are in the ASCII character set. In 10*g* (10.1.4.0.1) uses UTF-8 "B" (Base64 encoding) encoding is used.

MIME headers for all non-MHTML mail message are set as follows:

```
MIME-Version: 1.0
Content-Type: text/plain; charset=UTF-8;
Content-Transfer-Encoding: 8bit
```

Minimum Number of Search Characters

In previous releases, you needed to enter at least three characters when performing a search in Identity System applications (User Manager, Group Manager, and Organization Manager). In 10*g* (10.1.4.0.1) there is no minimum number of characters required. By default, you can enter no characters. As in previous releases, to help users narrow their search criteria you can control the minimum number of characters that users must enter in the search field by setting the `searchStringMinimumLength` parameter in oblixadminparams.xml. See the *Oracle Access Manager Customization Guide* for details.

Multi-Step Identity Workflow Engine

You can model your business processes in the Identity System using workflows. In earlier releases, you could use workflows to issue, revoke, and renew certificates. However, this is no longer supported.

Oracle Identity Protocol (OIP)

The Oracle Identity Protocol (formerly known as the NetPoint or COREid Identity Protocol) facilitates communication between Identity Servers and associated WebPass instances. There are no changes in the protocol for globalization. See also "Oracle Access Protocol (OAP) Updates" on page 4-49.

New Parameters in globalparams.xml

A number of new parameters are available for globalparams.xml:

- Identity Server: you can use the `UseDefaultOptionsForAllMails` parameter enables you to configure an email ID to be used to send all email notifications.
- WebPass: You can add the `SetContentLengthHeader` parameter to the WebPass globalparams.xml file. A value of true sets the "Content-length" header in the response coming from WebPass to its Web server. As a result, the Web server does not send the "Connection" header with the value "Close" in its response to the browse.

For more information, see the chapter on parameters in the *Oracle Access Manager Customization Guide*.

Password Policies and Password Management Run Time Changes

You can use the Identity System to define policies to constrain passwords. These policies are enforced at run time and include such items as:

- Minimum password length
- Minimum number of uppercase characters
- Minimum number of lowercase characters
- Minimum number of non-alphanumeric characters
- and the like

In 10*g* (10.1.4.0.1), internationalized characters are supported in password policies.

In earlier releases, password policies worked only with Latin1 characters when enforcing policy constraints. There are no Password Management run-time changes.

> **See Also:** "Password Policies and Lost Password Management" on page 4-28

Portal Inserts and the URI Query String

A Web page address is commonly known as a Uniform Resource Locator (URL), which is a subset of the Uniform Resource Identifier (URI). The encoding of data in the query string of the URI has changed from Latin-1 (in earlier releases) to UTF-8 encoding in 10*g* (10.1.4.0.1).

In new 10*g* (10.1.4.0.1) installations, the change is transparent. However, earlier Portal Inserts in installations that have been upgraded to 10*g* (10.1.4.0.1) require modification. After upgrading the environment to 10*g* (10.1.4.0.1), you must change the encoding of the query string in earlier Portal Inserts from Latin-1 to UTF-8.

The HTTP standard does not provide any mechanism for a browser to specify the encoding of the query string. Oracle Access Manager 10*g* (10.1.4.0.1) cannot detect query string character encoding and assumes it to be UTF-8. The 10*g* (10.1.4.0.1) Identity Server cannot process Latin-1 data from earlier Portal Inserts.

Note: After upgrading the environment to 10*g* (10.1.4.0.1), you must change the encoding of the query string in earlier Portal Inserts from Latin-1 to UTF-8.

PresentationXML Directories

Before release 6.5, the PresentationXML library was provided under two directories and distributed depending upon how the files were likely to be used. For example, stylesheets that define the default Oracle Access Manager Classic Style were maintained in flat files in the file system directory *IdentityServer_install_dir*\identity\oblix\apps*AppName*. Starting with release 6.5, and continuing through 10*g* (10.1.4.0.1), the PresentationXML library are now stored in different directories:

IdentityServer_install_dir\identity\oblix\apps*AppName*\bin
IdentityServer_install_dir\identity\oblix\lang*langTag*
IdentityServer_install_dir\identity\oblix\lang*langTag*\style0
IdentityServer_install_dir\identity\oblix\lang\shared

WebPass_install_dir\identity\oblix\lang*langTag*
WebPass_install_dir\identity\oblix\lang*langTag*\style0
WebPass_install_dir\identity\oblix\lang\shared
WebPass_install_dir\identity\oblix\WebServices\XMLSchema

For more information, see "About Custom Items and Upgrades" on page 12-11.

Sorting User Search Results

In the User Manager, Group Manager and Org. Manager, search results are sorted using a locale-based case insensitive method when you click the column heading (Full Name, for example) in the search results table.

Tuning Internal DBAgent Cache

Starting with 10*g* (10.1.4.3), in the Identity Server globalparams.xml file, you can use the negativeListForEntityAttributes parameter to identify specific attributes that will not be read or cached during view and modify profile operations. With IdentityXML, items in this list can only be read and cached.

For more information, see the Performance chapter, "Tuning the Internal DBAgent Cache", in the *Oracle Access Manager Deployment Guide*, and Parameters chapter, globalparams.xml table, in the *Oracle Access Manager Customization Guide*

Web Services Code

Oracle Access Manager now provides sample code for implementing Web services using IdentityXML. For more information, see the *Oracle Access Manager Developer Guide*.

XSLProcessor Parameter

Release 10.1.4 Patch Set 1 (10.1.4.2.0) provides an enhancement when using IdentityXML. With Release 10.1.4 Patch Set 1 (10.1.4.2.0), the `XSLProcessor` parameter in the globalparams.xml file indicates the processor to use when generating the page. The only officially supported value, `default`, indicates that the XDK processor should be used. You can use the values `XALAN` or `DGXT` for testing.

See the appendix on configuration parameters in the *Oracle Access Manager Customization Guide* for details. See also "XML Catalogs and XSL Stylesheet Encoding" on page 4-30.

Access System Behavior Changes

This discussion provides information about previous behaviors of the Access System. The focus is on what to expect after upgrading to 10*g* (10.1.4.0.1). Topics include:

- Access Server Backward Compatibility
- Access Manager SDK, Access Manager API, and Custom AccessGates
- Access Server Cache Flush in Replicated Environments
- Asynchronous Cache Flush
- Authentication Scheme Updates
- Authorization Rules and Access Policies
- Custom Authentication and Authorization Plug-ins and Interfaces
- Directory Profiles
- Dynamic Group Filter Size
- Error Handling for Message Channel Initialization During Cache Flush
- Forms-based Authentication
- Global Sequence Number Corruption Recovery
- `idleSessionTimeoutLogic`
- Internet Protocol Version 6
- Large Authorization Expressions
- Large Group Evaluations
- Maximum Elements in Session Token Cache
- Mixed-Mode Communication for Cache Flush Requests
- Oracle Access Protocol (OAP) Updates
- OracleAS Web Cache Integration
- Overriding Windows-enabled Impersonation
- Policy Manager
- Policy Manager API
- Preferred HTTP Host
- Shared Secret
- Synchronous Cache Flush Between Multiple Access Servers
- Triggering Authentication Actions After the ObSSOCookie Is Set
- WebGates

Access Server Backward Compatibility

In releases before 10*g* (10.1.4.0.1), cookie encryption and decryption was handled by WebGate/AccessGate. However, cookie encryption and decryption is now handled by

the Access Server. For this reason, earlier Access Servers are not compatible with 10*g* (10.1.4.0.1) WebGates. See also "Encryption Schemes" on page 4-20.

Starting with Oracle Access Manager 10*g* (10.1.4.0.1), the Access Server uses UTF-8 encoding and plug-in data will contain UTF-8 data. Earlier plug-ins send and receive data in Latin-1 encoding.

When you upgrade earlier Access Servers, backward compatibility with earlier custom plug-ins and earlier WebGates is enabled automatically. In this case, a new parameter `"IsBackwardCompatible" Value="true"` is set in the Access Server globalparams.xml file automatically. This provides backward compatibility that enables the Access Server to continue to send (and receive) data to earlier custom authentication and authorization plug-ins in Latin-1 encoding (and earlier custom plug-ins will set data in Latin-1 encoding). In addition, the Access Server maintains backward compatibility with earlier WebGates and custom AccessGates that continue to encrypt/decrypt cookies

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Caution: When you install a new instance of the latest Access Server in an upgraded environment, you must manually set `"IsBackwardCompatible" Value="true"` in the new Access Server globalparams.xml to enable communication with earlier plug-ins and interfaces, as well as earlier WebGates and custom AccessGates. For details, see the *Oracle Access Manager Installation Guide*. You cannot use Release 10.1.4 Patch Set 1 (10.1.4.2.0) packages to install fresh instances.

For more information, see "Custom Authentication and Authorization Plug-ins and Interfaces" on page 4-43 and "Oracle Access Protocol (OAP) Updates" on page 4-49.

Access Manager SDK, Access Manager API, and Custom AccessGates

The Access Manager SDK (formerly known as the Access Server SDK) is an optional component that provides documentation, resources, and code samples that you can use to construct simple custom AccessGate servlets or applications for each of the supported development platforms. AccessGates are Access Server clients (or agents) that process user requests for access to resources within the LDAP domain protected by Oracle Access Manager. The code for processing user requests can be embedded in a plug-in or written as a standalone application.

After installing the Access Manager SDK, you can use the Access Manager API (formerly known as the Access Server API) to write custom AccessGate code in any of the four supported development languages: Java, C and C++, and C# (.NET). The four implementations are functionally equivalent even though each takes advantage of platform-specific features to implement the API.

While you can select any of the four implementations as the development language interface you use to write your custom AccessGate code, your code will interact with underlying C++ binaries in the API, as described in the *Oracle Access Manager Developer Guide*.

When you develop custom AccessGates using the C and C++ Access Manager APIs, data is sent and received in UTF-8 encoding automatically. In earlier releases, data was sent and received in Latin-1 encoding.

For the C# (.NET) Managed Code implementation of the Access Manager API, there have been no external changes for 10.1.4. The C# .NET implementation internally uses

UTF-16 encoding, which was converted to Latin-1 in earlier Oracle Access Manager releases. 10.1.4 Access Servers and C# AccessGates use UTF-8 encoding automatically.

For Java interfaces and the Java implementation of the Access Manager API, there have been no external changes for 10*g* (10.1.4.0.1). JNI calls use UTF-16 encoded Java string objects. Earlier Oracle Access Manager releases converted this data to Latin-1. 10.1.4 Access Servers and AccessGates use UTF-8 encoding automatically.

> **Note:** The Access Manager SDK and custom AccessGates are **not** backward compatible with earlier Access Servers, nor with the earlier Access Manager SDK and AccessGates. However, you can use earlier AccessGates with 10.1.4 Access Servers that are enabled to be backward compatible. See also "Platform and SDK .NET Support" on page 4-1 and "Oracle Access Protocol (OAP) Updates" on page 4-49.

Custom AccessGates (and WebGates) no longer perform cookie encryption and decryption. As a result, these components no longer need the shared secret key.

Access Manager SDK Support for .NET

In Oracle Access Manager 10*g* (10.1.4.3), the software developer kit (SDK) supports NET Framework 1.1 and Microsoft Visual Studio 2002.

Oracle Access Manager 10*g* (10.1.4.3) also includes a new SDK for Windows, which provides .NET 2 support for custom AccessGates. This new SDK uses Microsoft Development Environment (MSDE) 2005, including NET Framework 2 and MSDE Visual Studio 2005.

The SDK for .NET 2 can be added to a fresh installation or to an upgraded installation that includes the 10*g* (10.1.4.3) patch. If you have earlier AccessGates created with the .NET 1 SDK and you start building AccessGates with the .NET 2 SDK, you might want to recompile the earlier AccessGates for .NET 2 Support.

See Also:

- "Recompiling Custom AccessGates for .NET 2 Support" on page 13-5
- "Installing the Access Manager SDK" in the *Oracle Access Manager Developer Guide*

Access Server Cache Flush in Replicated Environments

In the Access Server globalparams.xml file, the `splTimeout` parameter can be used to specify the time in seconds for Access Server cache flush operations in replicated environments. For more information, see the caching chapter of the *Oracle Access Manager Deployment Guide*.

See Also: The table on globalparams.xml in the chapter on parameters in the Oracle Access Manager Customization Guide

Asynchronous Cache Flush

Previous releases of Oracle Access Manager used a synchronous mode for cache flush requests from Identity Servers to Access Servers. In synchronous mode the Identity Server sends a cache flush request to the primary Access Server and the Identity Server does not proceed until it receives a response. However, any delay in the system causes a delay for the user.

Oracle Access Manager 10*g* (10.1.4.3) provides an asynchronous cache flush option to help streamline performance and avoid delays associated with synchronous cache flush operations on the Access System. The flow of information is the same whether you use the synchronous or asynchronous method. However, with the asynchronous method, the thread does not wait for a response from the Access Server before notifying the Identity Server. Instead, the request arrives at the Access Server and a response is sent immediately to the Identity Server.

Oracle Access Manager 10*g* (10.1.4.3) enhances the network layer shared by WebGate and Access Server. As a result, errors that might occur as a result of message channel initialization failure due to a closed socket are avoided. Today, the message channel stops sending and receiving messages and a WARNING level log message is recorded.

For more information, see the chapter on caching in the *Oracle Access Manager Deployment Guide*.

Authentication Scheme Updates

In 10*g* (10.1.4.0.1) it is no longer necessary to disable an authentication scheme before you modify it. Also, in 10*g* (10.1.4.0.1) you can configure an authentication scheme that allows the user to log in for a period of time rather than a single session.

Authorization Rules and Access Policies

In release 6.1.1, Authorization Rules were attached to particular access policies. Starting with release 6.5 (and later), Authorization rules are grouped under a different tab (named "Authorization Rules").

During an upgrade, the name of an Authorization Rule is shifted to the Authorization Rules tab. In addition, the name becomes a combination of the Policy name to which the rule belongs, followed by the Authorization Rule name: *PolicyName_ AuthorizationRuleName*. For more information about recognizing and handling Authorization Rules after the upgrade, see "Associating Release 6.1.1 Authorization Rules with Access Policies" on page 13-6.

Also, a new authorization inconclusive state was introduced in release 7.x (apart from authorization success and failure states). When your earlier installation included authorization failure redirects, you must complete a procedure after the upgrade to specify an explicit Deny rule and to change `Allow takes precedence` to `Yes` under the General tab of the authorization rule. For more information, see "Assuring Proper Authorization Failure Re-directs After Upgrading from 6.1.1" on page 13-7. For details about the size of authorization expressions, see " "Large Authorization Expressions" on page 4-46.

Custom Authentication and Authorization Plug-ins and Interfaces

With 10*g* (10.1.4.0.1) there are some changes and backward compatibility, considerations as described here.

Authentication is the process of determining that a user trying to access a protected resource is who they say they are. Authorization is the process of determining that an authenticated user has access rights for the protected resource. The Access Server uses both authentication and authorization controls to limit access to resources that it protects, and provides defined interfaces that interact with authentication and authorization plug-ins.

You can either use standard authentication and authorization plug-ins or create your own custom plug-ins using the Oracle Access Manager Authentication Plug-In API

and Authorization Plug-In API. Each custom plug-in implements the appropriate interface (authentication or authorization). Depending on the plug-in, the interface is activated to pass relevant information between the Access Server and the plug-in. Methods within the interface parse the data.

Before 10*g* (10.1.4.0.1), the Authentication Plug-In API and Authorization Plug-In API for C used Latin-1 encoding for data exchanged between the Access Server and the custom plug-ins. However, 10*g* (10.1.4.0.1) the Authentication Plug-In API and Authorization Plug-In API for C use UTF-8 encoding for plug-in processing.

There is no change for .NET (managed code) plug-ins, which continue to use the same API interface as in earlier releases of Oracle Access Manager.

Access Server Backward Compatibility

You might need to redesign earlier custom plug-ins to use UTF-8 encoding. In some cases, however, you might want 10*g* (10.1.4.0.1) Access Servers to communicate with earlier plug-ins.

An earlier Access Server that is upgraded to 10*g* (10.1.4.0.1) provides backward compatibility automatically. However, when you add a new 10*g* (10.1.4.0.1) Access Server to an upgraded environment, you need manually set backward compatibility. For more information, see "Access Server Backward Compatibility" on page 4-40.

Authentication and Authorization Plug-ins Background

This discussion provides an overview of authentication and authorization plug-ins in Oracle Access Manager.

Authentication is governed by authentication rules. Authentication rules use authenticating schemes; the schemes use one or more plug-ins to test the credentials provided by a user. Standard authentication plug-ins are provided as part of the Access Server installation or you can create your own custom plug-ins using the Authentication Plug-In API.

Authorization is governed by a policy domain that includes an authorization expression among a set of default rules that specify how resources for this domain are protected. Authorization rules are combined to create authorization expressions. When you create a rule, you include an authorization scheme in it. You can use the authorization scheme provided by the Access System or configure one or more custom ones schemes that include custom plug-ins created using the Authorization Plug-In API.

Directory Profiles

Release 6.5 introduced support for directory server profiles for the Access Server and Policy Manager. During a Policy Manager upgrade from any release before 7.x, a new directory server profile is added automatically. However, the values for `Initial Connections` and `Maximum Connections` are not retained during the Policy Manager upgrade

After upgrading, Oracle recommends that you verify and validate that new directory server profiles were properly created and that load-balancing and failover settings in Access System directory server profiles are configured as expected.

For more information, see "Directory Profiles and Database Instance Profiles" on page 4-17. For more information about directory profiles, see "Error Handling for Message Channel Initialization During Cache Flush", in the *Oracle Access Manager Deployment Guide*, Chapter 5.

Dynamic Group Filter Size

Oracle Access Manager 10*g* (10.1.4.3) allows you to add the `DynamicGroupFilterMaxSize` parameter in the Access Server globalparams.xml file. This parameter enables a dynamic filter size when you have 4K of data or more. You add this parameter and value following an Access Server upgrade and after applying Release 10.1.4 Patch Set 2 (10.1.4.3.0). The group dynamic filter migrates automatically after updating the file.

For more information, see "Users Who Do Not Satisfy a Large Group Dynamic Filter Are Part of the Group" on page G-16 and the "Parameter Reference" in the *Oracle Access Manager Customization Guide*.

Error Handling for Message Channel Initialization During Cache Flush

Oracle Access Manager 10*g* (10.1.4.3) enhances the network layer shared by WebGate and Access Server. As a result, errors that might occur as a result of message channel initialization failure due to a closed socket are avoided. Today, the message channel stops sending and receiving messages and a WARNING level log message is recorded.

For more information, see the section on "Rrror Handling for Message Channel Initialization During Cache Flush in the *Oracle Access Manager Deployment Guide*, Chapter 5.

Forms-based Authentication

Oracle Access Manager 10*g* (10.1.4.3) includes a new, optional, and configurable challenge parameter (`maxpostdatabytes`) for form-based authentication schemes only. Use of the `maxpostdatabytes` challenge parameter is similar to other challenge parameters (form, creds, action, and passthrough). For more information, see the *Oracle Access Manager Access Administration Guide*.

10.1.4 WebGates accept input data only in UTF-8 encoding. As a result, form-based authentication supports non-ASCII login credentials (username/password). When you use form-based authentication with 10.1.4 WebGates, you must ensure that character set encoding for the login form is set to UTF-8. To set the login form encoding to UTF-8 after an upgrade, see "Upgrading Forms-based Authentication" on page 13-4.

> **Note:** Basic Authentication fails with non-ASCII login credentials. Use form-based authentication for non-ASCII login credentials. Use Basic Authentication with ASCII login credentials.

Global Sequence Number Corruption Recovery

Any modification to a user profile or policy information is updated in the directory server. These modifications require an Access Server cache flush to ensure that authentication and authorization information is up to date. Enabling the Update Cache feature in Oracle Access Manager forces a cache flush every time an entry is written to the directory server. If you do not select Update Cache, the Access Server caches are updated when they time out and read new information from the directory server.

Before a cache flush, the Access Server checks the oblixGSN objectclass in the directory server, which is used in the cache flush mechanism. It contains a global sequence number (a value in the obSeqNo attribute) that represents the flush request number. This value is updated every time an entry is written to the directory server when the Update Cache feature is turned on, or on time out and read operations if the Update Cache feature is off The obSeqNo has a single unique value.

When you have multiple Access Servers writing to multiple directory servers, however, changes could cause the global sequence number in the directory servers to get out of sync. As a result, corresponding entries in the directory servers might become corrupted, which can lead to inconsistent performance in Oracle Access Manager. Recovey requires removal of corrupted entries from the directory server. A manual process is possible; however, it is error prone and time consuming.

Oracle Access Manager 10*g* (10.1.4.3) provides functionality that enables you to detect corrupted GSNs in the directory server from the command-line tool (recovergsncorruption) in the following path: *PolicyManager_install_dir*\access\oblix\tools. 10*g* (10.1.4.3) also provides functionality that enables you to recover from GSN corruption using functions in the Access System Console after disabling GSN updates by manually disabling the cache flush operation between all Identity Servers and Access Servers and blocking all updates from the Policy Manager and applications using AMAPI.

For more information, see the section on "Restoring Sync Records in Environments with Multiple Directory Servers" in the *Oracle Access Manager Access Administration Guide*.

In the Access Server globalparams.xml file, the `UserMgmtNodeEnabled` parameter can be used. This parameter controls the enabling and disabling of a feature that manages WebGate memory growth. For more information, see the chapter on parameters in the *Oracle Access Manager Customization Guide*. See also, the tip on "Cache Flush Issues with Active Directory" in the *Oracle Access Manager Access Administration Guide*.

`idleSessionTimeoutLogic`

In release 7.0.4 WebGates enforce their own idle session timeout only. In 10*g* (10.1.4.0.1), behavior changed and WebGates enforced the most restrictive timeout value among all WebGates the token had visited. With 10*g* (10.1.4.3), the 7.0.4 behavior has been reinstated as the default. This 7.0.4 behavior can be reconfigured by setting a User-Defined Parameter (`idleSessionTimeoutLogic`) in the AccessGate Configuration page of the Access System Console. Now WebGates enforce their own idle session timeout only, ignoring the MaxIdleSessionTimeout. For information on setting the `idleSessionTimeoutLogic` configuration parameter, see "Configuring User-Defined AccessGate Parameters" in the *Oracle Access Manager Access Administration Guide*.

Internet Protocol Version 6

Oracle Access Manager supports Internet Protocol Version 4 (IPv4). However, you can configure Oracle Access Manager to work with clients that support IPv6 by setting up a reverse proxy server.

For more information, see the *Oracle Access Manager Access Administration Guide*.

Large Authorization Expressions

Oracle Access Manager 10*g* (10.1.4.3) provides the `policyDSMaxAttrValueLength` parameter in the globalparams.xml file of Access Server and Policy Manager. This parameter enables you to add large authorization expressions (beyond the directory server limit for non-binary attribute values). You might also need to configure the directory server to accept large attribute values. For more information, see "Parameter Reference" in *Oracle Access Manager Customization Guide*.

Large Group Evaluations

The following Access Sytem performance enhancements for large group evaluations are provided with Oracle Access Manager 10*g* (10.1.4.3):

- Today, the Access Server (and Policy Manager when using the Access Tester) will evaluate the group for membership as a type, only if that type is enabled. To improve performance during group evaluations when you do not use dynamic groups, or when you have dynamic groups but do not want to evaluate them while processing ObMyGroups, you can turn off dynamic group evaluation using the `TurnOffDynamicGroupEvaluation` parameter in the Access Server (or Policy Manager) globalparams.xml file.

  Access Server v7.0.2 had the ability to disable nested group evaluatio using the `TurnOffNestedGroupEvaluation` parameter in the Access Server globalparams.xml file.

  See Also:

  - "Improving Performance During Group Search When Dynamic Groups Are Not Used", in the chapter on performance in the *Oracle Access Manager Deployment Guide*
  - The chapter on parameters in the *Oracle Access Manager Customization Guide*

- Today, retrieving all attributes except the disired attribute (uniquemember, groupfilter, and the like) depends on the LDAP query. Also, caching the whole entry has been disabled; only the attributes in the LDAP query are cached. In earlier releases the Access Server would read the whole group entry, including all attributes and cache the entry.

  See Also: The topic, "Improving Performance of ObMyGroups Evaluations", in the chapter on performance in the *Oracle Access Manager Deployment Guide*

- Today, a new algorithm can be used during group evaluation involving ObMyGroups: `TurnOffNewAlgorithmForObmyGroups`. This algorithm in the Access Server globalparams.xml file works equally when you have static, dynamic, and nested groups.

  See Also:

  - The topic, "Improving Performance of ObMyGroups Evaluations", in the chapter on performance in the *Oracle Access Manager Deployment Guide*
  - The chapter on parameters in the *Oracle Access Manager Customization Guide*

- Today, `NestedQueryLDAPFilterSize` in the Access Server globalparams.xml file can be used if `TurnOffNewAlgorithmForObmyGroups` is `false` to improve evaluation performance of ObMyGroups. With this parameter, the LDAP search query is divided and then executed.

See Also:

- The topic, "Improving Performance of ObMyGroups Evaluations", in the chapter on performance in the *Oracle Access Manager Deployment Guide*
- The chapter on parameters in the *Oracle Access Manager Customization Guide*

- The `GroupCacheTimeout` parameter enables you to specify the amount of time an element will remain valid in the Access Server group cache. The parameter is provided in the Access Server globalparams.xml file (or the Policy Manager file if you are using the Access Tester).

  See Also:

  - The topic, "Configuring the Access Server Group Cache Timeout and Maximum Elements", in the chapter on performance in the *Oracle Access Manager Deployment Guide*
  - The chapter on parameters in the *Oracle Access Manager Customization Guide*

- The `GroupCacheMaxElement` parameter specifies the maximum number of elements that can be stored in the Access Server group cache. The parameter is provided in the Access Server globalparams.xml file (or the Policy Manager file if you are using the Access Tester).

  See Also:

  - The topic, "Configuring the Access Server Group Cache Timeout and Maximum Elements", in the chapter on performance in the *Oracle Access Manager Deployment Guide*
  - The chapter on parameters in the *Oracle Access Manager Customization Guide*

Maximum Elements in Session Token Cache

In earlier releases, the default value for this parameter was 100000. However, in Oracle Access Manager 10*g* (10.1.4.0.1), the default value has changed to 10000. You can find this parameter by navigating to the Access System Console, Access System Configuration tab, Access Server Configuration function. Look on the Details for Access Server page.

For more information, see the *Oracle Access Manager Access Administration Guide*.

Mixed-Mode Communication for Cache Flush Requests

Cache flush requests do not contain sensitive data. During cache flush operations, only the LDAP configuration is read. As a result, Open mode communication is appropriate for cache flush requests. Implementing automatic cache flush is a best practice, however, it can cause performance issues if you have multiple Access Servers that use a secure communication mode.

Oracle Access Manager 10*g* (10.1.4.2.0) provided a manual method that enabled you to use Open mode communication for cache flush requests between the Identity and Access Server while retaining Simple or Cert mode for all other requests. This type of configuration is known as mixed-security mode (or mixed-mode) communication.

After configuring mixed security mode manually, you had to follow a specific method to modify an AccessGate or WebGate. Otherwise, WebGate could not contact the Access Server when running the `configurewebgate` or `configureaccessgate` tool. Specifically, when you attempted to modify an AccessGate or WebGate, all previous **Preferred HTTP Host** settings were removed.

Oracle Access Manager 10*g* (10.1.4.3) provides a streamlined method to implement automatic mixed-mode communication for cache flush requests. In the Access Server and Policy Manager globalparams.xml file, the `setAccessFlushInOpenMode` parameter enables you to set the mode for cache flush operations.

For more information on both methods, see the caching chapter of the *Oracle Access Manager Deployment Guide*.

Oracle Access Protocol (OAP) Updates

The Oracle Access Protocol (formerly known as the NetPoint or COREid Access Protocol) enables communication between Access System components during user authentication and authorization. WebGates and AccessGates store the user information required for authentication and authorization for example, (login name, password, headers, and the like). The data is serialized and sent to the Access Server where it is deserialized. The Access Server sends results back to the Access clients.

In earlier product releases, Latin-1 encoding was used for data as it was sent and received. In 10*g* (10.1.4.0.1), UTF-8 encoding is used. An updated Oracle Access Protocol is provided to accommodate both globalization and shared secret generation for 10*g* (10.1.4.0.1) Access Servers.

In new 10*g* (10.1.4.0.1) installations, you do not need to take any action. The latest version of Oracle Access Protocol is used for all communication between Access Servers and associated WebGates/AccessGates, as well as between Access Servers and new standard and custom authentication and authorization plug-ins.

In upgraded environments, Access Server backward compatibility is provided as discussed in "Access Server Backward Compatibility" on page 4-40.

See also "Oracle Identity Protocol (OIP)" on page 4-38.

OracleAS Web Cache Integration

OracleAS Web Cache is a reverse proxy cache and compression engine that is deployed between the browser and the Oracle Access Manager WebGate Web server.

- POST Data Restoration: WebGate uses Web Cache to provide POST data restoration after the POST request is interrupted for re-authentication due to timeout. performance.

  In earlier releases, WebGate did not store POST data if the POST request was interrupted by an authentication event (for example, a secure session time-out). However, with the integration of Web Cache and Oracle Access Manager, POST data is retained and WebGate can retrieve it after the user re-authenticates.

- Cookieless Session Support: You can implement a cookie-less user session for Oracle Access Manager Single Sign-on and handle cookies with large data content on electronic devices.

  For more information, see the *Oracle Access Manager Integration Guide*.

Overriding Windows-enabled Impersonation

The primary purpose of impersonation is to trigger access checks against a client's identity. In a Windows environment, after a user authenticates, the authenticating application can impersonate that user's identity.

In addition to configuring impersonation for resources on a computer that is protected by a WebGate, you can extend impersonation to other resources on the network. This is known as assigning a Delegate impersonation level to the client . This function is available starting with 10*g* (10.1.4.2.0).

See the chapter on overriding Windows-enabled impersonation in the *Oracle Access Manager Integration Guide*.

Policy Manager

After upgrading all Identity System components, you must upgrade all earlier Policy Managers (formerly known as the Access Manager component).

Policy Manager API

The Access System provides programmatic access to most of the functions provided by the Policy Manager graphical user interface (GUI). However, you can use the Policy Manager API (formerly known as the Access Management API) to create and manage policy domains and their contents or to allow custom applications to access the authentication, authorization, and auditing services of the Access Server. As in earlier releases, the 10*g* (10.1.4.0.1) Policy Manager API provides Java, C, and C# (.NET managed code) bindings for classes.

In earlier releases, `ObAMMasterAuditRule_getEscapeCharacter` returned the audit escape character.

In Oracle Access Manager 10*g* (10.1.4.0.1):

- In the C language API, the `ObAMMasterAuditRule_getEscapeCharacter` remains and you can continue using this. However, the audit escape character must be an ASCII character; otherwise the return value is incorrect. In this case, you must modify your C code to use the new API.
- On Java clients, the `ObAMMasterAuditRule_getEscapeCharacter` works correctly and you can continue using this even when the audit escape character is not an ASCII character.
- In the C language API, a new `ObAMMasterAuditRule_getUTF8EscapeCharacter` has been added, which returns a pointer to the UTF-8 encoded audit escape character.

Preferred HTTP Host

This WebGate configuration parameter is now mandatory and must be configured with an appropriate value whenever a WebGate is added (from the Access System Console, select Access System Configuration, Add New AccessGate). This must be done before WebGate installation.

The Preferred HTTP Host parameter defines how the host name appears in all HTTP requests as users attempt to access the protected Web server. the host name within the HTTP request is translated into the value entered into this field (regardless of the way the host name was defined in an HTTP request from a user). This safeguard prevents a hacker from constructing a malicious HTTP request that could bypass the WebGate. For more information, see the *Oracle Access Manager Access Administration Guide*.

New parameters can be added to Policy Manager globalparams.xml, that help monitor the Preferred HTTP Host field in a WebGate configuration in the Access System Console.

- `AllowEmptyPreferredHost`
- `PreferredHostValidityCheckEnabled`

> **See Also:** Knowledge base article 416329.1 on My Oracle Support (formerly MetaLink) at `http://metalink.oracle.com`. This note provides guidelines for deciding if you want to use the Preferred HTTP Host feature, and how to bypass it if you decide that enabling virtual hosting is more important in your environment than using the preferred host.

`AllowEmptyPreferredHost`

A new parameter, `AllowEmptyPreferredHost`, can be added to the Policy Manager globalparams.xml file, which allows you to leave empty the Preferred HTTP Host field in a WebGate configuration in the Access System Console.

For more information, see "Invalid or Missing Preferred HTTP Host Identifier in WebGate Profile" in the *Oracle Access Manager Access Administration Guide*. For parameter details, see the table on globalparams.xml in the chapter on parameters in the *Oracle Access Manager Customization Guide*.

`PreferredHostValidityCheckEnabled`

In the Policy Manager globalparams.xml file, you can use the `PreferredHostValidityCheckEnabled` parameter to validate the value in the Preferred HTTP Host field of a WebGate profile.

For more information, see "Invalid or Missing Preferred HTTP Host Identifier in WebGate Profile" in the *Oracle Access Manager Access Administration Guide*. For parameter details, see the table on globalparams.xml in the chapter on parameters in the *Oracle Access Manager Customization Guide*.

Shared Secret

In earlier releases, the shared secret was stored in the directory server and cookie encryption and decryption was accomplished by WebGates and custom AccessGates. In 10*g* (10.1.4.0.1), the shared secret remains in the directory server; however, cookie encryption and decryption is accomplished by the Access Server. As a result, WebGates and AccessGates no longer need the shared secret key.

If you change the shared secret during a user session, the user does not need to re-authenticate. If a cookie is being decrypted with the old shared secret and the cookie is refreshed, it is encrypted with the new shared secret. For more information, see the *Oracle Access Manager Access Administration Guide*.

For details about Access Servers, see "Access Server Backward Compatibility" on page 4-40. For details about WebGates, see "WebGates" on page 4-52. See also "Encryption Schemes" on page 4-20.

Synchronous Cache Flush Between Multiple Access Servers

Oracle Access Manager 10*g* (10.1.4.3) provides a new function that enables you to specify a wait period for sockets during synchronous cache flush requests between

multiple Access Servers. In this case, the socket waits for only a specified time for I/O completion. If the expected operation is not completed within the specified time, an error is reported and the request is sent to other Access Servers. With synchronous requests, WebPass and Policy Manager will not hang if one Access Server hangs.

For more information, see "Configuring Sychronous Cache Flush Requests between Multiple Access Servers", in the *Oracle Access Manager Deployment Guide*, Chapter 5.

To specify a wait period for sockets during synchronous cache flush requests from the Access Manager SDK, you must add the `CacheFlushTimeOut` parameter to the globalparams.xml file for each Access Server. For synchronous cache flush requests originating from the Policy Manager, you must add the `CacheFlushTimeOut` parameter to the Policy Manager's globalparams.xml file.

For more information, see the table on globalparams.xml in the chapter on parameters in the *Oracle Access Manager Customization Guide*.

Triggering Authentication Actions After the ObSSOCookie Is Set

You can cause authentication actions to be executed after the ObSSOCookie is set. Typically, authentication actions are triggered after authentication has been processed and before the ObSSOCookie is set. However, in a complex environment, the ObSSOCookie might be set before a user is redirected to a page containing a resource. In this case, you can configure an authentication scheme to trigger these events. See also *Oracle Access Manager Access Administration Guide*.

WebGates

Release 6.1.1, 6.5, and 7.x WebGates can coexist with upgraded Access Servers. You can install 10*g* (10.1.4.0.1) WebGates in your upgraded environment. However, 10*g* (10.1.4.0.1) WebGates are not compatible with earlier Access Servers.

The WebGateStatic.lst file available in earlier releases no longer exists. Instead, with 10*g* (10.1.4.0.1) WebGates you configure such parameters as IPValidation and IPValidationExceptions from the Access System Console, as described in the *Oracle Access Manager Access Administration Guide*.

In releases before 10*g* (10.1.4.0.1), cookie encryption and decryption was handled by WebGate/AccessGate. However starting with 10*g* (10.1.4.0.1), cookie encryption and decryption is now handled by the Access Server.

The code for WebGates has been rewritten so that 10.1.4 WebGates and AccessGates share the same code base. For more information, see the *Oracle Access Manager Developer Guide*.

Oracle recommends that you upgrade all earlier WebGates even though these can coexist with 10*g* (10.1.4.3) Access Servers. In environments that include a mix of WebGate releases, use the encryption scheme that corresponds to the earliest WebGate. For example:

- Use RC4 as the encryption scheme if you have release 5.x and 10.1.4 WebGates co-existing in the same system.
- Use RC6 as the encryption scheme if you have release 6.x and 10.1.4 WebGates co-existing in the same system.
- Use the AES encryption scheme if you have only release 7.0 or 10.1.4 WebGates co-existing in the same system.

As discussed earlier, if you install a 10*g* (10.1.4.3) Access Server in an upgraded environment that includes earlier WebGates/AccessGates, you must manually

configure the Access Server for backward compatibility. For more information, see "Access Server Backward Compatibility" on page 4-40. You cannot use Release 10.1.4 Patch Set 2 (10.1.4.3.0) packages to install fresh instances.

Access Management Service Clarification

Several clarifications have been made with regard to the Access Management Service in WebGate and Access Server profiles. This setting is Off by default. When set to On, the Access Server starts servicing requests from AccessGates. The Access Management Service must be On for associated Access Servers and AccessGates. WebGates do not require the Access Management Service, unless an associated Access Server uses it.

For more information, see the chapter on configuring Access Servers and WebGates in the *Oracle Access Manager Access Administration Guide*.

User-defined Parameters in AccessGate Configuration Profiles

Several new user-defined parameters have been added for use in WebGate configuration profiles.

- ContentLengthFor401Response
- idleSessionTimeoutLogic
- ProxySSLHeaderVar
- RetainDownstreamPostData
- SUN61HttpProtocolVersion

For more information, see the chapter on configuring Access Servers and WebGates in the *Oracle Access Manager Access Administration Guide*.

Enhancements Included from Release 10.1.4 Patch Set 1 (10.1.4.2.0)

The following table provides a summary of the additional features that are included from Release 10.1.4 Patch Set 1 (10.1.4.2.0).

Table 4–3 New Features with Release 10.1.4 Patch Set 1 (10.1.4.2.0)

Feature Description	More Information
Documentation: Deployment overview and back up and recovery strategies	A new chapter has been added to describe various deployment strategies and scenarios for Oracle Access Manager. For details, see the chapter on deployment scenarios in the *Oracle Access Manager Deployment Guide*. A new chapter has been added to outline various back up and recovery strategies for Oracle Access Manager installations. For details, see the chapter on back up and recovery strategies in the *Oracle Access Manager Deployment Guide*.
Zero downtime upgrade method	You can now perform an upgrade without shutting down service to your Oracle Access Manager customers. The zero downtime upgrade method is provided as an alternative to the in-place upgrade. Part VI describes how you can perform a zero downtime upgrade.
Upgrade parameter to halt automatic user data migration using zero downtime method	A new parameter in the globalparams.xml file, `MigrateUserDataTo1014`, is used by the Identity Server and Access Server during a zero downtime upgrade. The value of `MigrateUserDataTo1014` halts automatic user data migration when a user first logs in after upgrading. Only the multiple challenge and response attributes for Lost Password Management are affected. See "Migrating User Data At First Login" on page 4-23.
Upgrade while Switching from a Solaris platform to a Linux platform	Appendix B explains how you can upgrade to 10*g* (10.1.4.0.1) while making a switch from a Solaris platform to a Linux platform. You cannot perform this task if you are using the zero downtime upgrade method.

Table 4–3 (Cont.) New Features with Release 10.1.4 Patch Set 1 (10.1.4.2.0)

Feature Description	More Information
Functions for updating the LDAP bind password	You may need to periodically update the LDAP bind password for the directory servers that communicate with Oracle Access Manager components. For example, you may want to update the LDAP bind password to comply with government regulations. Functionality for updating the LDAP bind password has been added in this release. See the *Oracle Access Manager Deployment Guide* for details. Note that in previous releases, after updating the LDAP bind password, it was necessary to re-run setup. In this release, it is no longer necessary to rerun setup.
Assigning a Delegate impersonation level to the client	In addition to configuring impersonation for resources on a computer that is protected by a WebGate, you can extend impersonation to other resources on the network. This is known as assigning a Delegate impersonation level to the client. See the chapter on Windows Impersonation in the *Oracle Access Manager Integration Guide* for details.
New configuration parameters for IdentityXML	When using IdentityXML, the `XSLProcessor` parameter in the file globalparams.xml indicates the processor to use when generating the page. The only officially supported value, `default`, indicates that the XDK processor should be used. You can use the values `XALAN` or `DGXT` for testing. See the appendix on configuration parameters in the *Oracle Access Manager Customization Guide* for details.
Enhancements to xsl files	Enhancements have been made to certain xsl files to support a JavaScript-related fix and a number of large-group-related fixes. These xsl files are available when you apply the 10*g* (10.1.4.2.0) patch set. For more information, see the *Oracle Access Manager Customization Guide*. For steps you must perform after applying Release 10.1.4 Patch Set 1 (10.1.4.2.0), see *Oracle Access Manager Patch Set Notes Release 10.1.4 Patchset 1 (10.1.4.2.0) For All Supported Operating Systems.*
Log the time consumed by different types of calls to external components	You can now generate logs that show details about the time consumed by different types of calls to external components. Using this information, you can better assess whether requests to specific components are taking longer than expected. For more information, see the *Oracle Access Manager Identity and Common Administration Guide*.
Group performance is improved	For large static groups, for example, groups with over 10,000 members, operations that involve the group can cause memory to spike. Group performance has been improved in this release. However, if you find that a large static group still affects performance, you can modify the default evaluation method for the group using the `LargeStaticGroups` parameter in globalparams.xml. There are a number of additional actions that you can take to improve the performance of large groups. See the chapter on performance tuning in the *Oracle Access Manager Deployment Guide* for details.
Oracle Instant Client binaries	Oracle Instant Client binaries are now shipped with the Identity Server and Access Server. When auditing to a database, this eliminates the requirement for a 10.1.0.5 *ORACLE_HOME* on the computer that hosts them.
NLS libraries and data files	Even if an environment variable is set to ORACLE_HOME or ORA_NLS10, or a third-party Web component refers to a different version of the NLS libraries and data files than the one used by Oracle Access Manager, Oracle Access Manager components choose NLS data files from the *oracle_access_manager_component_install_dir*. For more information, see the *Oracle Access Manager Installation Guide*.

Table 4–3 (Cont.) New Features with Release 10.1.4 Patch Set 1 (10.1.4.2.0)

Feature Description	More Information
Limit the number of retries that the WebGate performs for a non-responsive server	A WebGate-to-Access Server timeout threshold specifies how long (in seconds) the WebGate waits for the Access Server to respond before it considers it unreachable and attempts the request on a new connection. However, if the Access Server takes longer to service a request than the value of the timeout threshold, the WebGate abandons the request and retries the request on a new connection. Note that the new connection that is returned from the connection pool can be to the same Access Server, depending on your connection pool settings. Additionally, other Access Servers may also take longer to process the request than the time allowed by the threshold. In these cases, the WebGate can continue to retry the request until the Access Servers are shut down. You can now configure a limit on the number of retries that the WebGate performs for a non-responsive server using the `client_request_retry_attempts` parameter. This is a user-defined parameter in the Access System. The default value for this parameter is -1. Setting the parameter value to -1 (or not setting it at all) allows an infinite number of retries. See the *Oracle Access Manager Access Administration Guide* for details.
Preferred HTTP Host	With Oracle Access Manager 10.1.4.0.1, the Preferred HTTP Host field became required. This introduced issues for environments that support virtual hosting. In 10*g* (10.1.4.2.0), to support virtual hosts you set the Preferred HTTP Host value to HOST_HTTP_HEADER for most Web hosts or SERVER_NAME (Apache only). Additional configuration is required for IIS. See the chapter on configuring Access Servers and AccessGates in the *Oracle Access Manager Access Administration Guide* for details.
New diagnostic tools	The Access Server and Identity Server have new diagnostic tools to help you work with an Oracle Technical Support representative to troubleshoot problems. The diagnostic tools enable you to do the following: ■ Obtain hard-to-locate information about component configuration and behavior. ■ Automatically capture events that immediately precede a core dump. ■ Manually capture a stack trace of any event in the Identity or Access System. See the *Oracle Access Manager Identity and Common Administration Guide* for details.
Log file enhancements	Operating system error information is now included in the logs. For example, when an attempt to create a listener thread fails, the error code returned on GetLastError() is added to the log files.
The webpass.xml file poll tracking refresh parameter is configurable	When setting up multiple Identity Servers or modifying WebPass, administrators can now configure the PollTrackingRefreshInterval in the webpass.xml file. This interval should be configured in seconds. There are implications when setting up multiple Identity Servers or modifying a WebPass instance. See the *Oracle Access Manager Identity and Common Administration Guide* for details.
Users can be logged in automatically after changing their password	To configure automatic login, the change password redirect URL must include `STLogin=%applySTLogin%` as a parameter. The following is an example of a change password redirect URL that logs the user in: `/http://machinename:portnumber/identity/oblix/apps/lost_password_mgmt/bin/lost_password_mgmt.cgi?program=redirectforchangepwd&login=%login%%userid%&backURL=%HostTarget%%RESOURCE%&STLogin=%applySTLogin%&target=top` To implement this with a form-based authentication scheme, you must configure the challenge parameter `creds` by supplying the user name credential parameter as the first token, the password credential parameter as the second token, then any other credential parameters. See the *Oracle Access Manager Identity and Common Administration Guide* for details.

Table 4–3 (Cont.) New Features with Release 10.1.4 Patch Set 1 (10.1.4.2.0)

Feature Description	More Information
Write a stack trace to a log file	If Oracle Access Manager experiences a core dump, it can now write a stack trace to a log file. To enable this functionality, you turn on logging at any minimal level. You can send the log file that contains the stack trace information to Oracle, along with a report of the problem. See the appendix on troubleshooting in the *Oracle Access Manager Identity and Common Administration Guide* for details.
New parameters for directory server failover	A new parameter in globalparams.xml named `LDAPOperationTimeout` sets an amount of time that the Identity Server, Access Server, or Policy Manager waits for a response from the directory server for a single entry of a search result before the component fails over to a secondary server, if one is configured. A `heartbeat_ldap_connection_timeout_in_millis` parameter in globalparams.xml determines the time limit for establishing a connection with the directory server. If the time limit is reached, the Identity and Access Servers start establishing connections with another directory server. This parameter enables the Identity and Access Servers to proactively identify when a directory server is down, and it enables failover without requiring an incoming directory service request and a subsequent TCP timeout. See the chapter on failover in the *Oracle Access Manager Deployment Guide* and the appendix on parameter files in the *Oracle Access Manager Customization Guide* for details.
Resetting the LDAP bind password in configuration files	You may need to periodically update the LDAP bind password for the directory servers that communicate with Oracle Access Manager components. The `ModifyLDAPBindPassword` command enables you to reset the LDAP bind password in the Oracle Access Manager configuration files. You can reset the LDAP bind password without restarting any servers or re-running setup. See the chapter on reconfiguring the system in the*Oracle Access Manager Deployment Guide* for details.
Directory server searches are minimized for certain operations	In previous releases, it could take a long time to create a large number of policy domains and URL prefixes in the Policy Manager. In this release, searches to the directory server have been minimized for these operations, resulting in better performance for these operations.
Assigning a Delegate impersonation level to the client	In addition to configuring impersonation for resources on the computer that is protected by a WebGate, you can extend impersonation to other resources on the network. This is known as assigning a Delegate impersonation level to the client. Note that the information on impersonation has moved from the *Oracle Access Manager Access Administration Guide* to the *Oracle Access Manager Integration Guide* See the chapter on configuring impersonation in the *Oracle Access Manager Integration Guide* for details.
Integration Support Enhanced	Release 10.1.4 Patch Set 1 (10.1.4.2.0): Integration support includes SharePoint Office Server 2007. See the chapter on integrating with SharePoint in the *Oracle Access Manager Integration Guide* for details. Integration support with SAP NetWeaver is provided. See the chapter on integrating with SAP in the *Oracle Access Manager Integration Guide* for details. Integration support with Siebel in a multi-domain Active Directory environment is provided. See the chapter on integrating with Siebel in the *Oracle Access Manager Integration Guide* for details. Integration support with Weblogic 9.2 is provided. See the chapter on integrating with WebLogic in the *Oracle Access Manager Integration Guide* for details. Integration support with WebSphere 6.1 is provided. See the chapter on integrating with WebSphere in the *Oracle Access Manager Integration Guide* for details.

Part II

Upgrading the Schema and Data

This part of the book explains how to prepare your earlier environment for the schema and data upgrade, then how to upgrade the schema and data with master components installed for this purpose.

Part II contains the following chapters:

5

Preparing for Schema and Data Upgrades

This chapter is intended for directory server administrators who are responsible for maintaining and updating directory schemas and data. Here you will find information on preparing the environment for the Oracle Access Manager (formerly known as Oblix NetPoint or Oracle COREid) schema and data upgrade. The following topics provide information to help you prepare your environment:

> **Note:** Unless explicitly stated, the information in this chapter applies equally to both upgrade methods. If your starting Oracle Access Manager release is earlier than 6.1.1, contact Oracle Support before upgrading: `http://www.oracle.com/support/contact.html`

About Schema and Data Upgrades

There are several types of data used by Oracle Access Manager: user data, configuration data, and policy data. User data refers to the enterprise identity store (LDAP) that Oracle Access Manager is configured to work against. Configuration is metadata pertaining to Oracle Access Manager configuration that is stored in directory. Policy data is metadata pertaining to access policies that is stored in the directory.

Zero Downtime Method: The schema upgrade occurs independently. Data upgrades occur when you upgrade the clone of the first installed COREid Server and first installed Access Manager. In discussions about the schema and data upgrade for the

in-place method, you can substitute the concept of the "master" Identity Server and Policy Manager with the zero downtime concept of the clone of the first installed Identity Server and Access Manager. See also "Schema and Data Upgrades with the Zero Downtime Upgrade Method" on page 15-9.

In-place Method: A schema upgrade occurs when you upgrade the master Identity Server. Configuration data is also upgraded during the master Identity Server (formerly known as the COREid Server) upgrade. When you upgrade additional Identity Server instances, the initial schema and data upgrade is detected automatically. Further Identity System schema and data upgrades are not requested.

Policy data is upgraded with the master Policy Manager (formerly known as the Access Manager component). When the configuration tree and policy node are in the same directory server, the master Identity Server upgrade touches only configuration data. Policy data is upgraded only when the master Policy Manager is upgraded. If you have a large number of entries in the configuration tree, data migration can take a while to complete.

Additional schema updates are not typically required with policy data unless you have several directory instances configured as shown here:

Directory_1 communicates with the Identity System

Directory_2 communicates with the Identity System *and* Access System

Directory_3 communicates with the Access System

In such cases, the Oracle Access Manager schema and configuration data are upgraded on Directory_1 and Directory_2 during the master Identity Server upgrade. The schema and policy data are upgraded on Directory_2 and Directory_3 during the master Policy Manager upgrade.

Both Methods: No schema upgrade occurs during Access Server, WebPass, or WebGate upgrades. A data upgrade occurs automatically during each Access Server upgrade and a directory server profile is created for each Access Server.

For more information, see:

- Considerations for Workflows in Multiple Directories
- About Preparing For and Performing the In-Place Schema and Data Upgrade
- Error Logging for All Directory Servers

Considerations for Workflows in Multiple Directories

Oracle recommends that you keep all workflows on one directory server. When workflows are stored on multiple directory servers, you cannot automatically upgrade the schema and data.

If your installation includes workflows on separate directory servers, you must manually upgrade the schema and data. In this case, see Appendix D.

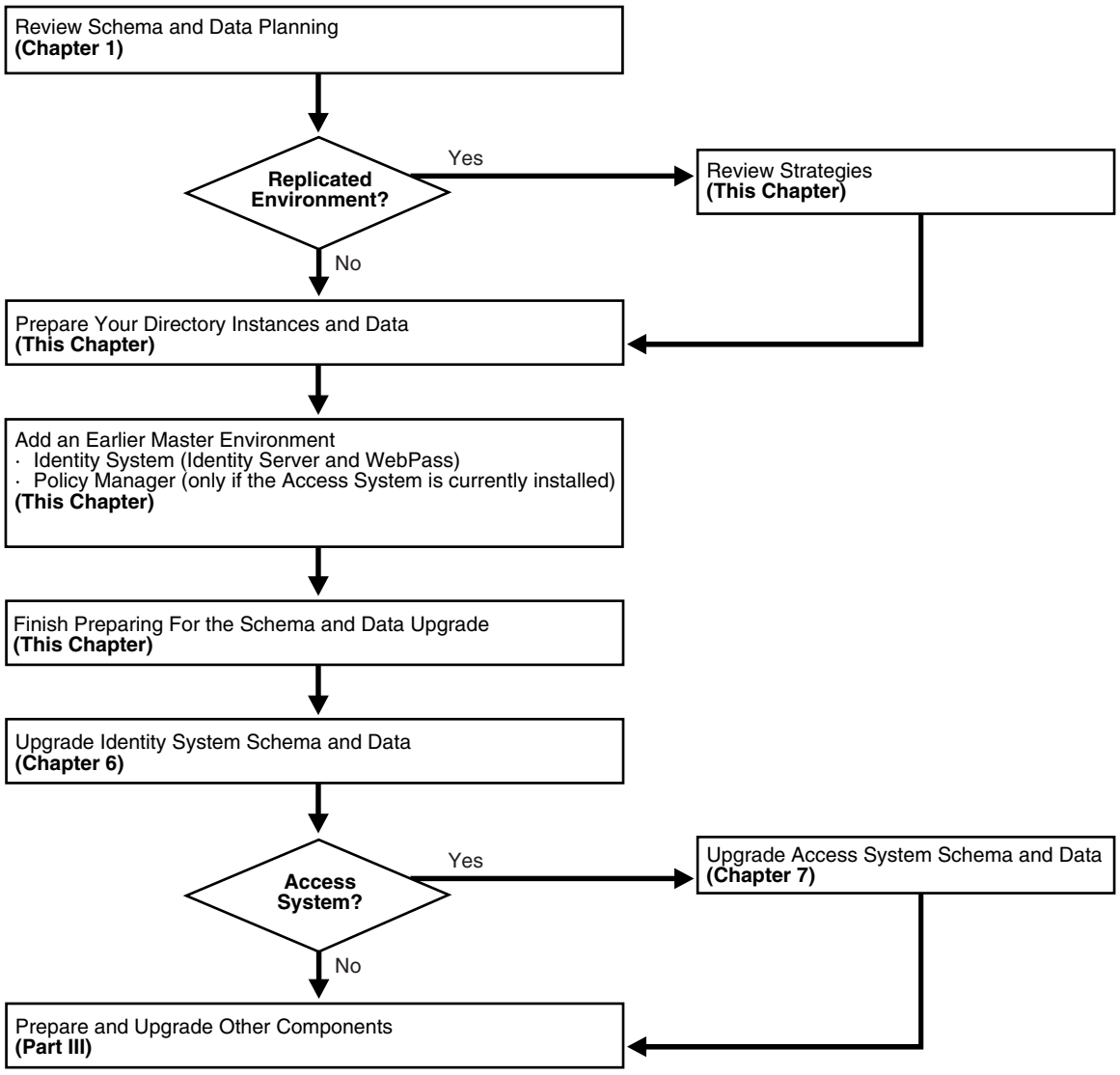
About Preparing For and Performing the In-Place Schema and Data Upgrade

Oracle recommends that you record details about your existing deployment as summarized in Appendix F. Summaries that can help you track the completion of upgrade tasks in your environment are also provided in Appendix F.

Figure 5–1 illustrates the tasks involved in preparing for and performing the schema and data upgrade when you use the in-place upgrade method. Additional information follows the figure. For details about performing a schema and data upgrade when you

choose the zero downtime upgrade method, see "Schema and Data Upgrades with the Zero Downtime Upgrade Method" on page 15-9.

Figure 5–1 Schema and Data Upgrade Task Overview for In-Place Upgrades



Task overview: Preparing for and performing in-place schema and data upgrades

1. Review the following topics to gain an understanding of the conditions that might govern the sequence and tasks you must perform:
   - In-place Schema and Data Upgrade Planning (Chapter 1)
   - Strategies for Upgrading in a Replicated Environment (this chapter)
2. **Prepare Directory Instances and Data**: Perform the tasks in the following list to prepare your directory instances and data for the upgrade, as described in:
   - Configuring Unique Namespaces for Directory Connection Information
   - Configuring the Challenge/Response Phrase at the Object Class Level
   - Preparing Your Directory Instances for the Schema and Data Upgrade

- Backing Up Existing Oracle Access Manager Data
- Backing Up Existing Directory Instances
- Halting On-the-fly User Data Migration at First Login Temporarily

3. Perform the next set of tasks to create a master environment of secondary servers for your original master Read/Write directory server instances:
   - Preparing Host Computers for Master Components
   - Adding An Earlier Identity System to Use as a Master for the In-place Method
   - Adding an Earlier Access Manager to Use as a Master for the In-Place Method
4. Finish preparing for the schema and data upgrade as described in "Finishing Preparation for the In-Place Schema and Data Upgrade" on page 5-34.
5. Upgrade the schema and data in sequence, as described in:
   - Chapter 6, "Upgrading Identity System Schema and Data In Place"
   - Chapter 7, "Upgrading Access System Schema and Data In Place"
6. When the schema and data upgrade is successful, prepare for and upgrade the remaining components as described in Part III.

Error Logging for All Directory Servers

During data migration, the following two files are created, regardless of your directory server type. Both contain new Oracle Access Manager data, generated after applying the upgrade for the specific release increment. The older Oracle Access Manager tree is deleted and the appropriate file is uploaded to generate the upgraded tree:

- During Identity Server data migration, output_*fromversion*_to_*toversion*_osd.ldif is created in the *IdentityServer_install_dir*\identity\oblix\tools\migration_tools\obmigratedata directory.
- During Policy Manager data migration, output_*fromversion*_to_*toversion*_psc.ldif file is created in the *PolicyManager_install_dir*\access\oblix\tools\migration_tools\obmigratedata directory

Additionally, the files listed next are created to log any ldap specific errors as follows:

- During Identity Server data migration, error_output_*fromversion*_to_*toversion*_osd.ldif file is created in the *IdentityServer_install_dir*\identity\oblix\tools\migration_tools\obmigratedata directory.
- During Policy Manager data migration, error_output_*fromversion*_to_*toversion*_psc.ldif file is created in the *PolicyManager_install_dir*\access\oblix\tools\migration_tools\obmigratedata directory

For more information, see "Accessing Log Files" on page G-2.

Strategies for Upgrading in a Replicated Environment

This discussion introduces additional tasks that Oracle recommends you perform when upgrading in a replicated environment.

Your deployment can employ the use of replicas to increase system availability and improve performance. Using replicas in a failover configuration helps increase system availability, which is important for enterprise-class applications. You can use replicas in load-balancing configurations to enhance the performance and throughput of the application.

To help keep down time to a minimum, Oracle recommends that you disable replication until the upgrade is complete and all features have been validated to work correctly. Presuming that the Identity Server, Policy Manager, Access Server, and all plug-ins that might contact the directory are configured properly, disabling replication (with Active Directory, for example) helps Oracle Access Manager remain in service during the upgrade. One set of servers can work with the original directory information (release 7.0.4, for example) while upgrading to 10*g* (10.1.4.0.1). The 10*g* (10.1.4.0.1) schema is backward compatible with the release 7.0.4 schema as long as you do not delete Oracle Access Manager attributes from any Oracle Access Manager object classes.

When performing the next tasks, use your directory vendor documentation as a guide unless otherwise indicated. Additional information follows the task overview.

> **Note:** If you are using the zero downtime upgrade method, you can disable the replication agreement before upgrading the schema and enable it after upgrading the data. For more information, see Part VI.

Task overview: Upgrading in a replicated environment

1. Disable the replication agreement, if possible.
2. Prepare for and perform the schema and data upgrade as outlined in the previous task overview. If you are using the zero downtime method, see Part VI.
3. Stop the Identity Server, Policy Manager, and Access Server from the original deployment.
4. Re-establish the replication agreement.
5. Push changes to the replicas.
6. After changes have been pushed to the replicas, then upgrade the components configured against these replicas as described in Part III. If you are using the zero downtime method, see Part VI.

> **Note:** The upgrade tools automatically detect that the schema and data have been upgraded and these steps are suppressed when upgrading remaining components.

For more information, see:

- About User Data Replication
- About Configuration Data Replication

About User Data Replication

Your deployment can be architected to leverage user data replicas in various ways. For example, to achieve failover or load-balancing and the like, as described in the following discussions:

- Failover Configuration
- Load Balancing Configuration
- Load Balancing and Failover Configuration
- Operation-based Load Balancing Configuration

Failover Configuration

Suppose that you have one master directory server (named M) and one replica (named R). To setup a failover configuration, you need one DB Profile configured with the primary server named M and a secondary server named R. In this case, Oracle Access Manager will failover to R when M is not reachable.

Upgrade Consideration: This directory server configuration with replica will be a multi-master deployment. Hence, user schema should be uploaded against the master instance M.

Load Balancing Configuration

This scenario is quite similar to the failover configuration in the preceding discussion. Except that in this situation there are multiple primary LDAP servers to help balance the load. For example, suppose that you have one master directory server (named M) and one replica (named R). To setup a load-balancing configuration, you will create one DB Profile with two primary servers configured. In this case, both server M and R will be configured as primary.

Upgrade Consideration: This is the same consideration as in the failover configuration in the preceding discussion. The directory server configuration with replica will be a multi-master deployment. Therefore, the user schema should be uploaded against the master instance (M).

Load Balancing and Failover Configuration

In this configuration you will have multiple primary servers along with secondary servers configured. Let us consider that you have one master directory server (say M) and two replicas (say R1 and R2). There will be one DB Profile configured with two primary servers as M and R1, and there will be one secondary server, R2.

You can configure the 'Failover threshold' for this DB Profile as 1 to indicate that after one primary server goes down start using secondaries along with remaining primaries.

Upgrade Consideration: This too is the same consideration as in the failover configuration in the preceding discussion. The directory server configuration with replica will be a multi-master deployment. Therefore, the user schema should be uploaded against the master instance (M).

Operation-based Load Balancing Configuration

This deployment configuration is typically employed when you have one Read/Write master and one read-only replica. For example, suppose that the Read/Write master is M and the read-only replica is R. In this case, you must configure two DB Profiles for the same namespace. One DB profile will allow only write operations to occur against M. The other DB Profile will allow only read & bind operations against R. Oracle Access Manager will use the appropriate profile based on the requested operation.

Upgrade Consideration: This is not a multi-master deployment of directory servers. During the upgrade, the schema should be upgraded only against the master (M), because the replica (R) is read-only.

About Configuration Data Replication

Replicated configuration data can be leveraged by Oracle Access Manager in failover configurations. In this scenario there is one master directory server (named M) containing the configuration data and another Read/Write replica (named R). There is one DB Profile configured with primary instance (M) and secondary instance (R).

Note: Oracle Access Manager does not allow load-balancing for configuration data. The same is true for policy data replication.

Upgrade Consideration: This is a multi-master deployment. Schema and data upgrades should be done only against one instance (M). This applies to both Identity System and Access System (policy) data.

Configuring the Challenge/Response Phrase at the Object Class Level

If Challenge and Response attributes are configured at the Employees tab level (rather than at the object class level), then the configuration data upgrade might not complete correctly. Oracle recommends that before starting the upgrade you ensure that the Challenge and Response attributes are configured at the object class level.

To configure the challenge/response phrase as the object class level

1. Login into COREid System Console, as usual.
2. Navigate to the Common Configuration tab, then click Object Classes in the left pane.
3. If attributes P and Q are configured as Challenge and Response attributes, then recollect the object class to which P and Q belongs.
4. On the Configure Object Classes page, click the object class to which the P and Q attributes belong.
5. On the View Object Class page, click the Modify Attributes button.
6. In the attribute configuration applet, ensure that when attribute P is selected in the Attributes list, the Challenge semantic type is highlighted in the Semantic Types list.
7. If the Challenge semantic type is not highlighted, select the Challenge semantic type and save this.
8. Repeat with attribute R for the Response semantic type.

For more information, see your earlier version of the Oblix NetPoint or Oracle COREid *Administration Guide* (Volume 1 if you have a two volume set).

Note: User data is not migrated during the upgrade, but is migrated during the first login following the upgrade. For more information about the implications of this during an in-place upgrade, see "Halting On-the-fly User Data Migration at First Login Temporarily" on page 19. If you are using the zero downtime method, see "User-Data Migration and Multiple Values in Challenge and Response Attributes for LPM" on page 15-12.

Configuring Unique Namespaces for Directory Connection Information

Each directory server profile contains connection information for a directory that includes the profile name, a domain or namespace to which it applies, a directory type, and a set of operational requirements for Read, Write, Search, and so on. A default directory server profile is created automatically each time you install the Identity Server and specify new directory server connection information.

Before release 6.5, the directory namespaces for policy data and user data had to be unique when the data was stored in two separate directories. During the upgrade to 10*g* (10.1.4.0.1), you must confirm this uniqueness to ensure that multi-language capability can be enabled.

When your environment includes one of the following situations, you must perform the following procedure before upgrading to ensure that namespaces are unique and do not overlap with other directory server profile namespaces:

- When earlier Oracle Access Manager installation with configuration data or policy data is stored in a different directory server than user data

  Note: Exceptions to overlapping namespaces include a directory server profile for a Microsoft Active Directory subdomain, and the directory server profile containing the configuration DN.

- If the namespace for the configuration DN or policy base assigned during Identity System setup matches the searchbase *and* you upgrade without ensuring unique configuration and policy data namespaces, the automated process to enable multi-language capability during the master Identity Server upgrade might fail. In the case of a zero downtime upgrade, this capability is enabled when you upgrade the clone of the first Identity Server.

Using third-party tools is outside the scope of this manual. For more information about how to ensure that the namespace is unique on the directory server, see the documentation for your directory server. For more information about configuring LDAP directory server profiles, see your earlier Oblix NetPoint or Oracle COREid *Administration Guide*. For details about re-running Identity System, Policy Manager, or Access Server setup, see your earlier Oblix NetPoint or Oracle COREid *Administration Guide*.

To ensure namespace uniqueness and reconfigure if needed

1. On the directory server, ensure that the namespace for configuration data is unique and does not overlap any other namespace. .
2. On the directory server, ensure that the namespace for policy data is unique on the directory server and does not overlap any other namespace.
3. Using the COREid System Console, configure LDAP Directory Server profiles to include unique namespaces for configuration data and policy data. For example:

   COREid System Console, System Admin, System Configuration

   Configure Directory Options, *Profile_Link*

   Namespace: Enter a unique namespace
4. Restart Identity Servers.
5. Re-run Identity System setup, as described in your earlier Oblix NetPoint or Oracle COREid *Administration Guide*.
6. Re-run Policy Manager setup, as described in your earlier Oblix NetPoint or Oracle COREid *Administration Guide*.
7. Re-run Access Server setup, as described in your earlier Oblix NetPoint or Oracle COREid *Administration Guide*.

Preparing Your Directory Instances for the Schema and Data Upgrade

Before starting an upgrade, Oracle recommends that you perform all tasks outlined in the following overview to prepare your directory instances for the schema and data upgrade.

Task overview: Preparing directory instances for the schema and data upgrade

1. Review supported directory servers, as follows:
   a. Go to Oracle Technology Network:

      `http://www.oracle.com/technology/software/products/ias/files/idm_certification_101401.html`

   b. Locate and click the link for Oracle Access Manager Certification.

      System Requirements and Supported Platforms for Oracle Access Manager 10gR3 (**xls**)
2. **Directory Release Deprecated**: Perform activities in "Preparing a Directory Server When Its Release is Deprecated" on page 5-9.
3. Perform activities in "Changing the Directory Server Search Size Limit Parameter" on page 5-10.
4. Review considerations for your directory server and ensure that your environment meets all requirements as described in:
   - Active Directory Considerations and Preparation
   - Active Directory Application Mode Considerations and Preparation
   - IBM Directory Server Considerations and Preparation
   - Oracle Internet Directory
   - Siemens DirX Directory Deprecation
   - Sun Directory Server Considerations and Preparation
5. Back up all directory instances containing Oracle Access Manager data, using instructions from your directory vendor.
6. Proceed to "Backing Up Existing Oracle Access Manager Data" on page 5-16.

Preparing a Directory Server When Its Release is Deprecated

If your directory server release is no longer supported, you can upgrade earlier directory server profiles in Oracle Access Manager and the directory server as outlined next, then upgrade to 10*g* (10.1.4.0.1).

> **Note:** Use the next overview as a guide and see your vendor documentation for specific details about administering the directory server. See also "Upgrade Strategies When Support is Changed or Deprecated" on page 2-13.

Task overview: Installing a new directory server when its release is deprecated

1. Check the latest support information for Oracle Access Manager 10*g* (10.1.4.0.1), as follows:

1. Go to Oracle Technology Network:

   http://www.oracle.com/technology/software/products/ias/files/idm_certification_101401.html

2. Locate and click the link for Oracle Access Manager Certification.

   System Requirements and Supported Platforms for Oracle Access Manager 10gR3 (**xls**)

2. Before starting an upgrade, install a 10*g* (10.1.4.0.1)-supported directory server using your vendor documentation as a guide.
3. In your earlier Oracle Access Manager installation, reconfigure directory server profiles (and database instance profiles contained within) before you start the upgrade to 10*g* (10.1.4.0.1). For details, see your earlier Oblix NetPoint or Oracle COREid *Administration Guide* (Volume 1 if you have a two volume set).
4. In your earlier Oracle Access Manager installation, change the directory server as follows:

   From the COREid System Console select System Configuration, Configure Directory Server Options, click Directory Server, change any settings as needed.
5. Re-run Identity System setup, as described in your earlier Oblix NetPoint or Oracle COREid *Administration Guide* (Volume 1 if you have a two volume set), to ensure that configuration files are properly updated.
6. Before starting the upgrade, perform all relevant tasks in this chapter. If you are using the in-place upgrade method, add a master Identity Server (formerly known as the COREid Server), WebPass, and Policy Manager (formerly known as the Access Manager component) configured against the new directory. If you are using the zero downtime method, see Part VI.
7. Upgrade using the method you have chosen as described in this manual.

Changing the Directory Server Search Size Limit Parameter

Before starting the upgrade Oracle recommends that you verify that the value of the directory server's search size limit parameter is greater than the number of entries in your configuration tree. The default value for this parameter varies from directory to directory. See your vendor documentation for complete details.

Note: If the number of entries in your configuration tree is greater than the value of the directory server's size limit parameter, then the Oracle Access Manager data upgrade process might fail.

There are no specific rules to determine a suitable value for this parameter. As a result, the process of defining and verifying the correct value is an iterative one, as described in the next procedure.

Note: With Oracle Internet Directory, Oracle recommends that you set the LDAP_PASSWORD_PROMPTONLY variable to TRUE or 1 to disable the less secure -w and -P *password* options whenever possible, and use the -q (or -Q) options, to prompt you for the user password (or wallet password).

To set an appropriate value for the directory server's size limit parameter

1. Check the suitability of the existing value of the directory server's size limit parameter using the `ldapsearch` command to retrieve all nodes in your configuration tree to retrieve all entries. For example:

   ```
   ldapsearch.exe -h host -p port-D bindDN -q password -b config_root
   -s sub (objectclass=*) Dn
   ```

   In the preceding command, the *bindDN* is the one that was specified during your earlier Identity System setup (formerly known as COREid).

   - If the result of the `ldapsearch` command is successful, there should be no problem during data migration and you can skip the rest of this procedure.
   - If the `ldapsearch` results in a message about exceeding the size limit, complete step 2.

2. Increment the value of the directory server's size limit parameter using information available in your vendor documentation, then repeat step 1.

   For example, try setting the value to 10000 (or a promising value for your environment) then complete another ldapsearch to see if this is successful. If this also exceeds the size limit, you must repeat step 2 until the ldapsearch command executes successfully.

3. After a successful `ldapsearch`, retain the successful search size limit value until you finish upgrading.

4. After a successful upgrade, you can set the size limit parameter to its original value.

Active Directory Considerations and Preparation

If you have Active Directory as a backend directory server, be sure to review the following information and perform any tasks needed for your environment before upgrading:

- Changing the MaxPageSize Parameter
- Confirming You Are Using a Schema Master

Changing the MaxPageSize Parameter

Before starting the upgrade Oracle recommends that you verify that the value of the search size limit parameter (`MaxPageSize`) is greater than the number of entries in your configuration tree. The `MaxPageSize` parameter specifies the maximum number of entries to return in a search operation. The default value for the `MaxPageSize` parameter is 1000. If the number of entries in your configuration tree is greater than the value set for the `MaxPageSize` parameter, the Oracle Access Manager data migration process might fail.

> **Note:** The example shown here is based on Active Directory running on Microsoft Windows 2000 Advanced Server. These details might vary for other versions. See your Active Directory documentation for specific details for your version.

To view the existing value of the MaxPageSize parameter and set a new value

1. Use the `ntdsutil` tool at the command prompt to display the current value of the `MaxPageSize` parameter, as shown in the following transcript. For example:

```
C:\Documents and Settings\Administrator ntdsutil
ntdsutil: ldap policies
ldap policy: connections
server connections: connect to server <machine_name>
Binding to <machine_name> ...
Connected to <machine_name> using credentials of locally logged on user
server connections: q
ldap policy: show values
```

2. Use the `ntdsutil` tool at the command prompt to set a new `MaxPageSize` value and view the changes, as shown in the following transcript. For example:

```
C:\Documents and Settings\Administrator ntdsutil
ntdsutil: ldap policies
ldap policy: connections
server connections: connect to server <machine_name>
Binding to <machine_name> ...
Connected to <machine_name> using credentials of locally logged on user
server connections: q
ldap policy: set MaxPageSize to <new_value>
ldap policy: commit changes
ldap policy: show values
```

To choose an appropriate value for this parameter, see "Changing the Directory Server Search Size Limit Parameter" on page 5-10.

Confirming You Are Using a Schema Master

Active Directory, schema modifications can only be completed against a schema master. You can skip this discussion if your earlier environment is configured to use an Active Directory schema master.

If you are not using a schema master, the following procedure can be completed on Windows 2000 platforms. Otherwise, see the Microsoft knowledge base article 285172 "To Enable Schema Updates by Means of the Registry" (previously published under Q285172P) on the Microsoft support Web site.

To enable the schema to be modified

1. Open your Active Directory schema plug-in, which is often located in Administrative Tools.
2. Right-click the top node for the schema and select Operations Master to display the Change Schema Master dialog.
3. Check the box beside "The Schema may be modified on this Domain Controller", then click OK.

Active Directory Application Mode Considerations and Preparation

Before starting the upgrade you must verify that the value of the size limit parameter is greater than the number of entries in your configuration tree. For details, see "Changing the Directory Server Search Size Limit Parameter" on page 5-10.

With ADAM as the directory server, there is no support for obsolete schema cleanup during the upgrade. With ADAM, you must update the schema manually during the upgrade process. However, after manually upgrading the schema, you can accept the automatic data upgrade and complete the component upgrade process.

Support for ADAM started with release 6.5. When upgrading ADAM, Oracle Access Manager provides the following schema files for manual upgrades to configuration and user directories:

IdentityServer_install_dir\identity\oblix\tools\migration_tools\
osd_650_to_700_schema_adam.ldif
user_650_to_700_schema_adam.ldif
policy_650_to_700_schema_adam *(only when user and configuration data are stored separately)*

osd_700_to_1014_schema_adam.ldif
user_700_to_1014_schema_adam.ldif
policy_700_to_1014_schema_adam (*only when user and configuration data are stored separately)*

Each file contains only the specific schema modifications between the named releases. This means:

- If you are upgrading from release 6.5, you must upload the 650_to_700 files during the incremental upgrade from release 6.5 to 7.0. In this case, you must also upload the 700_to_1014 files during the incremental upgrade from release 7.0 to 10*g* (10.1.4.0.1).
- If you are upgrading directly from release 7.0 to 10*g* (10.1.4.0.1), you need only upload the 700_to_1014 files during the incremental upgrade from 7.0.

Note: There are no specific files needed during the upgrade when you are using statically-linked auxiliary classes.

A sample ldifde command to manually update the ADAM schema is shown here and described in Table 5–1. For more information, see your Microsoft documentation:

```
ldifde -k -b
"<user_distinguished_name>""<domain_name>""<user_password>"
-c"<GUID>"<ADAM_instance_ID> -i -f ADAM_oblix_schema_add -s
<ADAM_server_name> -t <port>
```

Table 5–1 ldifde Command Description for ADAM

Option	Description
-k	This option ignores errors.
-b "<*user_distinguished_name*>" "<*domain_name*>" "<*user_password*>" For example: cn=administrator,o=oblix.com,c=us password	To extend the schema, the values represent: ■ *user_distinguished_name*: a Windows security principal user name ■ *domain_name*: domain name of the computer where ADAM is installed ■ *user_password*: password
-c "<GUID>" <*ADAM_instance_ID*>	In this option, "<GUID>" should be retained as is, not replaced by any value; do include the quotes. <*ADAM_instance_ID*> should be substituted by the ADAM root DSE using tools like ldp.exe. When the initial connection is made, the root DSE is shown. For example, an ADAM root DSE value might be EC31B31B-19FC-4FD4-8590-3BD57D6A3E77.

Table 5–1 (Cont.) Idifde Command Description for ADAM

Option	Description
-i -f <filename>	The -i option specifies the import option. The -f option identifies a file name; the value identifies the file you are importing. For example: ADAM_oblix_schema_add.ldif ADAMAuxSchema.ldif
-s <*ADAM_server_name*>	This value is the name of the computer where ADAM is installed.
-t <*port* >	This value is the port number on which this instance listens for the schema update (an open port is needed).

IBM Directory Server Considerations and Preparation

Before starting the upgrade you must verify that the value of the size limit parameter is greater than the number of entries in your configuration tree. For details, see "Changing the Directory Server Search Size Limit Parameter" on page 5-10.

During the first Identity Server and Policy Manager upgrade, the user under whom the IBM SecureWay directory server runs must have read and write access to Oracle Access Manager schema files and to the directory containing the schema files. During the upgrade, you might be prompted to copy the schema files. The upgrade program provides instructions on where to copy them.

The next task overview is provided as a guide in the event that the IBM directory server in your earlier installation is not supported in 10*g* (10.1.4.0.1). Any references to a specific product release is provided for illustration only.

Note: See your vendor documentation for explicit information about administering your directory server. See also "Upgrade Strategies When Support is Changed or Deprecated" on page 2-13.

Task overview: Upgrading with an unsupported IBM Directory Server

1. Check the latest support information for Oracle Access Manager 10*g* (10.1.4.0.1), as follows:
   - Go to Oracle Technology Network:

     `http://www.oracle.com/technology/software/products/ias/files/idm_certification_101401.html`

   - Locate and click the link for Oracle Access Manager Certification.

     System Requirements and Supported Platforms for Oracle Access Manager 10gR3 (**xls**)
2. Before starting the Oracle Access Manager upgrade, you must upgrade your earlier IBM Directory Server (for example, v4.x) data and schema to IBM Directory Server version 5.1 using information available in your IBM documentation.
3. Before starting the upgrade to 10*g* (10.1.4.0.1), complete activities in "Changing the Directory Server Search Size Limit Parameter" on page 5-10.
4. Use 10*g* (10.1.4.0.1) installation packages to upgrade Oracle Access Manager components as described in this guide.

Oracle Internet Directory

Before starting the upgrade you must verify that the value of the `orclsizelimit` parameter is greater than the number of entries in your configuration tree. This specifies the maximum number of entries to return in a search operation. For Oracle Internet Directory the size limit parameter is `orclsizelimit`. The default value for this parameter is 1000. To choose an appropriate value for this parameter, see "Changing the Directory Server Search Size Limit Parameter" on page 5-10.

> **Note:** The example in the following procedure is based on Oracle Internet Directory version 10.1.2 running on Microsoft Windows 2000 Advanced Server. These details might vary for other versions. See your Oracle Internet Directory documentation for specific details for your version.

To view the existing value of the orclsizelimit parameter or set a new value

1. Open Oracle Directory Manager (ODM).
2. In the left navigator pane, expand the Oracle Internet Directory Servers.
3. Select the Directory Server instance to which you have configured your earlier release of Oracle Access Manager.
4. In this instance page (right pane), select the System Operational Attributes tab.

   The "Query Entry Return Limit" parameter on this page refers to the orclsizelimit.

   The value in the text box against this Query Entry Return Limit parameter, shows the existing value for the orclsizelimit parameter.
5. Modify the value in the text box against the Query Entry Return Limit parameter, then apply the changes.

Siemens DirX Directory Deprecation

Oracle Access Manager 10*g* (10.1.4.0.1) does not support Siemens DirX directory. There is no migration path with this directory.

Sun Directory Server Considerations and Preparation

Before starting the upgrade you must verify that the currently directory server release is supported. If not, see "Preparing a Directory Server When Its Release is Deprecated" on page 5-9. Also, Oracle recommends that you ensure that the value of the size limit parameter is greater than the number of entries in your configuration tree. On a Sun (formerly iPlanet) directory server is `nsslapd-sizelimit` (Size Limit). This specifies the maximum number of entries to return in a search operation. The default value for this parameter is 2000. To choose an appropriate value for this parameter, see "Changing the Directory Server Search Size Limit Parameter" on page 5-10.

> **Note:** The example is based on iPlanet 5.1 running on Microsoft Windows 2000 Professional. These details might vary for other versions. See your Sun directory documentation for specific details for your version.

To view the existing value of the nsslapd-sizelimit parameter and set a new value

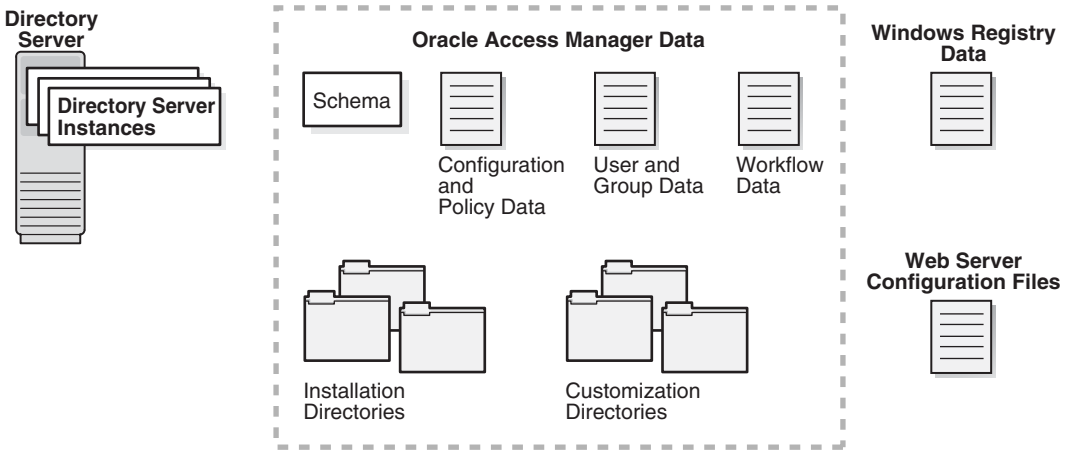
1. Open the iPlanet console.

2. In Servers and Applications tab, expand the tree in the left pane to show a list of all existing Directory server instances.
3. Select the Directory Server instance to which you have configured COREid.
4. Open the management window of the selected instance.
5. In the opened window, select the Configuration tab.
6. Select the Performance tab to display the existing value of this size limit parameter.
7. Modify the value in the size limit parameter text box, then save the changes.

Backing Up Existing Oracle Access Manager Data

As discussed in Chapter 2, Oracle recommends that you back up existing data before performing certain upgrade tasks. Figure 5–2 shows the types of data to back up before starting an upgrade, regardless of the method you are using.

Figure 5–2 Data to Back Up



For more information about the data that Oracle recommends you back up, see the following topics in this chapter:

- Backing up the Earlier Oracle Access Manager Schema
- Backing up Oracle Access Manager Configuration and Policy Data
- Backing Up User and Group Data
- Backing Up Workflow Data
- Archiving Processed Workflow Instances
- Backing Up Existing Directory Instances
- Chapter 8 includes details about:
  - Backing Up the Existing Component Installation Directory
  - Backing Up the Existing Web Server Configuration File
  - Backing Up Windows Registry Data

Backing up the Earlier Oracle Access Manager Schema

The upgraded schema offers backward compatibility with the earlier schema, as far back as release 6.1.1. However, you cannot roll back a schema upgrade using any Oracle-provided tools. Some directory server vendors provide tools that you can use to back up the schema. If you back up the earlier schema using external tools before upgrading, you should be able to reinstate the backup copy if you decide to roll back to the original release.

Before starting the upgrade, Oracle recommends that you use tools provided by your directory vendor to backup the schema for your existing directory server instances. For example, Sun ONE directory server stores the schema in the slapd-*instance-name*config/schema/99user.ldif file.

For more information, see your directory vendor documentation. Not all directory server vendors provide tools to back up the schema.

Backing up Oracle Access Manager Configuration and Policy Data

Before starting the upgrade Oracle recommends that you manually export the Oracle Access Manager configuration and policy data to an ldif file. You can use this file to restore the setup in the unfortunate event of an upgrade failure.

Most vendors provide a directory server console application that you can use to export the directory data into an ldif file. Alternatively you can execute an ldapsearch for the configuration- and policy base at the sub-tree level. In this case, you can use a filter such as (objectclass=*) and re-direct the output of the search to an ldif file.

> **Note:** With Oracle Internet Directory, Oracle recommends that you set the LDAP_PASSWORD_PROMPTONLY variable to TRUE or 1 to disable the less secure -w and -P *password* options whenever possible, and use the -q (or -Q) options, to prompt you for the user password (or wallet password).

To back up configuration and policy data

1. Perform the `Ldapsearch` command.
2. In the command, specify the configuration/policy base to back up user and group data.

```
Ldapsearch -h hostname -p port> D bind_dn -q password -s sub
-b config/policy base dn (objectclass=*) > backup_cp_data.ldif
```

Backing Up User and Group Data

The steps to backup the user and group data are similar to those in "Backing up Oracle Access Manager Configuration and Policy Data" on page 5-17. However, in this case, you specify the searchbase.

For components installed on Windows platform, Oracle recommends that you backup the Windows registry entries for the component in addition to the user and group data.

> **Note:** With Oracle Internet Directory, Oracle recommends that you set the LDAP_PASSWORD_PROMPTONLY variable to TRUE or 1 to disable the less secure -w and -P *password* options whenever possible, and use the -q (or -Q) options, to prompt you for the user password (or wallet password).

To back up user and group data

1. Perform the `Ldapsearch` command.
2. In the command, specify the searchbase to back up user and group data.

```
Ldapsearch -h hostname -p port> D bind_dn -q password -s sub
-b searchbase dn (objectclass=*) > backup_ug_data.ldif
```

3. **Windows**: Complete activities in "Backing Up Windows Registry Data" on page 8-9.

Backing Up Workflow Data

Unless you chose to store workflows separately by configuring appropriate DB Profiles, workflow data is automatically backed up as part of the configuration data. When workflows are stored separately, you must perform similar steps to back up workflow data as you did when "Backing up Oracle Access Manager Configuration and Policy Data" on page 5-17.

The only difference when backing up workflow data separately, is that you specify the namespace of the workflow database instance profile in the `Ldapsearch` command, as shown in the procedure here. For example, if the database instance profile is named `workflow_namespace`, that is what you include in the command.

For components installed on Windows platform, Oracle recommends that you backup the Windows registry entries for the component in addition to the user and group data.

> **Note:** With Oracle Internet Directory, Oracle recommends that you set the LDAP_PASSWORD_PROMPTONLY variable to TRUE or 1 to disable the less secure -w and -P *password* options whenever possible, and use the -q (or -Q) options, to prompt you for the user password (or wallet password).

To back up workflow data

1. Perform the `Ldapsearch` command.
2. In the command, specify the workflow to back up user and group data.

```
Ldapsearch -h hostname -p port> D bind_dn -q password -s sub
-b workflow_namespace (objectclass=*) > backup_wf_data.ldif
```

3. **Windows**: Complete activities in "Backing Up Windows Registry Data" on page 8-9.

To speed up searching for tickets, you also need to archive processed workflow instances, as described next.

Archiving Processed Workflow Instances

Workflow instances, including those that have been completed and processed by the workflow participants, are stored in the directory server. During the upgrade, workflow data is not disturbed or deleted.

Before starting the upgrade, Oracle recommends that you archive all processed workflow instances. Archived instances are stored in an ldif file in *IdentityServer_install_dir*/identity/oblix/data/common/wfinstance.ldif. This provides a record of the processed workflows and can help speed up the search for workflow tickets.

To archive your processed workflow instances to speed up searching for tickets

1. Navigate to the COREid System Console, as usual.
2. From the User Manager, Group Manager, or Organization Manager application, select Requests.
3. On the Monitor Requests page, fill in the search criteria and search for tickets.
4. If any results are returned, select these and click the Archive button.

   A file is created named wfinstance.ldif and stored in the *IdentityServer_install_dir*/identity/oblix/data/common directory.

Backing Up Existing Directory Instances

To help with a recovery strategy, Oracle recommends that you back up any directory instances containing Oracle Access Manager data before you start the upgrade.

Use instructions from your directory vendor to accomplish this task. Describing third-party tools is outside the scope of this manual.

Halting On-the-fly User Data Migration at First Login Temporarily

User data is not migrated during the upgrade, but is migrated during the first login following the upgrade. You perform the activities in this discussion when performing an in-place upgrade only, after backing up data and before preparing host computers.

> **Note:** If you are using the zero downtime method, this migration is halted automatically until you start it. For more information, see "User-Data Migration and Multiple Values in Challenge and Response Attributes for LPM" on page 15-12.

As discussed in Chapter 4, when you upgrade from an earlier release to Oracle Access Manager 10*g* (10.1.4.0.1), the configuration data stored in the `oblix` tree of the directory server is migrated automatically and the value of the obVer attribute is changed to 10.1.4.0. However, user data (multiple values in challenge and response attributes for Lost Password Management only) is not migrated until the first login following the upgrade. Instead, the obVer attribute value remains less than 10.1.4.0 in user data (in the OblixOrgPerson class).

Unless you temporarily halt the immediate (also known as on-the-fly) user data migration as described in the task overview, the first time a user logs in after the upgrade to 10*g* (10.1.4.0.1) that user entry is immediately migrated. Any existing challenge and response values for that user are encoded (@1# is appended to the end) and the obVer attribute value for that user is changed to 10.1.4.0 in the OblixOrgPerson class. However the rollback process does not revert these changes. If you rollback to

the previous release, the obVer value in the user entry in the OblixOrgPerson class remains 10.1.4.0 and challenge and response values remain encoded format.

Task overview: Halting, then restarting user data migration at first login

1. Right now, before starting the upgrade, perform activities in the procedure "Halting On-the-fly Migration of User Data: Phase 1" on page 5-20; then finish all other activities in this chapter.
2. Perform activities in Chapter 6 in sequence to upgrade the Identity System schema and data, then perform steps the procedure "Halting On-the-fly Migration of User Data: Phase 2" on page 6-23.

   Note: Phase 2 is a one time activity that must be performed after upgrading the Identity System schema and data and before any administrator or user login, even when you have a joint Identity and Access System deployment.

3. Perform remaining in-place upgrade tasks, as described in Chapters 7 through 13.
4. Validate your deployment as described in Chapter 14 to ensure that it is operating as expected and that it does not need to be rolled back to the earlier release.
5. After validating that your upgraded deployment does not need to be rolled back to the earlier release, perform steps in "Restarting On-the-fly User Data Migration for In-place Upgrades" on page 14-6.

Halting On-the-fly Migration of User Data: Phase 1

Phase 1 includes setting the obVer attribute for the Master Administrator entry and then upgrading the schema and data to 10*g* (10.1.4.0.1). Phase 2 occurs after the schema and data upgrade. In Phase 2, you remove the Challenge and Response semantic types at both the tab level and the object class level.

Before performing the following Phase 1 procedure, there are several conditions to take into account:

- If OblixOrgPerson does not exist in the objectclass list of the user entry, then you must first add it as described in step 1. Otherwise, start with step 2.
- After performing the last step, the lost password management feature will not work.

  After temporarily halting on-the-fly migration of user data at first login, Oracle recommends that you stop processing or performing the following actions to ensure that user data will maintain backward compatibility:

  - Stop processing workflow tickets: for example, create user, change attributes, and the like.
  - Stop modifying Challenge and Response attributes from the Modify Profile page.

  Note: With Oracle Internet Directory, Oracle recommends that you set the LDAP_PASSWORD_PROMPTONLY variable to TRUE or 1 to disable the less secure -w and -P *password* options whenever possible, and use the -q (or -Q) options, to prompt you for the user password (or wallet password).

To temporarily stop the immediate migration of user data (Phase 1)

1. Add OblixOrgPerson to the Master Administrator's user entry, if needed:

```
ldapmodify.exe  -h <Host> \
-p <Port>
-D <Bind DN>
-q <Bind Password> \
-f <ldif file containing attribute to be added>
```

   The format of LDIF file to be created when adding OblixOrgPerson to the objectclass list is as follows. This example is for the Netscape Directory Server:

```
dn: <Administrator DN>
changetype: modify
add: objectclass
objectclass: OblixOrgPerson
```

2. Set the obVer attribute for the Master Administrator entry in the LDAP directory server to 7.0.4 using the following command:

```
ldapmodify.exe  -h <Host> \
-p <Port>
-D <Bind DN>
-q <Bind Password> \
-f <ldif file containing attribute to be modified>
```

   The format of LDIF file to be created is as follows. This example is for the Netscape Directory Server:

```
dn: <Administrator DN>
changetype: modify
replace: obver
obver: 7.0.4
```

3. Finish remaining preparation tasks as described in this chapter.
4. Perform a schema and data upgrade for your deployment as described in Chapter 6, which includes instructions to perform Phase 2 of this procedure in "Halting On-the-fly Migration of User Data: Phase 2" on page 6-23.

For details about restarting user data migration after validating the success of the upgrade for the entire deployment, see "Restarting On-the-fly User Data Migration for In-place Upgrades" on page 14-6.

Preparing Host Computers for Master Components

Your next activity is to prepare host computers for the master components you will add and use when upgrading the schema and data. The master components include an earlier Identity Server, WebPass (and Policy Manager (formerly the Access Manager component) if you have the Access System installed).

For details about preparing host computers *before* installing master components, see the following topics in Chapter 8:

- Preparing Host Computers
- Logging in with Appropriate Administrative Rights

After preparing host computers for the master components, proceed to "Adding An Earlier Identity System to Use as a Master for the In-place Method" on page 5-22.

Joint Identity and Access System: If you also have the Access System installed, you perform tasks in "Adding an Earlier Access Manager to Use as a Master for the In-Place Method" on page 5-28 after adding the master Identity System. If you do not have the Access System installed, skip Access System-related activities.

Whether your installation includes the Access System or not, you will upgrade the Identity System schema and data after completing activities in this chapter.

Adding An Earlier Identity System to Use as a Master for the In-place Method

You complete activities here to add one (earlier) Identity Server instance (formerly known as the COREid Server) and WebPass to your existing installation. This additional Identity System will be used as a secondary server for your original master Read/Write directory server instances. Upgrading the schema and data against these master components helps ensure that the schema and data upgrade is successful before you upgrade the rest of your earlier installation.

Note: If you are upgrading while switching from a Solaris platform to Linux, you can skip this step. The Identity System instances that you install on a Linux host will serve as master components. For more information about upgrading while switching from a Solaris platform to Linux, see Appendix B.

The master instance that you add here can be installed on any computer you choose that meets 10*g* (10.1.4.0.1) requirements. However, the master instance that you add need *not* be configured for things like auditing and access reporting (even if this is configured for other Identity Servers in your environment). The master instance that you add here has a single purpose and that is to be used during the schema and data upgrade. After upgrading your entire Identity System environment, you can retain this additional instance or remove it without impacting the rest of the upgraded environment.

Note: When your earlier installation includes languages other the English, this additional instance should be installed with the same Language Packs.

Setting up master Identity System for the schema and data upgrade is described next.

Task overview: Adding a master Identity System for the schema and data upgrade includes

1. Defining Additional Instances in the Existing System Console
2. Installing the Master COREid Server Instance
3. Installing the Master WebPass
4. Setting Up the Master Identity System for the In-place Schema and Data Upgrade

Before you begin, confirm that you have completed tasks in Table 5–2. Failure to complete prerequisites might adversely affect your upgrade.

Table 5–2 Master Identity Server Installation Prerequisites

Master Identity Server Installation Prerequisites
Perform all preparation activities in this chapter. ▪ If you have a multi-language environment, move 10*g* (10.1.4.0.1) Identity System Language Packs for currently installed languages into the same directory as the earlier COREid Server installer that you will use here. ▪ Check host compatibility in your earlier version of the Oblix NetPoint or Oracle COREid *Installation Guide* and complete any installation prerequisites needed for this COREid Server instance.
Review information in the introductory chapters in Part I.

Defining Additional Instances in the Existing System Console

The Identity Server instance that you will add requires a WebPass. Before you can install either, however, you must define details for the additional instances in the existing COREid System Console. For additional details, see your earlier Oblix NetPoint or Oracle COREid Administration Guide (Volume 1 if you have a two volume set).

Note: For clarity, this discussion uses earlier terminology that you will see onscreen.

To add information for additional components in the System Console

1. Add information about the new WebPass instance in the COREid System Console. For example:
   - Navigate to the existing COREid System Console, as usual. For example:

     `http://hostname:port/identity/oblix/`

     where *hostname* refers to computer that hosts the existing WebPass Web server; *port* refers to the HTTP port number of the existing WebPass Web server instance; and \identity\oblix connects to the COREid System Console.
   - In the COREid System Console, select System Configuration, then select Configure WebPass and click the Add button.
   - On the Add a new WebPass page, fill in the following information:
     - **Name**: A unique identifier for this WebPass instance (it might include a release number and port number). For example: WebPass_611_6047.
     - **Hostname**: The name full DNS name of the computer hosting this WebPass instance. You can install this instance anywhere; there are no caveats.
     - **Port**: The port number on which this WebPass instance will listen.
     - **Maximum Connections**: The maximum number of connections this WebPass opens to COREid Servers. Set this value to 1 for the COREid Server you will add.
     - **Transport Security**: Select the security method used for communications between the Identity Server and its Web clients.

Note: Transport security between all Identity System components (Identity Servers and WebPass instances) must match: either all open, all Simple mode, or all Cert.

- **Maximum Session Time (Hours)**: The maximum period of time that a connection between the WebPass and Identity Server can remain open. When the time expires, the connection closes and a new one is opened.
- **Failover Threshold**: The minimum number of connections to Primary COREid Servers.
- **CoreID Server Timeout Threshold**: The period (in seconds) that the WebPass attempts to contact a non-responsive COREid Server before WebPass considers the server unreachable and attempts to contact another. If a value is not specified, it indicates that there is no timeout.
- **Sleep For (seconds)**: The interval at which WebPass checks its connection with the COREid Server.
- Save the information.

2. Add details for the additional COREid Server instance in the COREid System Console. For example:
   - In the COREid System Console, select System Configuration, then select Configure COREid Servers and click the Add button.
   - On the Add a new COREid Server page, fill in the following information:
     - **Name**: A unique identifier for this COREid Server instance (it can include a release number and port number). For example: *`COREidServer_611_6047`*.
     - **Hostname**: The name full DNS name of the computer hosting this COREid Server instance. You can install this instance anywhere; there are no caveats.
     - **Port**: The port number on which this instance will communicate with its Web clients (WebPass).
     - **Transport Security**: Select the security method used for communications between the COREid Server and WebPass.

     Note: Transport security between all Identity System components (Identity Servers and WebPass instances) must match: either all open, all Simple mode, or all Cert.

     - **Maximum Session Time (Hours)**: Type the maximum period of time that a connection between the WebPass and Identity Server can remain open. When the time expires, the connection closes and a new one is opened.
     - **Number of Threads**: Type the maximum for number of concurrent requests that the Identity Server is allowed.
     - Save the information.
3. In the System Console, associate this COREid Server with the WebPass and specify the priority as Secondary. For example:

- From the COREid System Console, select System Configuration, then click Configure WebPass.
- In the List all WebPasses page, click the link for the WebPass you just defined.
- In the Details of WebPass page, click List COREid Servers.
- In the page listing Primary and Secondary servers associated with this WebPass, click Add.
- From the Select Server list (on the Add a new COREid Server to the WebPass page), click select the server you added a moment ago.
- Indicate that this is a Secondary server.
- In the Number of connections box, specify the maximum number of connections the WebPass instance opens to this COREid Server (the minimum is 1).
- Click Add to associate this COREid Server with the WebPass.

4. Proceed to "Installing the Master COREid Server Instance", next.

Installing the Master COREid Server Instance

After defining the new instance in the System Console, you must perform this procedure using the earlier COREid Server installer.

During this installation, you must install this instance on the host you specified in the System Console. Also, you must indicate that this is *not* the first COREid Server for this directory server.

Caution: During this component installation, do *not* update the schema or data. For clarity, this discussion uses earlier terminology that you will see on-screen.

This procedure provides abbreviated steps to complete this task. For more information, see your earlier Oblix NetPoint or Oracle COREid *Installation Guide*.

To install an earlier identity Server for the schema and data upgrade

1. Move earlier installed Identity System Language Packs into the same directory as the earlier COREid Server installer.
2. Log in as a user with administrator privileges to modify product configuration files, then launch the earlier COREid Server installer, as usual. For example:
   - **GUI Method**, Windows:

     NetPoint6_1_1_Win32_COREid_Server.exe
   - **Console Method**, Solaris:

     ./ NetPoint6_1_1_sparc-s2_COREid_Server

     The Welcome screen appears.
3. Specify a new installation directory for this component.
4. **Languages**: Be sure to include and specify all languages that are currently installed in your existing environment.
5. Choose the same transport security mode for this COREid Server that was specified in the System Console.

6. Specify configuration parameters for this instance based on the information you added to the COREid System Console. For example:
   - **Name**: Enter the unique name for this Identity Server. For example: `COREidServer_611_6047`.
   - **Hostname**: Enter the DNS host nameof the computer where you are installing this instance, as specified in the System Console.
   - **Port**: Enter the port number on which this COREid Server communicates with its clients, as specified in the System Console.
7. Specify directory server details for this instance (to ensure that it is installed as a secondary server for your original master Read/Write directory server instances). For example:
   - Select No when asked if this is the first COREid Server to be installed for the directory server.
   - Check the box beside the appropriate communication option (whether SSL-enabled or not) between this COREid Server and the directory server.
   - Complete the transport security dialog according to the mode you chose earlier.
   - Select the option that describes your environment. For example, Configuration data will be in the user data directory or whatever is appropriate for your environment.
   - Select No when asked if you want to update the schema.

   Note: Do not update the schema or data during this installation.
8. Finish the installation as usual.
9. Start the COREid Server service to confirm that the instance is installed and operating properly.
10. Proceed to "Installing the Master WebPass", next.

Installing the Master WebPass

After installing the master COREid Server instance, you now need to install a master WebPass as you defined it in the System Console.

To install the master WebPass

1. Move earlier installed Identity System Language Packs into the same directory as the earlier WebPass installer, if applicable.
2. Log in as a user with administrator privileges to modify the product and Web Server configuration files, then launch the earlier WebPass installer.
   - **GUI Method, Windows**:

     NetPoint6_1_1_Win32_*API*_WebPass
   - **Console Method, Solaris**:

     ./ NetPoint6_1_1_sparc-s2_*API*_WebPass

     The Welcome screen appears.

3. Dismiss the Welcome screen and respond to the administrator question based upon your platform.
4. Choose the installation directory. For example:

   \OracleAccessManager\Webcomponent
5. **Languages**: If asked, choose a Default Locale to use for the Administrator language and any other Locales to install, then continue.
6. Choose the same transport security mode for the WebPass as you did for the Identity Server.
7. Enter unique information for this WebPass:
   - **Name**: A unique name for this WebPass: *WebPass_611_ABC*
   - **Hostname**: DNS host name of the COREid Server with which this WebPass should communicate: *Identity_DNS_hostname*
   - **Port**: Port number of the COREid Server with which this WebPass should communicate: *Identity_port*
8. Complete the transport security details based on your earlier specification.
9. Automatically update your Web server configuration file as indicated.
10. Confirm Web server permissions, as needed.
11. Establish communication with the Identity Server as follows:
    - Stop the WebPass Web server instance.
    - Stop then restart Identity Server service.
    - Start the WebPass Web server instance.
12. Proceed to "Setting Up the Master Identity System for the In-place Schema and Data Upgrade".

Setting Up the Master Identity System for the In-place Schema and Data Upgrade

After installing the additional COREid Server and WebPass, you must now set these up against your original master Read/Write directory server instances.

To set up the master Identity System for the schema and data upgrade

1. Stop all COREid Server services, if you haven't already.
2. Start the new COREid Server service only.
3. Navigate to the COREid System Console, as usual. For example:
4. Click the Setup button.

   Note: You might be prompted to upload the schema to your LDAP server. However, this is not required because this step has already been done.
5. Specify directory information as follows:
   - Specify your existing user data directory server type. For example: Sun.
   - Specify the existing user data directory server details based on your installation. For example:

  - **Host**—The user data directory server DNS hostname
  - **Port Number**—The user data directory server port number
  - **Root DN**—The user data directory server bind DN
  - **Root Password**—Password for the bind DN
  - **Directory Server Security Mode**—Unsecured or SSL-enabled between the user data directory server and Identity Server
  - **Is Configuration data stored in this directory also**?—Yes (default) or No

  Note: If user data is stored separately from configuration data, a similar page appears where you can enter information for the configuration data directory. However, that sequence is not repeated here.

- On the new page that asks you to specify the location of user and configuration data, enter the configuration bind DN and user data searchbase to be used. For example:
  - Configuration DN—`o=my-company,c=us`
  - Searchbase—`o=my-company,c=us`

  Note: When setting up the instance as a secondary COREid Server, you are *not* prompted for Person or Group objectclass details. Instead, after specifying the location of user data and configuration data, the COREid Setup Complete page appears providing a Done button.

6. On the COREid Setup Complete page, click Done.
7. Create a summary of details for the master Identity Server and WebPass, as described in Appendix F.
8. Proceed as follows for your environment: If you have an existing Access System in your environment, proceed with
   - **Existing Access System**: Complete activities in "Adding an Earlier Access Manager to Use as a Master for the In-Place Method".
   - **Identity System Only**: Proceed to Chapter 6 for details about Identity System schema and data upgrades for the in-place upgrade method.

Adding an Earlier Access Manager to Use as a Master for the In-Place Method

This task must be completed only when your existing installation includes the Access System. You to create a master Access Manager (now known as the Policy Manager) as secondary server for your original master Read/Write directory server instances. This new instance will be used later during the Access System schema and data upgrade.

Note: If you are upgrading while switching from a Solaris platform to Linux, you can skip this step. The 10*g* (10.1.4.0.1) Access Manager instance that you install on a Linux host will serve the same purpose. For more information about upgrading while switching from a Solaris platform to Linux, see Appendix B.

You will use this master to upgrade the existing Access System schema and data. You do not need to associate and install another Access Server nor a WebGate.

When your original Access Manager component is configured to use SSL-enabled communication with the directory server, the master that you add must also be configured to use SSL-enabled communication with the directory.

In addition to the procedures in this chapter, you can refer to your earlier version of the Oblix NetPoint or Oracle COREid *Access Administration Guide* (Volume 2 if you have a two volume set).

Task overview: Adding an earlier Access Manager as a master includes

1. Installing the Master Access Manager for the In-place Schema and Data Upgrade
2. Setting Up the Master Access Manager for the In-place Method

Note: If your earlier installation does not include the Access System, you can skip this discussion.

Before you begin, confirm that you have completed tasks in Table 5–3. Failure to complete prerequisites might adversely affect your upgrade.

Table 5–3 Master Access Manager Installation Prerequisites

Master Access Manager Installation Prerequisites
Perform all preparation activities in this chapter, including "Adding An Earlier Identity System to Use as a Master for the In-place Method" on page 5-22, and: ▪ If you have a multi-language environment, move 10*g* (10.1.4.0.1) Identity System Language Packs for currently installed languages into the same directory as the earlier WebPass installer that you will use here. ▪ Check host compatibility in your earlier version of the Oblix NetPoint or Oracle COREid *Installation Guide* and complete any installation prerequisites needed for this COREid Server instance.
Review introductory information within chapters in Part I.

Installing the Master Access Manager for the In-place Schema and Data Upgrade

After installing and setting up the master Identity System (formerly known as the COREid System), you can install an earlier Access Manager (now known as the Policy Manager) instance to use as a master for the policy data upgrade.

Again, the steps provided here are abbreviated. For more information, see your earlier Oblix NetPoint or Oracle COREid *Installation Guide*.

Note: Do *not* update the schema and data during this installation.

To install an earlier Access Manager for the schema and data upgrade

1. Move earlier installed Access System Language Packs into the same directory as the earlier Access Manager installer, if applicable.
2. Log in as a user with administrator privileges to modify product and Web server configuration files, then launch the earlier Access Manager installer.
   - **GUI Method, Windows**:

     NetPoint6_1_1_Win32_*API*__Access_Manager.exe
   - **Console Method, Solaris:**

     ./ NetPoint6_1_1_sparc-s2_*API*_Access_Manager
3. Dismiss the Welcome screen, and respond to the question about administrator rights based on your platform.
4. Choose the same installation directory as the WebPass. For example:

   \OracleAccessManager\Webcomponent
5. **Languages**: If asked about languages, choose a Default Locale to use for the Administrator language and any other Locales (languages) to install, then click Next.
6. Respond when asked where policy data is stored and specify directory server details for this instance. For example:
   - Select your directory server type.
   - Respond to the question about where policy data is stored.
   - Select No when asked if you want to update the schema.

     Note: Do not update the schema or data during this installation.
   - On a Solaris system, when policy data is stored with other Oracle Access Manager (formerly known as NetPoint or COREid) data you are asked about the communication method for the existing directory server.
   - On a Windows system, when policy data is stored with other Oracle Access Manager data you are asked about communication with the directory server.
7. Specify the transport security mode this Policy Manager will use to communicate with the rest of the Access System.

   Note: Transport security between all Access System components must match: either all open, all Simple mode, or all Cert. When your original Access Manager component is configured to use SSL-enabled communication with the directory server you must choose SSL for this master component.
8. Automatically update your Web server configuration file for this instance and specify the path to your Web server configuration file (then apply changes if you are using a Sun Web server).
9. Stop the Policy Manager Web server instance, stop and restart the Identity Server service, then start the Policy Manager Web server instance.

10. Finish the installation as usual, verify any Web server permissions, then proceed to "Setting Up the Master Access Manager for the In-place Method".

Setting Up the Master Access Manager for the In-place Method

The earlier Access Manager you just added must be set up to communicate with your original master Read/Write directory server instances. The following procedures guide you as you make the connections that are necessary for this communication.

During setup, specifications are saved whenever you click the Next button. If you leave setup and restart it later, you are returned to the same place.

To start setting up the master Access Manager for the in-place method

1. Make sure your Web server is running.
2. Navigate to the Access System Console from your browser by specifying the URL of the WebPass instance that connects to the Policy Manager. For example:

   ```
   http://hostname:port/access/oblix
   ```

   where *hostname* refers to computer that hosts the WebPass Web server; *port* refers to the HTTP port number of the WebPass Web server instance; and \access\oblix connects to the Access System Console.

   You will see the main Access System page.
3. Click the Access System Console link.

   You are informed that the application is not yet set up.
4. Click the Setup button.

   The next page asks about the directory server type.

Specifying Directory Server Details and Data Locations

You must specify details about the directory servers where user data, configuration data, and policy data are currently stored. You will be asked to provide information about the directory server for each type of data.

To specify directory server details

1. Select your user data directory server type, then click Next.
2. Specify the user data directory server details based on your installation, then click Next. For example:
   - **Machine***:* The user data directory server DNS hostname
   - **Port Number***:* The user data directory server port number
   - **Root DN***:* The user data directory server bind DN
   - **Root Password***:* The password for the bind DN

   Note: For Active Directory, a Domain Name field is included to fill in. With ADSI, a User-Principle-Name field is included where you enter the UserPrincipleName of the Root DN, such as:admin@mycompany.com.
3. Select your configuration data directory server type, then click Next.

Next you are informed that you can store your user data and configuration data either in the same directory or in separate directories and asked to choose a configuration for your deployment.

4. Choose the item that describes where you user data and configuration data are stored (together or separately), then click Next.
   - If the data is stored together, you are asked where policy data should be stored. In this case, continue with step 5.
   - If the data is stored separately, you are asked to specify details for the configuration data directory server before you continue.
5. Choose the item that describes where your policy data and configuration data are stored (together or separately), then click Next.
   - If the data is stored together, continue with step 6.
   - If the data is stored separately, you are asked to specify details for the policy data directory server before you continue.

   The Setup Help button appears on the next page, which you can select to obtain additional information during the setup process. You are now asked to specify the location of the configuration DN, searchbase, and policy base.

   Note: The configuration DN, searchbase, and policy base can be at the same level or at different levels of the directory tree. However, when the searchbase and the policy base are in separate directories, they must have unique DNs. That is, the searchbase *cannot* be `o=oblix,<Policy Base>` or `ou=oblix,<Policy Base>` if they are in separate directories. Similarly, the policy base and the configuration DN cannot be same if they are in separate directories.

6. Specify the appropriate information for your installation, then click Next. For example:
   - **Searchbase**: *o=my-company,c=us*

     This m*ust* be the same searchbase you specified during Identity System configuration.
   - **Configuration DN**: *o=my-company,c=us*

     This m*ust* be the same configuration DN you specified during Identity System configuration.
   - **Policy Base**: *o=my-company,c=us*

     This node resides within the policy directory server. If this node does not already exist, create it manually.

   You are now asked to specify the Person object class, which must match the one you specified during Identity System setup. For more information, see your preparation summaries and the *Oracle Access Manager Installation Guide*.
7. Enter the Person object class name, then click Next.

   For example:

   Person Object Class: *gensiteOrgPerson*

   At this point, you are prompted to restart your Web server.

Note: If you are using IIS, be sure to follow additional on-screen instructions. Consider using `net stop iisadmin` and `net start w3svc` to stop and start IIS. The net commands help to ensure that the Metabase does not become corrupted.

8. Stop and restart your WebPass/Access Manager Web server instances and the related COREid Server instance, then click Next to continue.

   Now you are asked to specify the root directory for Oracle Access Manager policy domains.

   Oracle recommends that you accept the default value "/" unless you want to restrict the Master Administrator's ability to define and protect policy domains. For more information, see the *Oracle Access Manager Access Administration Guide.*

9. Accept the default root directory for policy domains (or specify a new root directory), then click Next. For example:

   Policy Domain Root /

   The next page asks about configuring authentication schemes.

Configuring Authentication Schemes

During this Access Manager setup, two authentication schemes are configured automatically. In addition, you can automatically configure a Basic and a Client Certificate authentication scheme based on the configuration information from your user directory.

To configure authentication schemes

1. Define the same authentication schemes for this Access Manager as you have for others.
2. Configure the same policies to protect Oracle Access Manager-related (formerly NetPoint or COREid) URLs.

Note: In this specific case, where you plan to use this Access Manager setup to upgrade the existing Access System schema and data, you do not need to associate and install another Access Server nor a WebGate.

Finishing the Master Access Manager Setup

You finalize setting up the master Access Manager component as follows.

To finalize the master Access Manager setup

1. Complete the set up process as described onscreen.
2. Create a summary of details for the master Access Manager, as described in Appendix F.

   Proceed to "Finishing Preparation for the In-Place Schema and Data Upgrade".

Finishing Preparation for the In-Place Schema and Data Upgrade

The following tasks should be performed on the master instances that you have added to use during the schema and data upgrade. Topics that describe how to prepare components for the upgrade can be found in Chapter 8.

Note: You perform these activities even if you are upgrading while switching from a Solaris platform to Linux as described in Appendix B.

Task overview: Finishing preparation for the in-place schema and data upgrade is explained in following topics

1. Preparing Release 6.x Environments on page 8-4 (if needed)
2. Preparing Multi-Language Installations on page 8-7 (if needed)
3. Backing Up the Existing Component Installation Directory of master components is described on page 8-8
4. Backing Up the Existing Web Server Configuration File of master Web components is described on page 8-8
5. **Windows**: Backing Up Windows Registry Data of master components is described on page 8-9 (if needed)
6. Stopping Servers and Services is described on page 8-9
7. Logging in with Appropriate Administrative Rights is described on page 8-10
8. When you finish all preparation tasks, you are ready to upgrade the Identity System schema and data in place, as described in Chapter 6.

6

Upgrading Identity System Schema and Data In Place

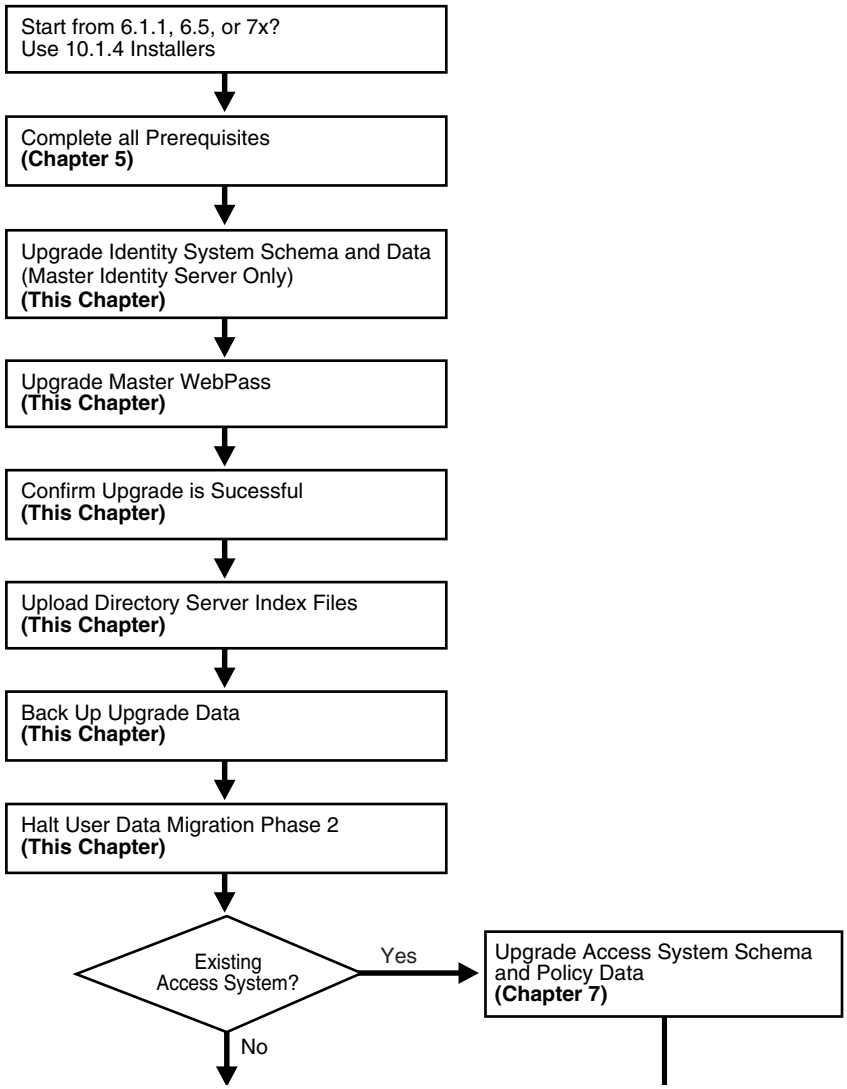
This chapter is intended to be used by directory server administrators who are responsible for updating directory schemas and data. This chapter focuses on upgrading the Oracle Access Manager (formerly known as Oblix NetPoint or Oracle COREid) Identity System schema and data using the in-place method. The following topics are provided:

Note: If you are using the zero downtime method, skip this chapter and see Part VI. If your starting Oracle Access Manager release is earlier than 6.1.1, contact Oracle Support before upgrading: `http://www.oracle.com/support/contact.html`

About Upgrading the Identity System Schema and Data

Figure 6–1 illustrates the tasks you must perform to complete the Identity System schema and data upgrade. Additional notes follow the figure. You will see references to the Identity Server (formerly known as the NetPoint or COREid Server). Refer to your own planning summaries and use the tracking summaries in Appendix F to check your progress.

Figure 6–1 Identity System Schema and Date Upgrade Task



Task overview: Upgrading the Identity System schema and data

1. Complete all prerequisite tasks outlined in "Master Identity System Schema and Data Upgrade Prerequisites" on page 6-4.
2. Upgrade the newly added master Identity Server and accept the automatic schema and data upgrade as explained in "Upgrading the Schema and Data In Place with the Master Identity Server" on page 6-3.

> **Note: Problems During the Upgrade**: Review any recovery details that are present in the procedure and look for specific troubleshooting tips in Appendix G.

3. Upgrade the master WebPass you added, as discussed in "Upgrading the Master WebPass" on page 6-13
4. Confirm the upgrade was successful, as described in "Verifying the Identity System Schema and Data Upgrade" on page 6-16.
5. **Upgrade Successful**: Perform remaining activities in the following sequence:

- Uploading Directory Server Index Files
- Backing Up Upgraded Identity Data
- Halting On-the-fly Migration of User Data: Phase 2

6. **Upgrade Not Successful**: Proceed to "Recovering From an Identity System Schema or Data Upgrade Failure" on page 6-25.

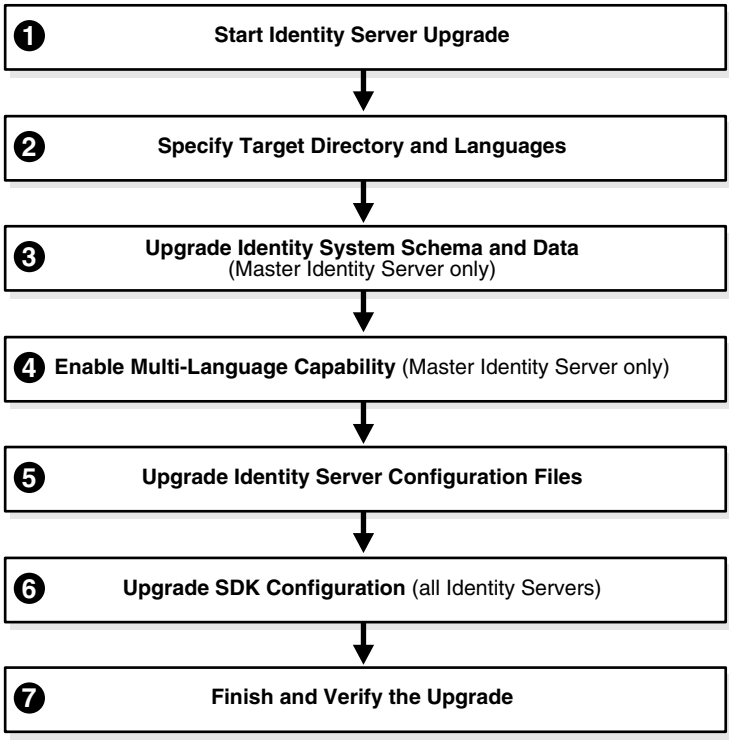
Summaries that can help you track the completion of upgrade tasks in your environment are provided in Appendix F.

Upgrading the Schema and Data In Place with the Master Identity Server

In this task, you will use the 10*g* (10.1.4.0.1) Identity Server installer to upgrade the earlier COREid Server instance that you added as a master for this purpose. After launching the 10*g* (10.1.4.0.1) Identity Server installer, the sequence of events and questions to which you must respond are directed by the program.

Figure 6–2 illustrates the program-driven process and decision points where you are asked to provide specific responses to continue. Each box in the diagram points to a similarly named discussion that guides you through the procedure. You must complete all procedures for a successful upgrade.

Figure 6–2 Identity System Schema and Data Upgrade Process



Task overview: Upgrading the schema and data with the master Identity Server includes

1. Starting the Master Identity Server Upgrade on page 6-5 describes how to launch the upgrade using your preferred method (GUI or Console).

2. Specifying the Target Directory and Languages on page 6-5 describes how you indicate the directory where the existing component is installed as well as any languages to upgrade.
3. Updating the Identity System Schema and Data on page 6-7 describes how to accept the automatic schema and data upgrade.
   - Oracle recommends that you accept the automatic schema and data upgrade for the master Identity Server.

     Note: With ADAM you must manually upgrade the schema; however, the data upgrade is automatic. For more information, see "Active Directory Application Mode Considerations and Preparation" on page 5-12.

   - Later, when upgrading remaining COREid Servers, the upgraded schema and data are detected automatically; related messages and events are suppressed.
4. Enabling Multi-Language Capability on page 6-8 describes the automated process that occurs only when you upgrade a release 6.1.1 master COREid Server.

   Note: Enabling multi-language capability is automatically skipped if your starting release is 6.5 or 7.x.

5. Upgrading Identity Server Configuration Files on page 6-9 describes how to apply changes to the component-specific configuration files.
6. Upgrading the Software Developer Kit (SDK) Configuration on page 6-12 shows how to accept or decline the SDK configuration changes for the Identity System.

   Note: If this master COREid Server does not have caching configured, you can decline the automatic SDK configuration upgrade.

7. Finishing and Verifying the Master COREid Server Upgrade on page 6-13 describes critical actions that you must take to determine the success of the upgrade.

Master Identity System Schema and Data Upgrade Prerequisites

Before you begin upgrading the schema and data with the master Identity Server, ensure that you have completed the tasks in Table 6–1. Failure to complete prerequisites might adversely affect your upgrade.

Table 6–1 Schema and Data Upgrade Prerequisites

Schema and Data Upgrade Prerequisites
Perform all required schema and data preparation steps in Chapter 5. ■ If you have a multi-language environment, see also "Preparing Multi-Language Installations" on page 8-7. ■ If you are upgrading a release 6.x installation, see also "Preparing Release 6.x Environments" on page 8-4
Familiarize yourself with information in the introductory chapters in Part I

Starting the Master Identity Server Upgrade

This manual uses the GUI method and Automatic mode to illustrate the sequence of events, sample responses, and messages you might see. In this manual, differences are noted as needed. Even in Automatic mode, you are required to respond to questions about the schema and data upgrade.

If a step does not relate to your environment, you can ignore it. For example, if you have a Windows environment, ignore steps for UNIX and vice versa:

- **Windows**: If you are logged in with administrator rights, click Next.
- **UNIX**: Specify the username and group that the component will use, then click Next.

The sample upgrade explained in the following procedure starts from a release 6.1.1 installation and includes enabling a multi-language environment.

> **Note:** If errors are reported during the process, check the named log file and look for specific troubleshooting details in Appendix G.

To start the master Identity Server upgrade

1. Ensure that all prerequisites are completed as described in "Master Identity System Schema and Data Upgrade Prerequisites".
2. Turn off the master COREid Server service and log in as a user with the appropriate administrator privileges to update the schema and Oracle Access Manager files.
3. Launch the 10*g* (10.1.4.0.1) Identity Server installer as usual. For example:

   GUI Method, Windows:
   Oracle_Access_Manager10_1_4_0_1_win32_Identity_Server.exe

   Console Method, Solaris:
   ./Oracle_Access_Manager10_1_4_0_1_sparc-s2_Identity_Server

   The Welcome screen appears.
4. Dismiss the Welcome screen by clicking Next.
5. Respond to the administrator question based upon your platform. For example:
   - **Windows**: If you are logged in with administrator rights, click Next (otherwise click Cancel, log in as a user with administrator privileges, then restart the installation).
   - **UNIX**: Specify the username and group that the Identity Server will use, then click Next. Typically, the defaults are "nobody."
6. Proceed as described in "Specifying the Target Directory and Languages" next.

Specifying the Target Directory and Languages

In this sequence, you must specify the same target directory for the upgrade as the master COREid Server you just installed. When the earlier component is detected, you are asked if you want to upgrade. When you accept the upgrade, the target directory is created and 10*g* (10.1.4.0.1) files are extracted into it.

After the target directory is created, you are asked to select the languages to upgrade. Unless you have 10*g* (10.1.4.0.1) Language Packs stored in the same directory as the 10*g* (10.1.4.0.1) Identity Server installer, only English is upgraded. After upgrading,

you can install languages as described in the *Oracle Access Manager Installation Guide*. You configure Oracle Access Manager to use installed languages as described in the *Oracle Access Manager Identity and Common Administration Guide*.

Unless indicated in the steps in the following procedure, the questions that you see and must respond to are the same regardless of the installation method (GUI versus Console) and mode (Automatic versus Confirmed) that you choose.

To specify the target directory and languages

1. Choose the same installation directory as the master COREid Server you installed and set up, then click Next.
2. Accept the upgrade by clicking Yes, then click Next.
3. If asked, ensure that a check mark appears beside English and any other languages you are upgrading, then click Next.

   You might be presented with a list of languages that will be upgraded.
4. Confirm the languages selected by clicking Next.

   The next screen tells you that the existing installation has been saved and provides the name of the renamed, time-stamped source directory that contains all files from the previous installation.
5. Record the time-stamped directory name and continue the upgrade as instructed.

   A new screen confirms the installation directory for 10*g* (10.1.4.0.1) and tells you how much space is needed for the installation.
6. Start the file extraction into the target directory.

   A status bar indicates the progress of the file extraction.
7. Press Enter to continue.

   ```
   Enter
   ```

   You are asked to specify a mode for the upgrade process: Automatic or Confirmed.

   Note: If you are upgrading using the Console method, you are asked to run the command displayed in the transcript. On UNIX, the command is printed to a file (start_migration), and a message is printed to run this file.

   ```
   -------------------------------------
   Please specify the mode for migration:
   '1' - Automatic (recommended)
    Each step is performed automatically.
    No interaction from the user is required.
   '2' - Confirmed
    Each step needs confirmation from the user.
   Enter choice ( '1' or '2' ) : 1
   -----------------------------------------
   ```

8. Enter the number that corresponds to the upgrade mode you prefer: For example:
   - **Automatic (recommended)**: Enter the number `1` to observe as the process completes automatically and respond to a few specific questions when needed.

- **Confirmed**: Enter the number 2 to receive a prompt that you must respond to before each activity.

The declarative messages in this guide are based on Automatic mode. In this case, you are informed as folders are created, files are copied, and catalogs are upgraded. For example:

```
Creating original folders ...
-----------------------------------------------------
Copying general configuration files
OK.
-----------------------------------------------------
Updating parameter catalogs ...
OK.
-----------------------------------------------------
```

When the upgrade program connects with the directory server, a transcript appears as shown next.

```
Starting migration (6.1.1 -> 6.5.0)
-----------------------------------------------------
Oracle Access Manager schema migration ...
-----------------------------------------------------
```

9. Regardless of the mode you have chosen, continue with "Updating the Identity System Schema and Data", next.

Updating the Identity System Schema and Data

Oracle recommends that you upgrade the schema and data automatically. Aside from the instructions related to specific directory servers, the upgrade transcript is similar regardless of the *from* and *to* versions or the directory server type.

Unless you are upgrading from Oracle Access Manager 7.0, some portions of the transcript will repeat during the component-specific upgrade sequence. For example if you are upgrading from release 6.1.1, a portion of the dialog will appear once during the upgrade to release 6.5, then repeat during the upgrade to release 7, then repeat again during the upgrade to release 10*g* (10.1.4.0.1).

Note: All schema modifications can be applied to only a master Read/Write directory instance (not against a read-only replica, if any). For more information, see "Strategies for Upgrading in a Replicated Environment" on page 5-4.

The following steps presume that you have chosen Automatic mode. Even so, you will be asked to respond to certain questions.

To upgrade the schema and data

1. Review the information about the schema upgrade and note the *from* and *to* versions. For example:

```
Oracle Access Manager schema migration ...

Retrieving Oracle configuration parameters ...
OK.
   The following directory server's schema will be updated:
      Host:DNShostname.domain.com
      Port: port#
```

```
   Type:ns
NOTE:  If you do not want to migrate schema at this time,
       type 'SKIP'.
Please type 'Yes" to proceed:
```

Note: You are asked if you want to migrate (upgrade) the schema. Do *not* skip this activity. With ADAM, automatic schema updates are *not* supported. See "Active Directory Application Mode Considerations and Preparation" on page 5-12.

2. At the prompt, type the full word "yes" to load the schema.

   ```
   yes
   ```

   The program updates the schema, while the transcript keeps you informed:

   ```
   Updating schema. Please wait ...
   OK.
   -------------------------------------------------
   ```

   During this step, configuration data is also retrieved, parameters are upgraded, and you are informed in the transcript.

   Note: You are asked if you want to migrate (upgrade) the data. Do *not* skip this activity.

3. At the prompt, type the full word "yes" to load the data.

   ```
   yes
   ```

   The program converts configuration data, removes older configuration data that is no longer needed, imports new configuration parameters, and so on, while the transcript keeps you informed.

4. Continue as instructed, and proceed to "Enabling Multi-Language Capability" on page 6-8.

Enabling Multi-Language Capability

If your starting release is 6.5 or later, this process does not occur and you can skip this discussion. releases 6.5 and 7.x automatically support a multi-language environment. As a result, when you start upgrading from release 6.5 or 7.x, this event is skipped automatically.

Enabling multi-language capability occurs only during the incremental upgrade of the schema and configuration data from release 6.1.1 to release 6.5. During this phase, the \lang directory structure is included in your upgraded environment and the \en-us subdirectory is provided. Other language subdirectories are included for each additional language that you are upgrading. For more information, see Appendix A.

The following sample shows the messages that keep you informed, and actions you will take, during the multiple language enabling sequence. In Automatic mode, the only input required from you is acknowledgment of the events.

To respond during the multi-language sequence

1. Read the messages on language upgrades.

   For example:

```
-----------------------------------
Oracle Access Manager language migration....
Retrieving Oracle configuration parameters...
OK.
Support for multiple languages is not enabled.
Performing language migration...
Updating language migration parameters...
OK.

The following directory server's data will be updated to
support multiple languages:

      Host:DNShostname.domain.com
      Port: port#
         Type:ns

The default language (detected from your existing installation) is: en-us

Press <Enter> to continue
```

2. Press the Enter key to continue:

```
ENTER
```

   The transcript now describes that data is converted for enabling multiple languages and that new language migration data is being imported.

3. At the prompt following successful language migration, press the Enter key to continue:

```
ENTER
```

Upgrading Identity Server Configuration Files

Each component upgrade includes a sequence of events that upgrade the component configuration files. Depending on your starting release, aspects of the sequence might repeat to bring the earlier release up to 10*g* (10.1.4.0.1) incrementally. For example, if your starting release is 6.1.1 the schema and data are upgraded with component configuration data for release 6.5. During the component sequence in the next procedure, the schema and data are upgraded again for release 7.0, then again for 10*g* (10.1.4.0.1).

In Automatic mode, you must type the full word "yes" or press the Enter key when asked to continue the upgrade through each sequence of events.

> **Note:** Your environment might vary. If interim schema and data upgrade messages appear, respond to continue. Do *not* skip any events. However, if interim schema upgrade messages do *not* appear, skip to step 5.

To accept the Identity Server configuration file changes

1. Read the messages regarding the component upgrade. For example:

```
Updating component-specific configuration  ...
OK.
Starting migration ( 6.5.0 -> 7.0.0 )...
-------------------------------------
Oracle Access Manager schema migration....
Retrieving Oracle configuration parameters...
OK.

The following directory server's schema will be updated:
      Host:DNShostname.domain.com
      Port: port#
         Type:ns
NOTE: If you do not want to migrate schema at this time,
     type 'SKIP'.

Please type 'yes' to proceed:
```

2. **If Interim Schema Upgrade Messages Appear**: Type the full word "yes," when asked on the screen, then review the next set of messages and proceed with step 3.

```
yes

Updating schema. Please wait...
OK.
Retrieving User configuration parameters...
OK.
-------------------------------------
Oracle Access Manager data migration....
Retrieving Oracle configuration parameters...
OK.

Could not detect the language for your installation!

Checking product version...
Version not up to date. Performing Configuration data migration...
Updating Oracle migration parameters...

The following directory server's schema will be updated:
      Host:DNShostname.domain.com
      Port: port#
         Type:ns
NOTE: If you do not want to migrate schema at this time,
     type 'SKIP'.

Please type 'yes' to proceed:
```

3. Respond when requested to continue and review messages to track the process. For example:

```
OK.
Converting Configuration data. Please wait...
.........................
 OK.
Removing old Configuration data. Please wait...
.........................
.........................   ............
 OK.

Cleaning up obsolete schema from the directory.
Deleting obsolete schema for osd. Please wait...
Importing new Configuration data. Please wait ...
```

```
OK.
-------------------------------------
Oracle Access Manager data migration has completed successfully!
Press <ENTER> to continue :
 Enter

 Updating component-specific configuration files.
```

4. Review messages for the upgrade from release 7.x to 10*g* (10.1.4.0.1). For example:

```
Starting migration ( 7.0.0 -> 10.1.4 )...
-------------------------------------
Oracle Access Manager schema migration....
Retrieving Oracle configuration parameters...
OK.

The following directory server's schema will be updated:
      Host:DNShostname.domain.com
      Port: port#
         Type:ns
NOTE: If you do not want to migrate schema at this time,
     type 'SKIP'.

Please type 'yes' to proceed:
```

5. Continue as directed. For example:

```
  yes
```

   The final sequence you see during the upgrade from release 7.x through to 10*g* (10.1.4.0.1) is shown next. Again, you are required to type the full word "yes" or press the Enter key when asked to continue. For example:

```
Updating schema. Please wait...
OK.
Retrieving User configuration parameters...
OK.
-------------------------------------
Oracle Access Manager data migration....
Retrieving Oracle configuration parameters...
OK.
Could not detect the language for your installation!

Checking product version...
Version not up to date. Performing Configuration data migration...
Updating Oracle migration parameters...

The following directory server's schema will be updated:
      Host:DNShostname.domain.com
      Port: port#
         Type:ns
NOTE: If you do not want to migrate schema at this time,
     type 'SKIP'.

Please type 'yes' to proceed:
  yes
```

6. Review messages as the process continues. For example:

```
OK.
Converting Configuration data. Please wait...
.........................
```

```
 OK.
Removing old Configuration data. Please wait...
.........................
.........................
 OK.
Importing new Configuration data. Please wait ...
OK.
-------------------------------------
Oracle Access Manager data migration has completed successfully!
Press <ENTER> to continue :
```

7. Continue when asked and review the final message. For example:

```
Enter

Updating component-specific configuration files...
OK.

Migration has completed successfully!
Press <ENTER> to continue :
-----------------------++++++++++++++--------------
```

8. Proceed with "Upgrading the Software Developer Kit (SDK) Configuration" next.

Upgrading the Software Developer Kit (SDK) Configuration

This event can be skipped when you are upgrading a master COREid Server that has *not* been configured to use the SDK. However, if the SDK was configured for this COREid Server, Oracle recommends that you upgrade the configuration now to preserve current settings.

Note: If you do not upgrade current SDK configuration settings, these are *not* preserved and you must reconfigure them later using the configureAccessGate tool. See the *Oracle Access Manager Identity and Common Administration Guide*.

To skip the SDK upgrade for the master COREid Server instance

1. Enter the appropriate number to respond to the question (about migrating the SDK), based on this instance in your environment.

```
This component has the Access Server SDK installed

Would you like to automatically migrate the SDK at this time?

Note: If you do not want to migrate the SDK at this time, you will
need to reconfigure the SDK after migration has finished
by running the 'configureAccessGate' program
  '1' - Yes
  '2' - No
Enter choice ( '1' or '2' ) :
   2
```

Note: Accept the upgrade if the SDK was configured for this COREid Server.

---

2. Press Enter to continue when asked. For example:

```
Enter
```

3. Go to "Finishing and Verifying the Master COREid Server Upgrade".

Finishing and Verifying the Master COREid Server Upgrade

You complete this procedure to finish the upgrade of the master COREid Server and the Identity System schema and data.

To finish the master COREid Server upgrade

1. Start the COREid Server service to confirm that it will start (notice that the name has not changed from the one originally assigned).
2. **COREid Server Service Does Not Start**: See troubleshooting tips in Appendix G.
3. Check the migration log files for any errors reported during the schema or data upgrade. See "Accessing Log Files" on page G-2.
4. **Upgrade Not Successful**: Proceed to "Recovering From an Identity System Schema or Data Upgrade Failure" on page 6-25.
5. **Upgrade Successful**: Proceed with "Upgrading the Master WebPass" next.

Note: The new product term for COREid Server is Identity Server, which will be used in the remainder of this guide. For more information, see "Product and Component Name Changes" on page -xxviii.

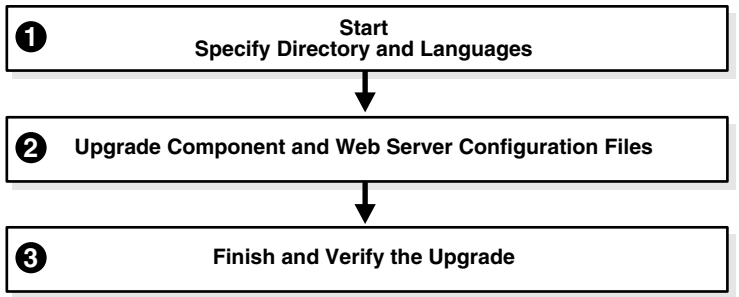
Upgrading the Master WebPass

After upgrading the master Identity Server, you must upgrade the master WebPass instance. There is no WebPass connection to a directory server. Therefore, there is no schema or data upgrade during a WebPass upgrade.

When upgrading WebPass (and other Oracle Access Manager Web components), the component-specific upgrade includes both Web component and Web server configuration file updates. There are no differences between upgrading the master WebPass now and upgrading subsequent WebPass instances later on.

Figure 6–3 illustrates the program-driven WebPass upgrade process and the points at which you will provide specific input or acknowledge events. Additional comments follow the figure.

Figure 6–3 Master WebPass Upgrade Process



Task overview: Upgrading master WebPass includes

1. Starting the Master WebPass Upgrade, Specifying a Target Directory and Languages
2. Upgrading WebPass Configuration Files and Web Server Configuration
3. Finishing and Verifying the Master WebPass Upgrade

Again, unless you are upgrading from release 7, certain processes repeat automatically for each major release until you reach 10*g* (10.1.4.0.1).

Master WebPass Upgrade Prerequisites

Before you begin upgrading the master WebPass instance, check Table 6–2 to ensure you have completed all tasks. Failure to complete prerequisites can adversely affect your upgrade.

Table 6–2 WebPass Upgrade Prerequisites

WebPass Upgrade Prerequisites
Upgrade the master Identity Server as described in "Upgrading the Schema and Data In Place with the Master Identity Server" on page 6-3.
Complete all component preparation activities in Chapter 8 for this WebPass instance, and: ▪ If you have a multi-language environment, see "Preparing Multi-Language Installations" on page 8-7 ▪ If you are upgrading a release 6.x installation, see "Preparing Release 6.x Environments" on page 8-4

Starting the Master WebPass Upgrade, Specifying a Target Directory and Languages

The sample upgrade described here starts from release 6.1.1 using the GUI method and Automatic mode. The sequence of events and messages directed by the program require very little input from you. Much of this is similar to upgrading the master Identity Server. The target directory for the 10*g* (10.1.4.0.1) master WebPass upgrade must be the same as the earlier component.

Note: If errors are reported at any time during the process, check the named log file. See "Accessing Log Files" on page G-2.

To start the master WebPass upgrade

1. Ensure that all prerequisites are completed as described in "Master WebPass Upgrade Prerequisites".
2. Turn off this WebPass Web server instance.
3. Log in as a user with the administrator privileges to update the WebPass and Web server configuration.
4. Locate and launch the 10*g* (10.1.4.0.1) WebPass installer for your Web server. For example:

   GUI Method
   Windows: Oracle_Access_Manager10_1_4_0_1_win32_NSAPI_WebPass.exe

   Console Method
   Solaris: ./Oracle_Access_Manager10_1_4_0_1_sparc-s2_NSAPI_WebPass

   The Welcome screen appears.

5. Dismiss the Welcome screen, then respond when asked about your administrator rights.
6. Choose the directory that contains the earlier WebPass instance.
7. Accept the upgrade when asked.
8. Ensure that a check mark appears beside English and any other languages you want to upgrade, then continue.

   You might be presented with a list of languages that will be upgraded or added.
9. Confirm the languages listed by clicking Next.
10. Record the name of the time-stamped directory, then continue.
11. Start the file extraction.

    A status bar indicates the progress of the file extraction.

    With the GUI method, a new window appears asking you to specify either Automatic or Confirmed mode for the upgrade. Using the Console method, you are asked to run the command displayed in the transcript, then continue as instructed.

Upgrading WebPass Configuration Files and Web Server Configuration

Here you specify the mode to use (Oracle recommends Automatic). For brevity, steps are provided with little explanatory text.

To upgrade the WebPass and Web server configuration

1. Enter the number that corresponds to the mode you prefer and follow the dialog on screen. For example:

```
  1

Creating orig folders ...
-----------------------------------------------------
Copying general configuration files ...
OK.
-----------------------------------------------------
Updating parameter catalogs ...
OK.
-----------------------------------------------------
Starting migration (6.1.1 -> 6.5.0)
-------------------------------------
Updating component-specific configuration files...
OK.
-------------------------------------
Starting migration ( 6.5.0 -> 7.0.0 )...
-------------------------------------
Updating web server configuration files...
OK.
-------------------------------------
Updating component-specific configuration files...
OK.
-------------------------------------
Starting migration (7.0.0 -> 10.1.4)
-------------------------------------
Updating web server configuration files...
OK.
-------------------------------------
```

```
Updating component-specific configuration files...
OK.
-----------------------------------
Migration has completed successfully!
Press <ENTER> to continue :
```

2. Press the Enter Key.

```
    Enter

If the Access System is also configured, you need to create a DB Profile
manually after first WebPass component upgrade is completed and before
upgrading the first Policy Manager. The profile gives the Access Server write
permission to Policy data in the directory server and will be used while
upgrading the WebGate component. The profile can be deleted after all
the WebGates are successfully upgraded.

Directory permissions copied ...
C:\NetPoint\WebComponent\identity_20060223_180406\oblix)
C:\NetPoint\WebComponent\identity\oblix)
-------------------------------------------------
Migration has completed successfully!
Press <ENTER> to continue.
```

3. Conclude the master WebPass upgrade and proceed to the next discussion, "Finishing and Verifying the Master WebPass Upgrade".

> **Note:** If you have a joint deployment that includes the Access System, you create a temporary directory profile *after* finishing all activities in this chapter and *after* upgrading the Access System schema and data with the master Access Manager component upgrade. Details are provided in the next chapter.

Finishing and Verifying the Master WebPass Upgrade

You finish this master WebPass upgrade as described in the following procedure.

To finish the master WebPass upgrade

1. Apply Web server changes, if needed.
2. Stop, then restart Identity Server service.
3. Start the WebPass Web server instance.
4. **Web Server Does Not Start**: See troubleshooting tips in Appendix G.
5. Check the migration log files for any errors reported during the master WebPass upgrade. See "Accessing Log Files" on page G-2.
6. **Upgrade Successful**: Proceed with "Verifying the Identity System Schema and Data Upgrade" next.
7. **Upgrade Not Successful**: Proceed to "Recovering From an Identity System Schema or Data Upgrade Failure" on page 6-25.

Verifying the Identity System Schema and Data Upgrade

You complete this task to confirm that the Identity System upgrade has been successful.

To verify the schema and data upgrade

1. Check to ensure that the schema contains 10*g* (10.1.4.0.1) attributes `obPolicyEnabled` and objectclass `oblixLPMPolicy`.
2. View the configuration node in the configuration directory server and confirm that the value of the `obver` attribute is `10.1.4.0`.
3. **Upgrade Successful**: Perform the tasks in the following list, as described in:
   - Uploading Directory Server Index Files
   - Backing Up Upgraded Identity Data
   - Halting On-the-fly Migration of User Data: Phase 2
   - Looking Ahead
4. **Upgrade Not Successful**: Proceed to "Recovering From an Identity System Schema or Data Upgrade Failure" on page 6-25.

Uploading Directory Server Index Files

During the master Identity Server (and master Access Manager if you have the Access System installed) upgrade, schema files that include only changes from one release to the next are used to upgrade the existing schema. As a result, the schema and data upgrade repeats for each major product release (for example, from release 6.1.1 to release 6.5, from release 6.5 to release 7.x, and from release 7.x to release 10*g* (10.1.4.0.1)).

For many directory servers, the indexes are automatically updated during the schema and data upgrade. However, when your Oracle Access Manager deployment includes Sun (formerly iPlanet) directory, Novell eDirectory (NDS), or Oracle Internet Directory, you must manually update the directory index files after upgrading the master Identity Server (and master Policy Manager). The files that you use to perform this task are stored in:

IdentityServer_install_dir/identity/oblix/data.ldap/common

PolicyManager_install_dir/access/oblix/data.ldap/common

Two index files are provided for each directory server upgrade: the Sun (formerly iPlanet) directory, Novell eDirectory (NDS), and Oracle Internet Directory. One file contains the complete set of 10*g* (10.1.4.0.1) attributes for the user data index and the other contains the complete set of 10*g* (10.1.4.0.1) attributes for the Oracle Access Manager configuration and policy data index, respectively:

- iPlanet5_user_index_add.ldif *and* iPlanet5_oblix_index_add.ldif
- NDS_user_index_add.ldif *and* NDS_oblix_index_add.ldif
- OID_user_index_add.ldif *and* OID_oblix_schema_index_add.ldif

If policy data is stored on the same directory instance as user data, the _oblix_index_add.ldif is added once after first Identity Server upgrade only. However, if the policy data is stored on a different directory instance, you must upload the oblix_index_add.ldif file after both the first (Master) Identity Server upgrade and after the first (Master) Policy Manager upgrade.

Note: In addition to uploading the index files mentioned earlier for your specific directory server, you will also need to manually add an index for the `obpolicykeyword` attribute after the master Policy Manager (formerly known as the Access Manager component) upgrade (if you have Access System configured). The `obpolicykeyword` attribute is currently missing from all 10*g* (10.1.4.0.1) index ldif files and cannot be added automatically during the master Policy Manager upgrade.

Table 6–3 provides a list of the specific attributes to which indexes might need to be manually applied after schema and data upgrades. These apply to all directory servers *except* Oracle Internet Directory. As mentioned earlier, for most directories the indexes are automatically updated during the schema and data upgrade. However, for Sun, Novell eDirectory, and Oracle Internet Directory you must manually upload directory index files, as described in this chapter.

Table 6–3 Indexed Attributes for All Directories Except Oracle Internet Directory

Specific Attributes
obactionname
obactordn
obapp
obattr
obclass
obdatecreated
obdateprocessed
obdirectreports
obentrycondition
obgroupadministrator
obgroupcreator
obgroupdynamicfilter
obgroupexpandeddynamic
obgrouppuredynamic
obgroupsubscribemessage
obgroupsubscribenotification
obgroupsubscriptionfilter
obgroupsubscriptiontype
obgroupunsubscribemessage
obid
obindirectmanager
oblocationdn
oblocationname
oblocationtitle
oblockedby

Table 6–3 (Cont.) Indexed Attributes for All Directories Except Oracle Internet Directory

Specific Attributes
obname
obobjectclass
obpaneltype
obparentlocationdn
obparentstep
obparentworkflow
obparticipant
obpasswordpolicyid
obpolicyconditiongroupStr
obpolicyconditionuidStr
obready
obrectangle
obresourceattribute
obresourceoperation
obresourcetype
obresourceuidStr
obretrycount
obtargetdn
obuniquememberStr
obuseraccountcontrol
obwfinstanceid
obwfstatus
obwfstepid
obwfstepinstid
obwftypename
obworkflowname
obworkflowtype
obwftargetlabel
obworkflowdn
obworkflowstepdn
obisworkflowprovisioned
obdynamicparticipantsset
obLPMName
oburlprefix
obSiteDomainID
obHostContext
obdescription

Table 6–3 (Cont.) Indexed Attributes for All Directories Except Oracle Internet Directory

Specific Attributes
obpolicyKeyword

The steps you must complete to update the indexes depend on your directory server type, as described in:

- Verifying and Uploading Oracle Internet Directory and Sun Directory Indexes
- Verifying and Uploading Novell eDirectory Indexes

Note: If you do not upload the indexes for iPlanet and NDS directories, the product will work. However, searching will be inefficient and impact performance. If you do not upload the indexes for Oracle Internet Directory, users will not be able to log in.

Verifying and Uploading Oracle Internet Directory and Sun Directory Indexes

The goal here is to obtain the newly introduced indexes associated with 10*g* (10.1.4.0.1) attributes and ignore any earlier indexes that might be present. If you see errors this is because your environment might already include existing indexes that belong to an earlier release. You can use the Continuous Mode option to continue adding new 10*g* (10.1.4.0.1) attributes in the event that one or more attributes were found to be indexed in an earlier release.

Note: With Oracle Internet Directory, Oracle recommends that you set the LDAP_PASSWORD_PROMPTONLY variable to TRUE or 1 to disable the less secure -w and -P *password* options whenever possible, and use the -q (or -Q) options, to prompt you for the user password (or wallet password).

To upload the Sun (formerly iPlanet) or Oracle Internet Directory index files

1. **Oracle Internet Directory**: Manually execute directory-specific commands or the directory Administrator Interface to confirm that the indexes have been added using information in the *Oracle Access Manager Schema Description* as a guide.
2. **Sun (formerly iPlanet)**: Manually execute directory-specific commands or the directory Administrator Interface to confirm that the indexes have been added using Table 6–3 as a guide.
3. Locate the appropriate files for your directory server. For example:

   IdentityServer_install_dir/identity/oblix/data.ldap/common/OID_user_index_add.ldif

4. Run the `ldapmodify` command (or use any import tool provided by your directory vendor) and use the Continuous Mode option to avoid any errors that can result when an earlier indexed attribute is found. For example

```
\IdentityServer_install_dir\identity\oblix\tools\ldap_tools\ldapmodify

run ldapmodify.exe -h DS_hostname -p DS_port_number -D bind_dn -q password
-f OID_user_index_add.ldif -a -e reject_filename -c
```

5. Repeat step 2 using the *directory*_oblix_schema_index_add.ldif for your specific directory.
6. When finished, proceed to "Backing Up Upgraded Identity Data" on page 6-22.

Verifying and Uploading Novell eDirectory Indexes

When you have Novell eDirectory, the goal is to obtain the newly introduced indexes associated with 10*g* (10.1.4.0.1) attributes and ignore any earlier indexes that might be present. However, in this case, you *cannot* use the Continuous Mode option.

To confirm or update indexes for Novell eDirectory

1. Manually execute NDS-specific commands or the NDS Administrator Interface to confirm that the indexes have been added using Table 6–3 as a guide.
2. If needed, manually execute NDS-specific commands or the NDS Administrator Interface to upload the indexes.
3. Manually index the obpolicykeyword attribute using the appropriate NDS-specific commands or the NDS Administrator Interface.
4. When finished, proceed to "Backing Up Upgraded Identity Data".

Renaming Audit Files After Upgrading the Schema and Data

After upgrading the schema and data from releases earlier than 7.0, you must perform this task to correct the path name of audit files. If you have upgraded from release 7.x, you can skip this activity.

Caution: If you are performing a zero downtime upgrade, see Chapter 15.

When upgrading the master Identity Server and the schema and data from any release earlier than 700, the audit file name is changed by prefixing the path to the master Identity Server.

If your deployment includes multiple Identity Servers, the audit file name for each will be prefixed by the same installation directory path as the Identity Server from which the data upgrade is performed. The result is that your original configuration is lost during the Identity Server upgrade. For example, suppose you have two release 611 Identity Server instances with audit files stored as follows:

\oblix\engine\auditfile_1.lst
\oblix\engine\auditfile_2.lst

In the sample path names shown here, the audit files can be stored in different directory paths.

After the upgrade, however, both audit files will be stored in the directory path of the Identity Server that was used with the schema and data upgrade. For example:

D:\611\ois_one\identity\oblix\engine\auditfile_1.lst
D:\611\ois_one\identity\oblix\engine\auditfile_2.lst

To recover your audit files after upgrading multiple Identity Servers, you must perform the following task to change audit file paths to reflect the appropriate path to

specific Identity Server instances. If you are performing a zero downtime upgrade, you perform this task only for clones.

To recover your original audit file names after upgrading Identity Servers

1. After upgrading the schema and data, go to the Identity System Console and log in as usual.

   ```
   http://hostname:port/identity/oblix
   ```

   where *hostname* refers to computer that hosts the Web server; *port* refers to the HTTP port number of the WebPass Web server instance; and /identity/oblix connects to the Identity System Console.

2. From the Identity System Console, click System Configuration, then click Identity Servers.
3. Select the name of an Identity Server to display the information for this instance.
4. Check the Audit File Name field, to see if the path name is correct.

   If the path name is correct, click Cancel and then repeat steps 3 and 4 to check the audit file path name of another instance. If the path name is not correct, proceed to step 5.

5. Click the Modify button at the bottom of the page.
6. On the Modify page, change the path name in the Audit File Name field to the correct path for this instance and then click Save. For example:

   From: \oblix\engine\auditfile_2.lst
   To: D:\611\ois_two\identity\oblix\engine\auditfile_2.lst

7. Restart the Identity Server whose details you just updated if it is running.
8. Repeat all steps in this procedure for each Identity Server instances.

Backing Up Upgraded Identity Data

After you finish the schema and data upgrade, Oracle recommends that you back up the 10*g* (10.1.4.0.1) component directory and directory server instances. This will enable you to easily restore your environment to the newly upgraded state should that be a requirement.

To back up critical information after the upgrade

1. Back up the 10*g* (10.1.4.0.1) Identity Server directory and store it in a new location.
2. Back up upgraded directory server instances using your directory vendor documentation as a guide.
3. Back up Identity System data as described in"Backing Up Existing Oracle Access Manager Data" on page 5-16.
4. **Windows**: Back up the upgraded registry for the component as described in "Backing Up Windows Registry Data".
5. **WebPass Web Server**: Back up the upgraded Web server configuration file using your vendor documentation as a guide.
6. Proceed to "Looking Ahead" on page 6-25.

Halting On-the-fly Migration of User Data: Phase 2

You perform Phase 2 for an in-place upgrade only, after completing all other activities in this chapter. You can skip this if Phase 1 was not performed before the upgrade; however, a roll back operation cannot revert migrated user data. For more information, see Chapter 5.

> **Note:** If you are performing an upgrade using the zero downtime method, you can skip this activity.

This discussion provides the information that you will use to perform Phase 2 of the procedure to halt immediate (also known as on-the-fly) migration of user data (multiple values in challenge and response attributes for Lost Password Management only) at first login.

> **Note:** You must perform Phase 2 now, after upgrading the schema and data and before any administrator or user login, even if you have a joint Identity and Access System deployment.

During Phase 1, the obVer attribute for the Master Administrator entry was set before the schema and data upgrade as described in Chapter 5. During Phase 2 you must reset the obVer value for the configuration base to 7.0.4 and remove the Challenge and Response semantic types at both the tab level and the object class level.

> **Caution:** When you finish this Phase 2 procedure, lost password management will not work.

When you finish this Phase 2 procedure, Oracle recommends that you stop processing or performing the following actions to ensure that user data will maintain its backward compatibility:

- Stop processing workflow tickets: for example, create user, change attributes, and the like.
- Stop modifying challenge and response attributes from the Modify Profile page.

> **Note:** With Oracle Internet Directory, Oracle recommends that you set the LDAP_PASSWORD_PROMPTONLY variable to TRUE or 1 to disable the less secure -w and -P *password* options whenever possible, and use the -q (or -Q) options, to prompt you for the user password (or wallet password).

To temporarily stop the immediate migration of user data (Phase 2)

1. After upgrading the schema and data, change the value of obVer in the configuration base to 7.0.4 as follows:

```
ldapmodify.exe  -h <Host> \
-p <Port>
-D <Bind DN>
-q <Bind Password> \
-f <ldif file containing attribute to be modified>
```

A bind DN for configuration data (also known as the configuration DN) is similar to the searchbase for user data. The configuration bind DN must be specified to identify the node in the DIT under which the Oracle Access Manager schema and all configuration data is stored for the Identity and Access Systems.

The format of LDIF file to be created is as follows. This example is for the Netscape Directory Server:

```
dn: o=oblix,<configuration DN>
changetype: modify
replace: obver
obver: 7.0.4
```

2. Restart the master Identity Server.
3. Go to the Identity System Console by specifying the URL for your environment, and then log in as the Master Administrator. For example:

   `http://hostname:port/identity/oblix`

   In the URL example, *hostname* refers to computer that hosts the WebPass Web server; port refers to the HTTP port number of the WebPass Web server instance; /identity/oblix connects to the Identity System Console (formerly known as the COREid System Console).
4. **Tab Level**: Disable the Challenge and Response semantic types at the tab level, as follows:
   a. Click Identity System Console, click User Manager Configuration, and then click Tabs.
   b. From the Existing Tabs listed on the page, select Employees to display information about this Person class tab on the View Tab page.

   Note: Object Classes on the View Tab page might include OblixOrgPerson and others (gensiteorgperson, for example). The obVer attribute is a member of only the OblixOrgPerson class. There is no impact to other object classes.

   c. On the View Tab page, click Modify Attributes to open the Modify Attributes page.
   d. From the Attribute list select the attribute that is configured with Challenge as the Semantic Type, set the Semantic Type to None and click Save.
   e. From the Attribute list select the attribute that is configured with Response as the Semantic Type, set the Semantic Type to None and click Save.
   f. Click Done.
5. **Object Class Level**: Remove the Challenge and Response semantic types at the object class level, as follows:
   a. Click Identity System Console, click Common Configuration, and then click Object Classes.
   b. Select the person object class from the list, then click Modify Attributes to open the Modify Attributes page.
   c. From the Attribute list select the attribute that is configured with Challenge as the Semantic Type, set the Semantic Type to None and click Save.

d. From the Attribute list select the attribute that is configured with Response as the Semantic Type, set the Semantic Type to None and click Save.

e. Click Done.

6. Proceed to "Looking Ahead" on page 6-25.

For details about restarting user data migration after validating that your deployment is successfully upgraded, see "Restarting On-the-fly User Data Migration for In-place Upgrades" on page 14-6.

Recovering From an Identity System Schema or Data Upgrade Failure

If the schema and data upgrade was not successful, you can perform the following steps to rollback this upgrade, then try again.

> **Note:** Step 4 is only for WebPass. If only your master WebPass upgrade failed, skip step 1 in the procedure here and complete step 4.

To recover from an unsuccessful schema and data upgrade

1. Restore the directory instance that you backed up before the upgrade to recover the earlier schema and data from backup.
2. Restore the earlier component installation directory that you backed up before the upgrade (to recover the earlier environment), then back it up again. You will retain one of the earlier directories as a backup copy and use one to restart the upgrade
3. **Windows**: Restore the backed up registry for the component.
4. **WebPass Web Server**: Restore the backed up Web server configuration file.
5. Using a backup copy of your earlier information and component installation directory, restart the upgrade, as described in "Upgrading the Schema and Data In Place with the Master Identity Server" on page 6-3.

Looking Ahead

Upgraded Identity System components send and receive information sent in UTF-8 encoding. Earlier components send and receive data in Latin-1 encoding. As a result, the 10*g* (10.1.4.0.1) Identity System does *not* work with an earlier Access System.

When all earlier Identity System components are successfully upgraded, proceed as appropriate for your earlier installation. For example:

- **Identity System Only**: When your earlier installation does *not* include the Access System, you can complete activities in the following sequence using information in:
  - Chapter 8, "Preparing Components for the Upgrade"
  - Chapter 9, "Upgrading Remaining Identity System Components In Place"
  - Chapter 12, "Upgrading Your Identity System Customizations" after upgrading all Identity System components.
  - Chapter 14, "Validating the Entire System Upgrade"
- **Joint Identity and Access Systems**: When your earlier installation does include the Access System, you must complete activities in the following list using information in:

- Chapter 7, "Upgrading Access System Schema and Data In Place"
- Chapter 8, "Preparing Components for the Upgrade"
- Chapter 9, "Upgrading Remaining Identity System Components In Place"
- Chapter 10, "Upgrading Access System Components In Place"
- Chapter 11, "Upgrading Integration Components and an Independently Installed SDK"
- Chapter 12, "Upgrading Your Identity System Customizations" after upgrading all Identity System components.
- Chapter 13, "Upgrading Your Access System Customizations"
- Chapter 14, "Validating the Entire System Upgrade"

For more information about expected system behaviors, see Chapter 4.

7

Upgrading Access System Schema and Data In Place

If your installation does *not* include Access System components, you can skip this chapter. This chapter is intended to be used by directory server administrators who are responsible for maintaining and updating directory schemas and data.

This chapter explains what you must do and the order in which you must perform the Access System schema and data upgrade in place. Topics include:

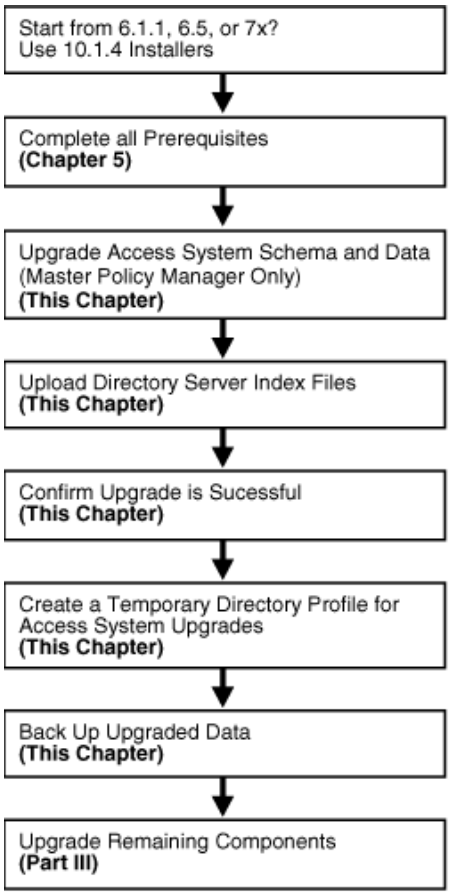
Note: If you are using the zero downtime method, skip this chapter and see Part VI. If your starting Oracle Access Manager release is earlier than 6.1.1, contact Oracle Support before upgrading: `http://www.oracle.com/support/contact.html`

About Access System Schema and Data Upgrades

After upgrading the Identity System schema and data (with the master Identity Server and including a master WebPass upgrade), you are ready to upgrade the Access System schema and data.

Figure 7–1 illustrates the Access System schema and data upgrade tasks. As you can see, in addition to performing and verifying this upgrade you must create a temporary directory profile for later Access System component upgrades. Additional notes follow the figure. Refer to your own planning summaries and use the tracking summaries in Appendix F to check your progress.

Figure 7–1 Access System Schema and Data Upgrade Tasks



Task overview: Upgrading Access System schema and data

1. Perform all schema and data preparation tasks in Chapter 5.
2. Upgrade the newly added master Access Manager and accept the automatic schema and data upgrade, as explained in "Upgrading the Schema and Data with the Master Access Manager Component" on page 7-3.

> **Note: Problems During the Upgrade**: See troubleshooting tips in Appendix G.

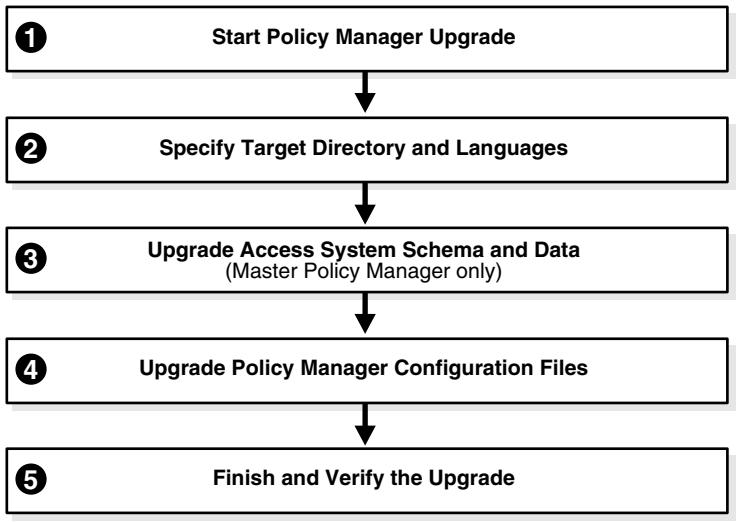
3. **Upgrade Successful**: Perform the activities in the following list, in sequence:
   - Uploading Directory Server Index Files
   - Verifying the Access Schema and Data Upgrade
   - Creating a Temporary Directory Profile For Access System Upgrades that grants the Access Server write access to policy data and ensures that information in the WebGatestatic.lst file is written to the directory server appropriately.
   - Backing Up Upgraded Policy Data
4. **Upgrade Not Successful**: Proceed to "Recovering From an Access System Schema or Data Upgrade Failure" on page 7-13.

Upgrading the Schema and Data with the Master Access Manager Component

During this task, you upgrade the master Access Manager component (now known as the Policy Manager) instance that you added for this purpose, and accept the automatic schema and data upgrade.

Figure 7–2 illustrates the program-driven upgrade process and the points at which you must respond during this upgrade.

Figure 7–2 Access System Schema and Policy Data Upgrade Process



Task overview: Upgrading the Access System schema and data includes

1. Starting the Master Access Manager Upgrade
2. Specifying the Target Directory and Languages
3. Updating the Access System Schema and Policy Data
4. Upgrading the Access Manager and Web Server Configuration Files
5. Finishing and Verifying the Access System Schema and Data Upgrade

Access System Schema and Data Upgrade Prerequisites

Before you begin upgrading the master Access Manager, check the tasks in Table 7–1 to ensure you have completed these.

Failure to complete prerequisites can adversely affect your upgrade.

Table 7–1 Access System Schema and Data Upgrade Prerequisites

Access System Schema and Data Upgrade Prerequisites
Familiarize yourself with information in Part I, "Introduction"
Perform all required steps for schema and data preparation in Chapter 5. ▪ If you have a multi-language environment, see "Preparing Multi-Language Installations" on page 8-7. ▪ If you are upgrading a release 6.x installation, see "Preparing Release 6.x Environments" on page 8-4.

Table 7–1 (Cont.) Access System Schema and Data Upgrade Prerequisites

Access System Schema and Data Upgrade Prerequisites
Perform the Identity System schema and data upgrade, and back up upgraded data, as described in Chapter 6.

Starting the Master Access Manager Upgrade

Again, you use the 10*g* (10.1.4.0.1) Policy Manager installer for your specific Web server to launch the upgrade. The sample upgrade described here starts from release 6.1.1. The GUI method and recommended Automatic mode are used to illustrate messages you see, responses you give, and the sequence of events. Your starting release and environment might differ.

Note: Should an error occur, the name of the log file that contains information about the error is identified on the screen. For more information, see "Accessing Log Files" on page G-2.

To start the Access System schema and data upgrade (master Access Manager)

1. Confirm that you have completed all prerequisites for this upgrade, as listed in "Access System Schema and Data Upgrade Prerequisites".
2. Log in as a user with the appropriate administrator privileges to upgrade the schema and Oracle Access Manager files.
3. Stop the master Access Manager Web server.
4. Locate and launch the 10*g* (10.1.4.0.1) Policy Manager installer using your preferred method:

   GUI Method, Windows:

   Oracle_Access_Manager10_1_4_0_1_Win32_NSAPI_PolicyManager.exe

   Console Method, Solaris:

   ./Oracle_Access_Manager10_1_4_0_1_sparc-s2_NSAPI_PolicyManager

   The Welcome screen appears.
5. Dismiss the Welcome screen.
6. Respond to the administrator question based upon your platform. For example:

Specifying the Target Directory and Languages

You specify the same target directory as the master Access Manager component. When you accept the upgrade, the target directory is created and 10*g* (10.1.4.0.1) files are extracted into it. You are then asked to select the languages that you would like to upgrade.

To specify the target Access Manager directory and languages

1. Choose the directory where you installed the instance you added, then click Next.
2. Accept the upgrade by clicking Yes, then click Next
3. Ensure that a check mark appears beside English and any other languages you are upgrading, then click Next.

4. Confirm the languages listed.
5. Record the time-stamped directory name and continue.
6. Note the amount of disk space required, then start the file extraction into the target directory.

   You are asked to specify a mode for the upgrade process: Automatic or Confirmed.

   If you are using Console method, the installation script exits and a transcript appears. Run the command in the transcript then continue with step 9. (On UNIX, the command is printed to a file (start_migration), and a message is printed to run this file.)
7. Press the number for your choice., then review messages that appear. For example:

```
    1

Creating orig folders ...
-----------------------------------------------------
Copying general configuration files
OK.
-----------------------------------------------------
Updating parameter catalogs ...
OK.
-----------------------------------------------------
```

8. Proceed with "Updating the Access System Schema and Policy Data" next.

Updating the Access System Schema and Policy Data

Oracle recommends that you accept the automatic update of the schema and data. The Access System schema and data are upgraded as follows:

- If Oracle Access Manager policy data is stored in the same directory as user and configuration data, the schema was updated during the master Identity Server upgrade. In this case, only policy data is updated during the master Access Manager upgrade.
- If Oracle Access Manager policy data is stored separately from user and configuration data, both the schema and policy data are upgraded during the master Access Manager upgrade.

The first update is detected automatically and you are not asked about schema or data updates during remaining Access Manager upgrades.

Starting with release 6.5, the Access System began using directory server profiles and database instance profiles for accessing user data. As a result, during the incremental upgrade from 6.1.1 to 6.5, a message informs you that a directory server profile is created ("DB Profiles created"), as illustrated in the next procedure. If your starting release is 6.5 or later, you won't see this message.

To upgrade the Access System schema and policy data

1. Review the messages and note the directory path when it appears.

```
-------------------------------------
Starting migration 6.1.1 -> 6.5.0 )...
-------------------------------------
Oracle Access Manager schema migration....
  Retrieving Policy configuration parameters...
  OK.
-------------------------------------
```

```
Oracle Access Manager data migration....
  Retrieving Policy configuration parameters...
  OK.
Checking Access Policy version
Version not up to date. Performing Access Policy data migration
Updating Access Policy migration parameters..

The following directory server's schema will be updated:
Host:DNShostname.domain.com
Port: port#
Type:ns

NOTE: If you do not want to migrate schema at this time,
type 'SKIP'.
Please type 'yes' to proceed:
```

2. Type the full word "yes" to update policy data, which can also include a schema upgrade. For example:

```
Yes
OK
```

   The transcript continues.

```
-------------------------------------
Converting Access Policy data. Please wait..
.....
OK
Removing old Access Policy data. Please wait ..
........
OK
Importing new Access Policy data. Please wait ...
OK
-----------------------------
Oracle Access Manager data migration has completed successfully.
Press <ENTER> to continue :
```

3. Press the Enter Key when the data upgrade completes and continue with the retrieval of Oracle Access Manager configuration parameters and database profile creation (if your starting release was 7.x you will not see the DB Profiles created message.

```
-------------------------------------
Retrieving Oracle configuration parameters...
DB Profiles created.
-----------------------------
```

4. Continue with "Upgrading the Access Manager and Web Server Configuration Files" next.

Upgrading the Access Manager and Web Server Configuration Files

During this sequence the component-configuration upgrade is completed for the master Access Manager. This includes Web server configuration updates and policy data configuration parameters.

To upgrade the Web Server and Access Manager configuration

1. Review messages and respond appropriately for your environment when asked.

```
-------------------------------------
```

```
Updating web server configuration files...
Connecting to server ...Done.
OK.
-------------------------------------
Updating component-specific configuration files...
OK.
-------------------------------------
Starting migration ( 6.5.0 -> 7.0.0 )...
-------------------------------------
Oracle Access Manager schema migration....
Retrieving Policy configuration parameters...
OK.
-------------------------------------
Checking Access Policy version ...
Version not up to date. Performing Access Policy data migration ...

Updating Access Policy migration parameters...
The following directory server's schema will be updated:
Host:DNShostname.domain.com
Port: port#
Type:ns
NOTE: If you do not want to migrate schema at this time,
type 'SKIP'.
Please type 'yes' to proceed:
```

2. Continue the upgrade as directed.

```
yes
```

The process continues, as indicated here.

```
Converting Access Policy data. Please wait...
.....
OK.
Removing old Access Polidy data. Please wait ...
.....
OK.
Cleaning up obsolete schema from the directory.
Deleting Obsolete schema for policy. Please wait.
Importing new Access Policy data. Please wait...
OK.
-----------------------------------------
Oracle Access Manager data migration has completed successfully.
Press <ENTER> to continue :
```

3. Respond after the data upgrade and notice that Web server configuration and component-specific upgrades occur next.

```
     Enter
-------------------------------------
Updating web server configuration files...
OK.
-------------------------------------
Updating component-specific configuration files...
OK.
-------------------------------------
Starting migration ( 6.5.0 -> 7.0.0 )...
-------------------------------------
Oracle Access Manager schema migration....
Retrieving Policy configuration parameters...
```

```
OK.
-------------------------------------
Oracle Access Manager data migration....
Retrieving Policy configuration parameters...
OK.
-------------------------------------
Checking Access Policy version ...
Version not up to date. Performing Access Policy data migration ...

Updating Access Policy migration parameters...
The following directory server's schema will be updated:
Host:DNShostname.domain.com
Port: port#
Type:ns
NOTE: If you do not want to migrate schema at this time,
type 'SKIP'.
Please type 'yes' to proceed:
```

4. Type the full word "yes" to continue.

```
    yes

OK.
Converting Access Policy data. Please wait...
OK.
Removing old Access Policy data. Please wait ...
OK.
Importing new Access Policy data. Please wait...
OK.
----------------------------------------
Oracle Access Manager data migration has completed successfully.
Press <ENTER> to continue :
```

5. Continue with component-specific configuration for release 7.0 to 10*g* (10.1.4.0.1), if needed:

```
     Enter
Updating component-specific configuration files.
...
Converting Access Policy data. Please wait...
OK.
Removing old Access Policy data. Please wait ...
OK.
Importing new Access Policy data. Please wait...
OK.
----------------------------------------
Oracle Access Manager data migration has completed successfully.
Press <ENTER> to continue :

Directory permissions copied ...
C:\NetPoint\WebComponent\access_20060223_180406\oblix)
C:\NetPoint\WebComponent\access\oblix)
-------------------------------------------------
Migration has completed successfully!
Press <ENTER> to continue.
```

6. When this phase completes, continue as instructed on the screen and proceed to "Finishing and Verifying the Access System Schema and Data Upgrade".

Finishing and Verifying the Access System Schema and Data Upgrade

You finish the master Access Manager upgrade as described next.

To finish and verify the Access System schema and data upgrade

1. Apply any changes to the Web server configuration file, if needed.
2. Start the upgraded Access Manager Web server to confirm that this upgrade was successful.
3. **Web Server Does Not Start**: See troubleshooting tips in Appendix G.
4. View Access Manager migration log files and error ldifs to see if they contain any errors. See "Accessing Log Files" on page G-2.
5. **Upgrade Successful**: Proceed with "Uploading Directory Server Index Files" on page 7-9 to ensure that all attributes are included for the Access System schema and data (and be sure to manually add an index for the `obpolicykeyword` attribute.
6. **Upgrade Not Successful**: Proceed to "Recovering From an Access System Schema or Data Upgrade Failure" on page 7-13.

> **Note:** The new product term for the Access Manager component is Policy Manager, which will be used in the remainder of this guide. For more information, see "Product and Component Name Changes" on page -xxviii.

Uploading Directory Server Index Files

This procedure is the same as the one you completed after upgrading the Identity System schema and data.

For Access System data, be sure to manually add an index for the `obpolicykeyword` attribute. For more information, complete appropriate activities for your environment in "Uploading Directory Server Index Files" on page 6-17.

After uploading index files for the Access System, continue with "Verifying the Access Schema and Data Upgrade", next.

Verifying the Access Schema and Data Upgrade

You complete this procedure to validate the Access System schema and data upgrade.

To verify the Access System schema and data upgrade

1. Using your directory administration console, confirm that the schema contains all the object classes and attributes as defined in the *Oracle Access Manager Schema Description*.
2. Using your directory administration console, verify that all the indexes have been added.
3. **Different Directory Server Instances**: Perform the steps in the following list to ensure that the schema was also updated:
   - View the configuration node in the configuration directory server and confirm that the value of the `obver` attribute is `10.1.4.0`.

- Check to ensure that the schema contains 10*g* (10.1.4.0.1) attributes `obPolicyEnabled` and objectclass `oblixLPMPolicy`.

4. **Upgrade Successful**: Proceed as indicated in the next list:
   - Creating a Temporary Directory Profile For Access System Upgrades
   - Backing Up Upgraded Policy Data
   - Looking Ahead
5. **Upgrade Not Successful**: Proceed to "Recovering From an Access System Schema or Data Upgrade Failure" on page 7-13.

Creating a Temporary Directory Profile For Access System Upgrades

After upgrading the master Policy Manager, and before upgrading *any* other Access System component, a Master Access Administrator must create a specific temporary directory server profile using the Identity System Console. This profile grants the Access Server write access to policy data stored in the directory server and updated during the Policy Manager upgrade.

> **Note:** If you are using the zero downtime upgrade method, go to"Adding a Temporary Directory Profile for Original Access System Upgrades" on page 17-21.

During WebGate upgrades, the Access Server gathers configuration information stored in the WebGatestatic.lst file and updates the directory server using the temporary directory profile created for this purpose. After writing information to the directory server, the Access Server returns status information to the WebGate. Any unknown parameters in the WebGateStatic.lst file are moved to the directory server.

> **Note:** Upgrading any Access System components *before* creating this profile could result in a failed upgrade. The exception to this rule is the master Policy Manager that you upgraded with the Access System schema and data.

In earlier releases, WebGate configuration parameters were stored in the WebGatestatic.lst file. However, in Oracle Access Manager 10*g* (10.1.4.0.1), WebGate configuration is accomplished using the Access System Console. Proper migration of earlier WebGate configuration parameters during an upgrade is required to enable you to change the parameter values, and add new ones, using the Access System Console. After upgrading a WebGate to 10*g* (10.1.4.0.1), you must use the System Console to adjust parameters. You cannot continue to use the WebGatestatic.lst file after upgrading.

Guidelines for the Temporary Directory Profile

When creating this temporary directory profile you must:

- Assign a profile name of migration_wgstatic_profile; do *not* use another name.
- Create the migration_wgstatic_profile for the directory where the policy data is stored. If your user, configuration, and policy data are stored together on a single directory, create this new profile for that directory. However, if your policy data is stored in the same directory as configuration data, create this new profile for that directory.

- Assign permissions for all operations to the migration_wgstatic_profile.
- Use the same namespace as the policy base stored in *PolicyManager_install_dir*/access/oblix/config/configInfo.xml. The value of the `ldapPolicyBase` parameter should be used: for example, *`obapp=PSC, o=Oblix, o=company,c=us`*.
- If your directory server supports LDAP referrals, enable LDAP referrals in this temporary directory server profile. A referral directs a client request to another server to find requested information in another location. See the *Oracle Access Manager Identity and Common Administration Guide* for details.
- If the policy data directory server is SSL-enabled, the CA certificate is needed by the Access Server to connect to the directory. The CA certificate must be manually added (using the certutil tool) to the certificate store in *AccessServer_install_dir*/access/oblix/config/cert8.db or cert7.db. However, if the existing policy data directory used by the Access Server is already in SSL mode and uses the same CA certificate, this step need not be done.

Important: This procedure must be completed before upgrading any additional Access System components. For more information about directory server profiles, see the *Oracle Access Manager Identity and Common Administration Guide*.

To create the temporary directory server profile for the Access Server

1. Navigate to the Identity System Console (formerly known as the COREid System Console). For example:

   `http://`*`hostname:port`*`/identity/oblix/`

2. From the Identity System Console, click the System Configuration tab.
3. Click Directory Profiles to display the Configure Profiles page.
4. Locate the Configure LDAP Directory Server Profiles section and click Add to display the Create Directory Server Profile page.
5. Fill in the following information for this temporary profile: In the Name field, enter the following name and the namespace for your environment:

   Name: `migration_wgstatic_profile`

   Name Space: *`obapp=PSC,o=Oblix,o=company,c=us`*

   where the Name Space is the value of the LDAP PolicyBase parameter in *PolicyManager_install_dir*/oblix/config/configInfo.lst
6. Select the All Operations button to give this profile permission to perform all operations.
7. In the Used By field, select the Access Servers option.

   Next you must create a database instance profile where you identify the directory server where your policy data is stored. If your policy data is stored on a separate directory server, the new database instance profile should be created for that directory server. If user, configuration, and policy data are all on one directory server, the new database instance profile should be created for that directory server
8. In the Database Instances section of the Create Directory Server Profile page, click Add.

The Create Database Instance page appears.

9. Fill in the following information to configure a database instance profile for your policy data directory server:

   Name:
   Machine:
   Port:
   Root DN:
   Root DN Password:

   For more information, see the *Oracle Access Manager Identity and Common Administration Guide* for details.

10. In the Flags field, if your directory supports LDAP referrals click the LDAP referrals check box if appropriate for your environment.

    See the *Oracle Access Manager Identity and Common Administration Guide* for details on configuring LDAP referrals.

11. Save the database instance profile and the associated directory server profile.

12. If the policy directory server operates in SSL mode, the Access Server requires a CA certificate to connect to it.

    If the policy directory server uses the same CA certificate as the Access Server, no additional configuration is required. Otherwise, you must add the CA certificate (cert8.db or cert7.db) to the certificate store in the following directory:

    AccessServer_install_dir/oblix/config

    Where *AccessServer_install_dir* is the directory where the Access Server was installed. See the appendix on adding a new certificate store in the *Oracle Access Manager Installation Guide* for details.

13. Proceed to "Backing Up Upgraded Policy Data" next.

Backing Up Upgraded Policy Data

As mentioned earlier, Oracle recommends that you finish the schema and data upgrade by backing up the 10*g* (10.1.4.0.1) component directory and directory server instances. This will enable you to easily restore your environment to the newly upgraded state should that be a requirement.

To back up critical policy information after the upgrade

1. Back up the upgraded 10*g* (10.1.4.0.1) Policy Manager directory and store it in a new location.
2. Back up upgraded directory server instances using your directory vendor documentation as a guide.
3. Backup upgraded policy data, as described in "Backing up Oracle Access Manager Configuration and Policy Data" on page 5-17.
4. Back up the upgraded Web server configuration file as described in your vendor documentation.
5. **Windows**: Back up Windows registry data, if required, as described in "Backing Up Windows Registry Data" on page 8-9.
6. Proceed to "Looking Ahead" on page 7-13.

Recovering From an Access System Schema or Data Upgrade Failure

If the schema and data upgrade was not successful, you can perform the following steps to rollback this upgrade, then try again.

To recover from an unsuccessful Access System schema and data upgrade

1. Restore the directory instance that you backed up before the upgrade to recover the earlier schema and data from backup.
2. Restore the earlier component installation directory that you backed up before the upgrade (to recover the earlier environment), then back it up again. You will retain one of the earlier directories as a backup copy and use one to restart the upgrade.
3. **Policy Manager Web Server**: Restore the earlier Web server configuration file.
4. **Windows**: Restore the backed up registry, if needed.
5. Using a backup copy of your earlier data and component installation directory, restart the upgrade, as described in "Upgrading the Schema and Data with the Master Access Manager Component" on page 7-3.

Looking Ahead

After upgrading the Access System schema and data, proceed in sequence with the following chapters and tasks:

- Chapter 8, "Preparing Components for the Upgrade"
- Chapter 9, "Upgrading Remaining Identity System Components In Place"
- Chapter 10, "Upgrading Access System Components In Place"
- Chapter 11, "Upgrading Integration Components and an Independently Installed SDK"
- Chapter 12, "Upgrading Your Identity System Customizations"
- Chapter 13, "Upgrading Your Access System Customizations"
- Chapter 14, "Validating the Entire System Upgrade"

For more information about expected system behaviors, see Chapter 4.

Part III

Upgrading Components

This part of the book describes how to upgrade your earlier Identity and Access System components to 10*g* (10.1.4.0.1) after upgrading the schema and data.

Part III contains the following chapters:

8

Preparing Components for the Upgrade

This chapter provides important information to help you prepare your earlier environment before you begin upgrading remaining Identity and Access System components. Refer to your own planning documents and use the summaries in Appendix F to track your progress.

Unless explicitly stated, you perform these activities regardless of the upgrade method you are using. For details about zero downtime upgrades, see Part IV. You also perform these tasks when you are upgrading while switching from a Solaris platform to Linux as described in Appendix B. Topics in this chapter include:

- Checking Compatibility with Previous Releases
- Copying Custom Identity Event Plug-ins
- Preparing Earlier Customizations
- Preparing the Default Logout in the Policy Manager
- Preparing Host Computers
- Preparing Release 6.x Environments
- Backing Up File System Directories, Web Server Configurations, and Registry Details
- Stopping Servers and Services
- Logging in with Appropriate Administrative Rights

Note: New product and component names are used in this chapter even when referring to the earlier product and components. For example, Oracle Access Manager is used instead of Oblix NetPoint or Oracle COREid. For more information, see "What's New in Oracle Access Manager?" on page -xxvii.

Checking Compatibility with Previous Releases

There are several actions that you must take to confirm compatibility between your earlier installation and 10.1.4. As mentioned in Chapter 2, support for some items has been deprecated. In some cases, you might need to decide how to proceed given the support changes.

To confirm compatibility with 10.1.4

1. Review "Support Deprecated" on page 2-12
2. Review 10.1.4 platform support, as described here:

a. Go to Oracle Technology Network:

   http://www.oracle.com/technology/software/products/ias/files/idm_certification_101401.html

b. Locate and click the link for Oracle Access Manager Certification.

   System Requirements and Supported Platforms for Oracle Access Manager 10gR3 (**xls**)

3. When directory server or Web server versions or platform support has changed, see "Upgrade Strategies When Support is Changed or Deprecated" on page 2-13, for information about how to proceed.

Copying Custom Identity Event Plug-ins

All standard plug-ins are copied during the upgrade, as are custom authorization and authentication plug-ins. However, custom Identity Event plug-ins created using the Identity Event Plug-in API are not copied during the upgrade.

Oracle recommends that you complete the following procedure to prepare custom Identity Event plug-ins for possible redesign before the upgrade, in a small isolated environment or (zero downtime clone environment).

To copy Identity Event Plug-ins before the upgrade

1. Before the upgrade, create a directory for your old Identity Event plug-ins in the top level of your Identity Event API directory.
2. Copy custom Identity Event plug-ins in to the new directory.
3. Proceed to "Preparing Earlier Customizations" next.

Preparing Earlier Customizations

Oracle recommends that you start manually processing customizations in your existing environment well in advance of upgrading components. This should occur in a test or development environment to minimize service disruptions. After completing the upgrade and testing your customizations, you can deploy them in the upgraded environment as discussed in "Customization Upgrade Planning" on page 1-16.

> **Note:** If you are using the zero downtime upgrade method, Oracle recommends that you perform customization upgrades early and test these thoroughly within the upgraded clone environment. For more information, see also "Customization Upgrades Using the Zero Downtime Upgrade Method" on page 15-15.

For many customizations, you can start work before upgrading components, regardless of the upgrade method you are using. However, a few customization upgrades can be accomplished only after upgrading components.

Identity System: The overview here lists Identity System customization work that must be performed and where to find details within Chapter 12.

Task overview: Upgrading earlier Identity System customizations includes

1. Upgrading Auditing and Access Reporting for the Identity System on page 12-2
2. Combining Challenge and Response Attributes on a Panel on page 12-8

3. Confirming Identity System Failover and Load Balancing on page 12-9
4. Migrating Custom Identity Event Plug-Ins on page 12-10
5. Ensuring Compatibility with Earlier Portal Inserts on page 12-11
6. Incorporating Customizations from Release 6.5 and 7.x on page 12-12
7. Incorporating Customizations from Releases Earlier than 6.5 on page 12-14

Joint Identity and Access System: In addition to the Identity System work that is outlined in the previous task overview, you must also upgrade earlier Access System customizations. The next overview outlines Access System customization upgrades that you must perform manually. For details, see Chapter 13.

Task overview: Upgrading earlier Access System customizations includes

1. Upgrading Auditing and Reporting for the Access Server on page 13-2
2. Upgrading Forms-based Authentication on page 13-4
3. Recompiling and Redesigning Custom Authentication and Authorization Plug-Ins on page 13-5
4. Associating Release 6.1.1 Authorization Rules with Access Policies on page 13-6
5. Assuring Proper Authorization Failure Re-directs After Upgrading from 6.1.1 on page 13-7
6. Updating the ObAMMasterAuditRule_getEscapeCharacter in Custom C Code on page 13-7

For more information, see "About Upgrading and Backward Compatibility" on page 4-6.

Preparing the Default Logout in the Policy Manager

Before the upgrade, the default logout should be unprotected in the Policy Manager. Otherwise, after the upgrade, users will be challenged when they click the Logout link.

To prepare the default logout for an upgrade

1. Confirm that the default logout is not protected in the Policy Manager.
2. If you use oblogout.cgi for WebGate logouts, be sure that it is installed on the target server.

Preparing Host Computers

Preparing computers hosting the earlier installation includes the following procedures:

- Changing Read Permissions on Password Files
- Confirming Free Disk Space

For additional information, see "Backing Up File System Directories, Web Server Configurations, and Registry Details" on page 8-7.

Changing Read Permissions on Password Files

If you are running the Identity System using Simple or Cert mode, your password.xml file in the *IdentityServer_install_dir*\identity\oblix\config directory is not readable. The

same issue applies to the Access System password.lst file in *install_dir*\access\oblix\config.

To prepare password files for the upgrade

1. For Identity System upgrades, assign read permissions to password.xml for the duration of the upgrade process. See also, "Logging in with Appropriate Administrative Rights" on page 8-10.
2. Reset password.xml to the desired permissions after the upgrade is complete.
3. For Access System upgrades, repeat the steps in this list on the password.lst file.

Confirming Free Disk Space

You need enough disk space on the computer hosting the earlier component for both the earlier Oracle Access Manager release and the new release.

To confirm you have enough disk space

1. Check the *Oracle Access Manager Installation Guide* for the disk space required for the new component.
2. On the computer hosting the component to be upgraded, check the amount of disk space required for the earlier installation that will be retained in a renamed time-stamped source directory.

Preparing Release 6.x Environments

To ensure success when upgrading certain Oracle Access Manager 6.x installations (excepting 6.5.1), you must add specific bundles in to your original *Component_install_dir* in addition to the standard 10*g* (10.1.4.0.1) installation packages. Discussions here identify additional files needed when you are starting the upgrade from specific releases only:

- Adding Packages for Release 6.5.0.x
- Adding Packages for Release 6.5.2.x Patch

WARNING: Use only the files that are relevant to your specific installation. See also "Preparing Multi-Language Installations" on page 8-7.

Adding Packages for Release 6.5.0.x

During the upgrade to 10*g* (10.1.4.0.1), the installer for each component creates a directory named "orig" and compares the environment to ensure appropriate files are upgraded. The original Oracle Access Manager 6.5.0 release did not provide an upgrade capability and, therefore, did not create a file named "orig".

As a result, before you upgrade from Oracle Access Manager 6.5.0.x, you must extract and add the following packages to your original *Component_install_dir*.

Extract 65-orig Packages to the Original *Component_install_dir*
Netpoint_65_orig_en_COREid_Server_msg.zip
Netpoint_65_orig_COREid_Server_param.zip

Extract 65-orig Packages to the Original *Component_install_dir*
Netpoint_65_orig_en_Access_Manager_msg.zip
Netpoint_65_orig_Access_Manager_param.zip
Netpoint_65_orig_en_WebPass_msg.zip
Netpoint_65_orig_WebPass_param.zip
Netpoint_65_orig_en_Access_Server_msg.zip
Netpoint_65_orig_Access_Server_param.zip
Netpoint_65_orig_en_WebGate_msg.zip
Netpoint_65_orig_WebGate_param.zip
Netpoint_65_orig_en_AccessServerSdk_msg.zip

To obtain the 65_orig packages

1. Obtain the 65_orig packages listed in the preceding list from My Oracle Support (formerly MetaLink), as follows:
   a. In your browser, enter the following URL:

      `http://metalink.oracle.com`

   b. Log in, as usual.
   c. From the **Quick Find** list, select **Patch Number**.
   d. Enter **`5724938`** in the field beside Quick Find Patch Number, then click the **Go** button.

      The results of your search are displayed with the description: UNABLE TO LOCATE MIGRATION BUNDLE FOR 6.5-10.1.4 UPGRADE.

      Note: The Platform is automatically specified as Microsoft Windows 2000 because the bundles contain only text files that you can use on any platform; there are no binary files.

   e. Click the **Download** button and follow instructions on the screen, then proceed with step 2.
2. Extract (untar) the files to the original installation directory for each component.

   This creates a new directory named "orig" for each component. For example: *Component_install_dir*/identity/oblix/orig (or *Component_install_dir*/access/oblix/orig).
3. Finish preparing your environment as described in this chapter and:
   - If your installation includes a release 6.5.2.x patch set, see "Adding Packages for Release 6.5.2.x Patch"
   - If your installation includes multiple languages, see "Preparing Multi-Language Installations" on page 8-7

Adding Packages for Release 6.5.2.x Patch

During the upgrade, the 10*g* (10.1.4.0.1) component installerrs create a directory named "orig" and compare the environment to ensure appropriate files are upgraded. If you originally installed release 6.5.0.x, then patched it to 6.5.2.x, you must extract

and add the following packages to your original *Component_install_dir* before the upgrade.

Extract 652_orig Packages to the Original *Component_install_dir*
Netpoint_652_orig_en_COREid_Server_msg.zip
Netpoint_652_orig_COREid_Server_param.zip
Netpoint_652_orig_en_WebPass_msg.zip
Netpoint_652_orig_WebPass_param.zip
Netpoint_652_orig_en_Access_Manager_msg.zip
Netpoint_652_orig_Access_Manager_param.zip
Netpoint_652_orig_en_Access_Server_msg.zip
Netpoint_652_orig_Access_Server_param.zip
Netpoint_652_orig_en_WebGate_msg.zip
Netpoint_652_orig_WebGate_param.zip
Netpoint_652_orig_AccessServerSdk_param.zip
Netpoint_652_orig_en_AccessServerSdk_msg.zip

Note: You complete the next procedure only if the 6.5.2 patch was applied to a 6.5.0 installation. If your 6.5.2 installation was installed without a patch, ignore this procedure.

To obtain the 6.5.2 packages

1. Obtain the 652 packages in the preceding list from My Oracle Support (formerly MetaLink), as follows:
   a. In your browser, enter the following URL:

      `http://metalink.oracle.com`

   b. Log in, as usual.
   c. From the **Quick Find** list, select **Patch Number**.
   d. Enter **`5724938`** in the field beside Quick Find Patch Number, then click the **Go** button.

      The results of your search are displayed with the description: UNABLE TO LOCATE MIGRATION BUNDLE FOR 6.5-10.1.4 UPGRADE.

      Note: The Platform is automatically specified as Microsoft Windows 2000 because the bundles contain only text files that you can use on any platform; there are no binary files.

   e. Click the **Download** button and follow instructions on the screen, then proceed to step 2.
2. Extract (untar) these to the original installation directory for each component.

This creates a new directory named "orig" for each component. For example: *Component_install_dir*/identity/oblix/orig (or *Component_install_dir*/access/oblix/orig).

3. If your installation includes multiple languages, see "Preparing Multi-Language Installations" on page 8-7.
4. Finish preparing your environment as described in this chapter and start the upgrade.

Preparing Multi-Language Installations

The Language Pack release that you require will depend upon the Oracle Access Manager release that you plan to use after upgrading or patching. For example, if you plan to upgrade or patch to Oracle Access Manager:

- 10*g* (10.1.4.0.1), you must use 10*g* (10.1.4.0.1) Language Packs
- 10*g* (10.1.4.2.0), you must use 10*g* (10.1.4.0.1) Language Packs--there are no 10*g* (10.1.4.2.0) Language Packs
- 10*g* (10.1.4.3), after the upgrade you must remove 10*g* (10.1.4.0.1) Language Packs, then apply the 10*g* (10.1.4.3) patch set and install 10*g* (10.1.4.3) Language Packs as described in "Preparing Upgraded Environments for 10g (10.1.4.3) Language Packs" on page 14-3

Note: There is no independent Language Pack for English (en-us) because this is the default language. There are no 10*g* (10.1.4.2.0) Language Packs.

Retaining Multi-Language Functionality During the Upgrade: If you upgrade a multi-language installation without including the corresponding 10*g* (10.1.4.0.1) Language Packs, you will lose current multi-language functionality. However, you can preserve multi-language functionality by including 10*g* (10.1.4.0.1) Language Packs in the same directory as the 10*g* (10.1.4.0.1) installer before the upgrade. After upgrading, you can add new Language Packs, as described in the following procedure.

You can use the following procedure with either the in-place upgrade method or the zero downtime upgrade method.

To preserve existing multi-language functionality during an upgrade

1. Add to the same directory as the 10*g* (10.1.4.0.1) component installer any 10*g* (10.1.4.0.1) Language Packs that correspond to earlier installed languages.
2. Upgrade your earlier installation using either method described in this book.
3. After upgrading and before applying the latest patch sets, see "Preparing Upgraded Environments for 10g (10.1.4.3) Language Packs" on page 14-3.

Backing Up File System Directories, Web Server Configurations, and Registry Details

Oracle recommends that you complete activities in the topics here before upgrading to help ensure that you can roll back to the original installation should any problem arise:

- Backing Up the Existing Component Installation Directory
- Backing Up the Existing Web Server Configuration File

- Backing Up Windows Registry Data

Backing Up the Existing Component Installation Directory

Before starting each component (or customization) upgrade, Oracle recommends that you back up the installation directory for the earlier instance and store this backup in a different location. This will enable you to retrieve the original directory later should you decide to restore the environment and rerun the upgrade.

> **Note:** When you use the zero downtime upgrade method, you will create a source. The source becomes a backup directory that remains intact during the upgrade. For zero downtime upgrades, you do not need to create a backup copy of the installation directory. For more information about this method, see Part VI.

In-place Method: As described earlier, a time-stamped directory of original files is created when you upgrade each component using the in-place upgrade. This system-generated directory contains earlier original files that are sometimes accessed to compare content or extract customized information. The time-stamped directory is stored in the same location as the upgraded 10*g* (10.1.4.0.1) directory. For example:

C:\611*identity_server*\identity

C:\611*identity_server**identity_20060714_1701*

To back up the existing installed directory

1. On the computer hosting the component you will upgrade, locate the current installation directory. For example:

   C:\611*identity_server*\identity

2. Copy the directory and store the copy in a new location. For example:

   D:\611_backup*identity_server*\identity

Backing Up the Existing Web Server Configuration File

Before starting any Web server component upgrade (WebPass, Policy Manager, WebGate), Oracle recommends that you back up the existing Web server configuration file and store this backup in a different location.

The files to be backed up will vary, depending upon the Web server type. For example:

- Netscape or Sun One Web Server: back up the obj.conf and magnus.conf files
- All Apache-based Web Servers (including Apache v1 and v2 Web Servers, IBM HTTP Server (IHS) powered by Apache, and Oracle HTTP Server: back up httpd.conf
- Internet Information Services (IIS) Web Servers): use the Microsoft Configuration Backup/Restore feature as described in the following procedure.
- Domino Web Servers: Oracle recommends that you capture screen shots of each page of the Web server configuration using the Web server's graphical user interface (GUI). If needed, you can refer to the screens to reconfigure the Domino Web server if you choose to restore or roll back to the earlier configuration. Domino does not maintain any configuration file that can be backed up.

To back up the existing Web Server configuration file

1. On the computer hosting the Web component you will upgrade, locate the existing Web server configuration file. For example:

   C:/*IHS_install_dir*/conf/httpd.conf

2. Copy the Web server configuration file and store the copy in a new location. For example:

   D:/*IHS_install_dir*/conf/httpd.conf

3. IIS 5: Perform the following steps.
   a. Right click the computer name in the Internet Information Services (IIS) Manager MMC snap-in.
   b. Click Backup/Restore Configuration.
   c. Click the Create Backup button.
4. IIS 6: Perform the following steps.
   a. Right click the computer name in the Internet Information Services (IIS) Manager MMC snap-in.
   b. Click All Tasks, click Backup/Restore Configuration.
   c. Click the Create Backup button.
5. Domino Web servers: Reconfigure the Web server using the GUI and screen shots of the previous configuration.

Backing Up Windows Registry Data

Before starting each component upgrade on a Microsoft Windows system, Oracle recommends that you back up any registry data that includes Oracle Access Manager (formerly NetPoint or COREid) data.

To back up Windows Registry data

1. Run the regedit command
2. Chose the key "My Computer\HKEY_LOCAL_ MACHINE\SOFTWARE\Oblix\Oblix NetPoint"
3. Click "Registry" in the menu then select "Export registry file…" in the drop-down. menu.
4. Specify the export file name in the "Export Registry File" dialog.
5. Save the exported registry file to a known location.

Again, this will enable you to roll back to the previous installed environment and restart the upgrade, should a failure occur. Refer to your Windows documentation for details.

Stopping Servers and Services

Before you start to upgrade to10*g* (10.1.4.0.1), you must stop the earlier server or service on the computer hosting the component to be upgraded.

For example, if you use WebPass, you must stop the Web server on which the WebPass is installed. For an Identity Server, you must stop the Identity Server service. For

Identity Servers, you can use the following command to ensure that all Identity Server processes have been stopped on Solaris computers:

```
ps -ef | grep IdentityServer_install_dir
```

For Access Servers, ensure that all Access Server processes are completely shutdown before upgrading to the 10*g* (10.1.4.0.1) Access Server. To ensure that all Access Server processes have been stopped on Solaris computers, use the command shown next:

```
ps -ef | grep AccessServer_install_dir
```

Any still-running Access Server processes can be terminated using the `kill -9` command.

IIS users: Stop the IIS Admin Service.

To stop servers or services before the upgrade

1. Locate the computer hosting the component you will upgrade.
2. Stop the Web server (WebPass, Policy Manager, and WebGate) or the service (Identity Server and Access Server).
3. If you are upgrading any integration components, stop the corresponding Application or Portal Server. For example if you are upgrading Security Provider for WebLogic SSP, you must stop the corresponding WebLogic Application Server.

Logging in with Appropriate Administrative Rights

Whether you upgrade or install an Oracle Access Manager component, you must log in as a user with administrative rights. On Solaris, you must run the upgrade as the user who installed the previous release of Oracle Access Manager, or as a user with higher privileges.

Whenever a schema and data upgrade is involved in the upgrade process, you must login as a user who has permission to change the schema and data in the directory server. In other words, the bind DN you use must have permission to update the directory.

To login before the upgrade

1. Ensure that you have a userid and password that provides the rights required to perform the upgrade as well as any schema and data changes that occur during the upgrade.
2. On the computer hosting the component to upgrade, log in as a user with administrative rights.

9

Upgrading Remaining Identity System Components In Place

Activities in this chapter are intended for administrators responsible to upgrade earlier Identity System components (Identity Servers (formerly known as COREid Servers) and WebPass instances. Topics include:

> **Note:** If you are using the zero downtime method, skip this chapter and see Part VI. If your starting Oracle Access Manager release is earlier than 6.1.1, contact Oracle Support before upgrading: `http://www.oracle.com/support/contact.html`.

About In-Place Identity System Upgrades

Ensure that the schema and data have been upgraded in place, as described in Part II. Activities in this chapter must be completed in the sequence described herein:

- After upgrading the Identity System schema and data as described in Part II (and if you have an existing Access System, after upgrading the Access System schema and data as described in Chapter 7)
- After preparing Identity system components as described in Chapter 8, which might be performed just before upgrading each specific component instance

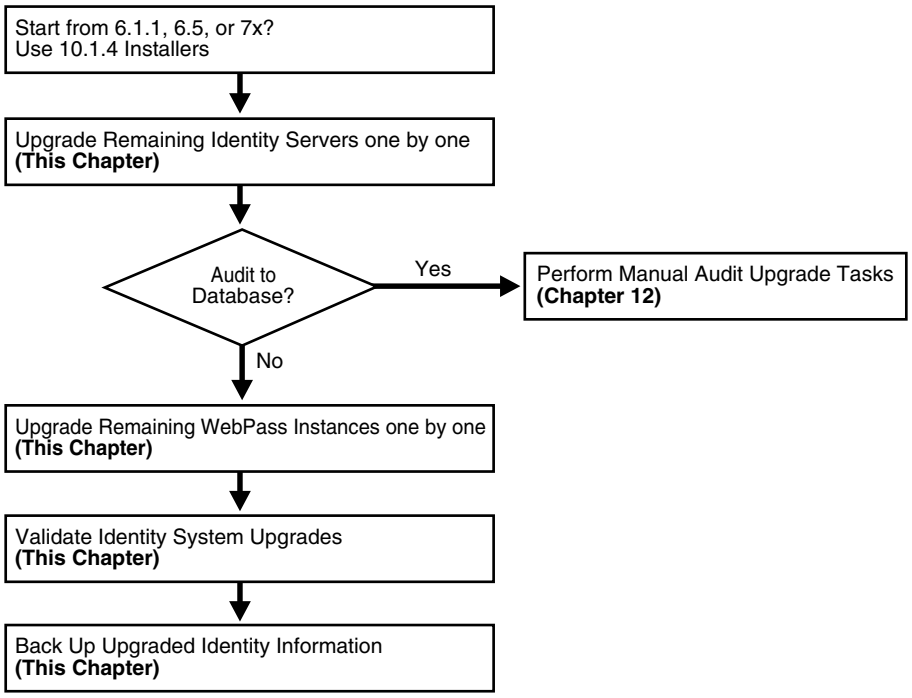
To upgrade remaining Identity System components in place, you use corresponding 10*g* (10.1.4.0.1) component installers and specify the same target directory as the existing component.

When your starting 6.5 or 7.x release includes multiple languages, you should upgrade these to retain your existing multiple language functionality.

Note: If you experience problems during any component upgrade, see "Accessing Log Files" on page G-2 and other troubleshooting tips in Appendix G.

Figure 9–1 provides an overview of the in-place Identity System upgrade tasks. Additional details follow the graphic.

Figure 9–1 In-place Identity System Upgrade Task Overview



Task overview: Upgrading Identity System components in place

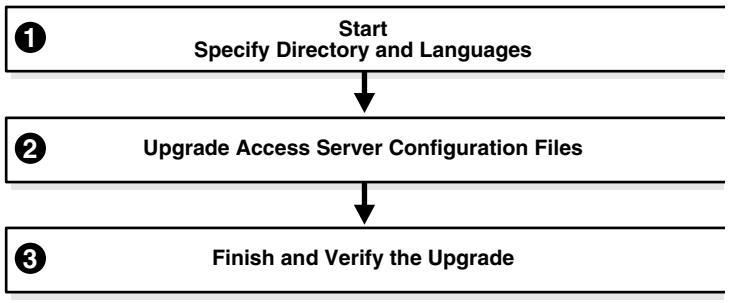
1. Upgrade remaining Identity Servers, one by one, as described in "Upgrading Remaining Identity Servers In Place" on page 9-3.
2. **Audit to Database**: If auditing to a database is configured in your earlier installation, before restarting the upgraded Identity Server service you must perform certain tasks manually to ensure proper auditing in 10*g* (10.1.4.0.1). See "Upgrading Auditing and Access Reporting for the Identity System" on page 12-2.
3. Upgrade remaining WebPass components, one by one, as described in"Upgrading Remaining WebPass Instances In Place" on page 9-8.
4. Perform activities in "Validating the In-place Identity System Upgrade" on page 9-11 to ensure that the upgrade is successful:
   - **Component Upgrade Successful**: Proceed to "Backing Up Upgraded Identity Component Information" on page 9-12.
   - **Component Upgrade Not Successful**: Proceed to "Recovering From an In-place Identity Component Upgrade Failure" on page 9-12.

Note: If you experience problems during any component upgrade, see "Accessing Log Files" on page G-2 and other troubleshooting tips in Appendix G.

Upgrading Remaining Identity Servers In Place

Figure 9–2 illustrates the sequence of events during the program-driven upgrade process for remaining Identity Servers (and the decision points where you are asked to provide specific responses or input). These are a subset of the processes that occur during the schema and data upgrade, because the program automatically detects those changes and suppresses messages related to those events during subsequent Identity Server upgrades.

Figure 9–2 Remaining Identity Server Upgrade Process, In Place



Task overview: Upgrading remaining Identity Servers includes

1. Starting the Identity Server Upgrade
2. Specifying the Target Directory and Languages

   When upgrading remaining Identity Servers, you won't be asked about schema and data upgrades, because those upgrades are detected automatically.
3. Upgrading Identity Server Configuration Files
4. Upgrading the Software Developer Kit Configuration

   Oracle recommends that you accept the Software Developer kit (SDK) configuration upgrade for each Identity Server during the component upgrade. Certain Identity server functions depend on the SDK configuration.
5. Finishing and Verifying the Identity Server Upgrade

Identity Server Upgrade Prerequisites

Before you begin upgrading remaining Identity Servers, check the tasks in Table 9–1 and be sure to perform all tasks for each component instance before the upgrade. Failure to complete the prerequisites can adversely affect your upgrade.

Table 9–1 Identity Server Upgrade Prerequisites

Identity Server Upgrade Prerequisites
Review introductory chapters in Part I
Complete activities to upgrade the schema and data in Part II

Table 9–1 (Cont.) Identity Server Upgrade Prerequisites

Identity Server Upgrade Prerequisites
Complete activities to prepare components as described in Chapter 8 for this Identity Server instance, and: ■ If you have a multi-language environment, see "Preparing Multi-Language Installations" on page 8-7. ■ If you are upgrading a release 6.x installation, see "Preparing Release 6.x Environments" on page 8-4.

Starting the Identity Server Upgrade

You complete the upgrade using the appropriate 10*g* (10.1.4.0.1) installer. This manual describes the process using GUI method and Automatic mode.

The process is similar regardless of the method and mode you choose, or your operating system. Differences are noted as needed and you can skip items that do not apply). For example, if you have a UNIX environment you can skip steps related to Windows and vice versa:

To start an Identity Server upgrade

1. Complete all prerequisites for this instance as described in "Identity Server Upgrade Prerequisites".
2. Turn off the Identity Server service for this instance and log in as a user with the appropriate administrator privileges to update the Oracle Access Manager files.
3. Locate the component installer and launch the program:

   GUI Method, **Windows**:

   Oracle_Access_Manager10_1_4_0_1_win32_Identity_Server.exe

   Console Method, **Solaris**:

   ./Oracle_Access_Manager10_1_4_0_1_sparc-s2_Identity_Server

   The Welcome screen appears.
4. Dismiss the Welcome screen by clicking Next.
5. Respond to the administrator question based upon your platform. For example:
   - **Windows**: If you are logged in with administrator rights, click Next (otherwise click Cancel, log in as a user with administrator privileges, then restart the installation).
   - **UNIX**: Specify the username and group that the Identity Server will use, then click Next. Typically, the defaults are "nobody."

Specifying the Target Directory and Languages

During this sequence you must specify the same target directory as the existing Identity Server instance. When the earlier component is detected, you are asked if you want to upgrade. When you accept the upgrade, the target directory is created and 10*g* (10.1.4.0.1) files are extracted into it.

Even when your earlier environment is English only, you are asked to confirm the language to use as the default locale (default Administrator language). You are also asked to specify any languages to upgrade. You can install additional Language Packs after upgrading, as described in the *Oracle Access Manager Installation Guide*.

Unless indicated in the next steps the questions that you must respond to are the same regardless of your chosen installation method and mode.

To specify the target directory and languages

1. Choose the same installation directory as the earlier Identity Server, then click Next.
2. Accept the upgrade by clicking Yes, then click Next.
3. Ensure that a check mark appears beside English and any other languages you want to upgrade, then click Next.

   You might be presented with a list of languages that will be upgraded.
4. Confirm the languages listed by clicking Next.

   The next screen tells you that the existing installation has been saved and provides the time-stamped directory name containing all files from the previous installation.
5. Continue the upgrade by clicking Next.

   A new screen confirms the installation directory for 10*g* (10.1.4.0.1) and tells you how much space is needed for the installation.
6. Start the file extraction into the target directory by clicking Next.

   A status bar indicates the progress of the file extraction.
7. Press Enter to continue.

   ```
   Enter
   ```

   You are asked to specify a mode for the upgrade process: Automatic or Confirmed.

   Note: If you are installing in using the Console method, you are asked to run the command displayed in the transcript. On UNIX, the command is printed to a file (start_migration), and a message is printed to run this file.

   ```
   ------------------------------------
   Please specify the mode for migration:
   '1' - Automatic (recommended)
      Each step is performed automatically.
      No interaction from the user is required.
   '2' - Confirmed
      Each step needs confirmation from the user.
   Enter choice ( '1' or '2' ) : 1
   ------------------------------------------
   ```

8. Enter the number that corresponds to the upgrade mode you prefer: For example:
   - **Automatic (recommended)**: Enter the number 1 to observe as the process completes automatically and respond to a few specific questions when needed.
   - **Confirmed**: Enter the number 2 to receive a prompt that you must respond to before each and every event during the entire Identity Server upgrade process.

   The declarative messages in this guide are based on the Automatic mode. In this case, you are informed as folders are created, files are copied, and catalogs are upgraded. For example:

```
Creating original folders ...
------------------------------------------------------
Copying general configuration files
OK.
------------------------------------------------------
Updating parameter catalogs ...
OK.
------------------------------------------------------
```

When the upgrade program connects with the directory server, a transcript appears as shown next.

```
Starting migration (6.1.1 -> 6.5.0)
------------------------------------------------------
```

9. Regardless of the mode you have chosen, continue with "Upgrading Identity Server Configuration Files", next.

Upgrading Identity Server Configuration Files

Component-specific configuration files are upgraded during this sequence. Depending on your starting release, aspects of the sequence might be repeated to bring your starting release up to 10*g* (10.1.4.0.1) incrementally. For example if your starting release is 6.1.1, component configuration files are incrementally upgraded to release 6.5, then again to release 7.0, then again to 10*g* (10.1.4.0.1).

During this sequence, you must type the full word "yes" or press the Enter key when asked to continue the upgrade through each sequence. In the example here, however, not all messages are shown.

To accept Identity Server-specific changes

1. Review messages for the migration to 10*g* (10.1.4.0.1).
2. Continue as directed, and review the final message. For example:

```
Enter

Updating component-specific configuration files...
OK.

Migration has completed successfully!
Press <ENTER> to continue :
------------------------++++++++++++++-------------
```

3. Proceed with "Upgrading the Software Developer Kit Configuration" next.

Upgrading the Software Developer Kit Configuration

The following functions in the Identity System require the Software Developer Kit (SDK, formerly known as the Access Server SDK (or Access SDK):

- Automatic cache flush between the Identity System and Access System
- Automatic login to the Access System after self-registration

The SDK might have been manually configured to enable required functions, as described in your earlier version of the Oblix NetPoint or Oracle COREid *Administration Guide* (Volume 1 if you have a two volume set).By default, the SDK is installed in *IdentityServer_install_dir*\identity\AccessServerSDK.

If your environment was configured to perform these functions, Oracle recommends that you upgrade the SDK during each Identity Server upgrade to preserve current configuration settings. When you accept the SDK upgrade, the process is launched automatically.

> **Note:** If you do not accept the automatic SDK configuration upgrade now, current SDK configuration settings are not preserved and you must reconfigure the SDK later using the configureAccessGate tool in the Identity Server installation directory. For details, see the *Oracle Access Manager Identity and Common Administration Guide*. If the SDK was not configured for this specific Identity Server, you can skip this event when asked.

To upgrade the SDK configuration during the Identity Server upgrade

1. Review the SDK statements.

```
This component has the Access Server SDK installed

Would you like to automatically migrate the SDK at this time?

Note: If you do not want to migrate the SDK at this time, you will
need to reconfigure the SDK after migration has finished
by running the 'configureAccessGate' program
  '1' - Yes
  '2' - No
Enter choice ( '1' or '2' ) :
```

2. Respond to the question about migrating the SDK based on your environment.

```
   1
```

3. Continue as directed, then specify a mode for the SDK upgrade process: Automatic or Confirmed.

```
  ------------------------------------
  Please specify the mode for migration:
  '1' - Automatic (recommended)
     Each step is performed automatically.
     No interaction from the user is required.
  '2' - Confirmed
     Each step needs confirmation from the user.
  Enter choice ( '1' or '2' ) : 1
-----------------------------------------
    1
```

4. Continue as directed, then go to "Finishing and Verifying the Identity Server Upgrade" next.

Finishing and Verifying the Identity Server Upgrade

You complete this procedure to finish the upgrade for this Identity Server.

> **Caution: When your earlier environment includes auditing to a database, do not start the Identity Server service until you finish tasks in "Upgrading Auditing and Access Reporting for the Identity System" on page 12-2.**

To finish and verify the Identity Server upgrade

1. **Auditing and Access Reporting**: If your earlier installation included auditing and access reporting, go immediately to "Upgrading Auditing and Access Reporting for the Identity System" on page 12-2 before performing step 2.
2. Start the Identity Server service to confirm that it will start (notice that the name has not changed from the one originally assigned).
3. **Identity Server Service Does Not Start**: See troubleshooting tips in Appendix G.
4. Check the migration log files for any errors reported during the upgrade, as described in "Accessing Log Files" on page G-2.
5. **Upgrade Not Successful**: Proceed to "Recovering From an In-place Identity Component Upgrade Failure" on page 9-12.
6. **Upgrade Successful**: Upgrade every earlier Identity Server instance in your environment.
7. After upgrading *all* earlier Identity Server instances, proceed to "Upgrading Remaining WebPass Instances In Place" next.

Upgrading Remaining WebPass Instances In Place

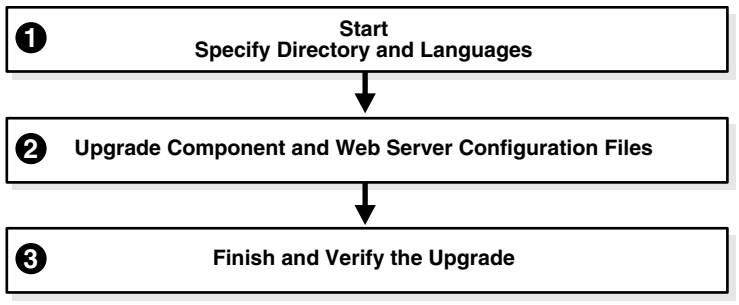
After all Identity Servers are upgraded in place, you can begin upgrading WebPass instances in place.

With WebPass, there is no connection to a directory server and, therefore, no schema or data upgrades. The component-specific upgrade includes both WebPass configuration files and Web server configuration updates. There are no differences between upgrading the master WebPass (accomplished earlier for the schema and data upgrade) and upgrading remaining WebPass instances.

Again, unless you are upgrading from release 7, the process repeats for each major release until you reach 10*g* (10.1.4.0.1).

Figure 9–3 illustrates events in the program-driven WebPass upgrade process as well and the points at which you must provide input.

Figure 9–3 In-place WebPass Upgrade Processes



Task overview: Upgrading remaining WebPass instances includes

1. Starting the WebPass Upgrade, Specifying the Target Directory and Languages
2. Upgrading WebPass Configuration Files and Web Server Configuration File
3. Finishing and Verifying the WebPass Upgrade

WebPass Upgrade Prerequisites

Before you begin upgrading any WebPass instance, check Table 9–2 to ensure you have completed all tasks. Failure to complete prerequisites can adversely affect your upgrade.

Table 9–2 WebPass Upgrade Prerequisites

WebPass Upgrade Prerequisites
Upgrade all Identity Servers as described in "Upgrading Remaining Identity Servers In Place" on page 9-3.
Complete tasks to prepare this WebPass as described in Chapter 8, and: ▪ If you have a multi-language environment, see "Preparing Multi-Language Installations" on page 8-7. ▪ If you are upgrading a release 6.x installation, see "Preparing Release 6.x Environments" on page 8-4.

Starting the WebPass Upgrade, Specifying the Target Directory and Languages

The sample WebPass upgrade described here starts from release 6.1.1. The sequence of events and messages is directed by the program with very little input from you.

To start the WebPass upgrade

1. Complete all prerequisites for this instance as described in "WebPass Upgrade Prerequisites" on page 9-9.
2. Turn off this WebPass Web server.
3. Log in as a user with the administrator privileges to update the Web server configuration and Oracle Access Manager files.
4. Locate and launch the appropriate 10*g* (10.1.4.0.1) WebPass installer for this instance. For example:

   GUI Method Windows:
   Oracle_Access_Manager10_1_4_0_1_win32_NSAPI_WebPass.exe

   Console Method, Solaris:
   ./Oracle_Access_Manager10_1_4_0_1_sparc-s2_NSAPI_WebPass

   The Welcome screen appears.
5. Dismiss the Welcome screen, then r.espond when asked about your administrator rights.
6. Specify the directory that contains the earlier WebPass instance.
7. Accept the upgrade when asked.
8. Ensure that a check mark appears beside English and any other languages you have or want installed, then continue.

   You might be presented with a list of languages that will be upgraded or added.
9. Confirm the languages listed by clicking Next.
10. Record the name of the time-stamped directory, then continue.
11. Start the file extraction.

    A status bar indicates the progress of the file extraction.

Using the GUI method a new window appears asking you to specify either Automatic or Confirmed mode for the upgrade. Using the Console method, you are asked to run the command displayed in the transcript, then continue as instructed.

Upgrading WebPass Configuration Files and Web Server Configuration File

For brevity, steps are provided with little explanatory text. The command provided in the Console method transcript is referenced but not shown.

To upgrade the WebPass and Web server configuration

1. Enter the number that corresponds to the mode you prefer and follow the dialog on screen. For example:

```
-------------------------------------
Please specify the mode for migration:
'1' - Automatic (recommended)
   Each step is performed automatically.
   No interaction from the user is required.
'2' - Confirmed
   Each step needs confirmation from the user.
Enter choice ( '1' or '2' ) : 1
-------------------------------------------

  1

Creating orig folders ...
-----------------------------------------------------
Copying general configuration files ...
OK.
-----------------------------------------------------
Updating parameter catalogs ...
OK.
-----------------------------------------------------
Starting migration (6.1.1 -> 6.5.0)
-------------------------------------
Updating component-specific configuration files...
OK.
-------------------------------------
Starting migration ( 6.5.0 -> 7.0.0 )...
-------------------------------------
Updating web server configuration files...
OK.
-------------------------------------
Updating component-specific configuration files...
OK.
-------------------------------------
Starting migration (7.0.0 -> 10.1.4)
-------------------------------------
Updating web server configuration files...
OK.
-------------------------------------
Updating component-specific configuration files...
OK.
-------------------------------------
Migration has completed successfully!
Press <ENTER> to continue :
```

2. Continue as requested.

```
    Enter

If the Access System is also configured, you need to create a DB Profile
manually after first WebPass component upgrade is completed and before
upgrading the first Policy Manager. The profile gives the Access Server write
permission to Policy data in the directory server and will be used while
upgrading the WebGate component. The profile can be deleted after all
the WebGates are successfully upgraded.

   Changing ownership of directory ...
   (C:\NetPoint\webcomponent-iis\identity_20060426_163742\oblix ) ->
   (C:\NetPoint\webcomponent-iis\identity\oblix )
   -------------------------------------
```

3. Conclude the WebPass upgrade and proceed to the next discussion, "Finishing and Verifying the WebPass Upgrade".

> **Note:** Ignore the message about creating a temporary directory profile. This was performed after the schema and data upgrade.

Finishing and Verifying the WebPass Upgrade

You finish this WebPass upgrade as described in the following steps.

To finish the WebPass upgrade

1. Apply Web server changes, if needed.
2. Stop, then restart the associated Identity Server service.
3. Start the WebPass Web server instance.
4. **Web Server Does Not Start**: See troubleshooting tips in Appendix G.
5. Check the migration log files for any errors reported during the upgrade, as described in "Accessing Log Files" on page G-2.
6. **Upgrade Not Successful**: Proceed to "Recovering From an In-place Identity Component Upgrade Failure" on page 9-12.
7. **Upgrade Successful**: Upgrade every WebPass instance in your environment.
8. After upgrading *all* WebPass instances, proceed to "Validating the In-place Identity System Upgrade" next.

Validating the In-place Identity System Upgrade

It is a good idea to quickly validate the following items to ensure that the overall Identity System upgrade was successful.

To confirm your in-place Identity System upgrade

1. Delete all Web browser caches once the upgrade is complete.
2. Make sure your Identity Server service and WebPass Web server instance are running.
3. Check that your message and parameter catalog customizations have been preserved. For example, if you have changed any message in a particular message catalog file, then it needs to be retained.

4. Proceed to "Backing Up Upgraded Identity Component Information" next.

Backing Up Upgraded Identity Component Information

As mentioned earlier, Oracle recommends that you finish each component upgrade by backing up the upgraded 10*g* (10.1.4.0.1) component directory. This will enable you to easily restore your environment to the newly upgraded state should that be needed.

To back up critical information after the upgrade

1. Back up the 10*g* (10.1.4.0.1) component directory and store it in a new location.
2. **WebPass Web Server**: Back up the upgraded Web server configuration file, if required, using instructions from your vendor.
3. **Windows**: Back up the upgraded registry for the component as described in "Backing Up Windows Registry Data" on page 8-9.
4. Proceed to "Looking Ahead" on page 9-12.

Recovering From an In-place Identity Component Upgrade Failure

If a component upgrade was not successful, you can perform the following steps to rollback this upgrade, then try again.

To recover from an unsuccessful Identity component upgrade

1. Restore the earlier component installation directory that you backed up before the upgrade (to recover the earlier environment), then back it up again. You will retain one of the earlier directories as a backup copy and use one to restart the upgrade.
2. **WebPass Web Server**: Restore the upgraded Web server configuration file, if required.
3. **Windows**: Restore the backed up registry for the component.
4. Using a backup copy of your earlier component installation directory (and Web server configuration, if needed), restart the upgrade as described in this chapter.

Looking Ahead

Upgraded Identity System components send and receive information in UTF-8 encoding. Earlier components send and receive data in Latin-1 encoding. As a result, the 10*g* (10.1.4.0.1) Identity System does *not* work with earlier Access System components.

When all earlier Identity System components are successfully upgraded, proceed as appropriate for your earlier installation. For example:

- **Identity System Only**: When your earlier installation does *not* include the Access System, you can complete activities in the following sequence using information in:
  - Chapter 12, "Upgrading Your Identity System Customizations" after upgrading all Identity System components.
  - Chapter 14, "Validating the Entire System Upgrade"
- **Joint Identity and Access System**: In this case, you must complete activities in the sequence listed next using information in:
  - Chapter 10, "Upgrading Access System Components In Place"

- Chapter 11, "Upgrading Integration Components and an Independently Installed SDK"
- Chapter 12, "Upgrading Your Identity System Customizations" after upgrading all Identity System components.
- Chapter 13, "Upgrading Your Access System Customizations"
- Chapter 14, "Validating the Entire System Upgrade"

For more information about expected system behaviors, see Chapter 4.

10

Upgrading Access System Components In Place

Activities in this chapter are intended for administrators responsible to upgrade an earlier Access System components. If your environment does *not* include Access System components, you can skip this chapter. If you are using the zero downtime method, see Part VI. Topics in this chapter include:

- About In-place Access System Component Upgrades
- Upgrading Remaining Policy Managers In Place
- Upgrading Access Servers In Place
- Upgrading WebGates In Place
- Backing Up Upgraded Access System Component Directories
- Recovering From an In-place Access System Upgrade Failure
- Looking Ahead

> **Note:** You must upgrade the Access System before upgrading integration components or an independently installed SDK.

About In-place Access System Component Upgrades

Before you can use Oracle Access Manager access policies, you must upgrade the Access System components. Tasks in this chapter must be performed:

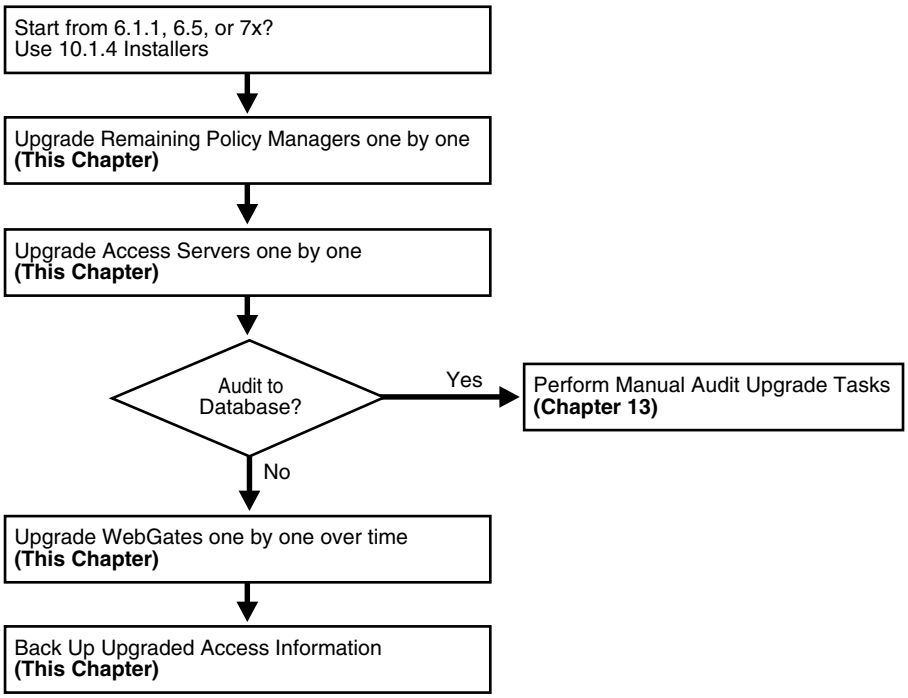
- After upgrading the schema and data as described in Part II
- After upgrading remaining Identity System components in as described in Chapter 9
- After preparing individual Access System components as described in Chapter 8, which can be performed just before upgrading each specific instance

To upgrade remaining Access System component in place, you use corresponding 10*g* (10.1.4.0.1) component installers and specify the same target directory as the existing component.

When your starting 6.5 or 7.x release includes multiple languages, you should upgrade these to retain your existing multiple language functionality.

Figure 10–1 provides an overview of in-place Access System upgrade tasks.

Figure 10–1 In-place Access System Upgrade Tasks



Task overview: Upgrading Access System components in place includes

1. Upgrading Remaining Policy Managers In Place
2. Upgrading Access Servers In Place
3. **Audit to Database**: If you have auditing to a database configured in your earlier installation, before restarting the upgraded Access Server service you must perform certain tasks manually to ensure proper auditing in 10*g* (10.1.4.0.1). See "Upgrading Auditing and Reporting for the Access Server" on page 13-2.
4. Upgrading WebGates In Place: This activity does not need to occur all at one time because upgraded Access Servers are automatically backward compatible with earlier WebGates.
5. **Component Upgrade Successful**: Proceed to "Backing Up Upgraded Access System Component Directories" on page 10-13. This task should be performed after every component successful upgrade to enable you to quickly roll back to this upgrade if needed.
6. **Component Upgrade Not Successful**: Proceed to "Recovering From an In-place Access System Upgrade Failure" on page 10-13.

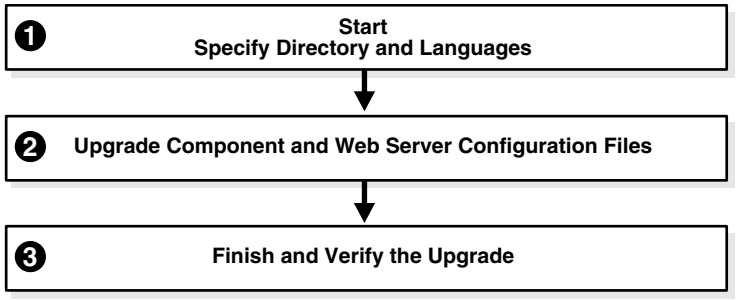
> **Note:** If you experience problems during any component upgrade, see "Accessing Log Files" on page G-2 and other troubleshooting tips in Appendix G.

Upgrading Remaining Policy Managers In Place

The name Policy Manager (formerly known as the Access Manager component) is used throughout this chapter. The master Policy Manager upgrade occurred with the Access System schema and data upgrade.

This discussion is divided into the events and decision points you must respond to when upgrading remaining Policy Manager instances, as shown in Figure 10–2. The updated schema and data is detected automatically and any corresponding messages and events are skipped.

Figure 10–2 Upgrade Process for Remaining Policy Manager Upgrades In Place



Note: If an earlier Policy Manager instance is installed in the same directory as an earlier WebGate on the same computer, you must upgrade the Policy Manager, the all Access Servers that communicate with the WebGate, and the WebGate before restarting the Web server.

Task overview: Upgrading remaining Policy Managers in place includes

1. Starting the Policy Manager Upgrade, Specifying a Target Directory and Languages
2. Upgrading Policy Manager and Web Server Configuration Files
3. Finishing and Verifying the Policy Manager Upgrade

In-place Policy Manager Upgrade Prerequisites

Before you begin upgrading remaining Policy Managers, check the tasks in Table 10–1 to ensure you have completed these tasks before upgrading each instance in your earlier environment. Failure to complete prerequisites can adversely affect your upgrade.

Table 10–1 In-Place Policy Manager Upgrade Prerequisites

Policy Manager Upgrade Prerequisites
Familiarize yourself with introductory chapters in Part I
Complete in-place schema and data upgrades as described in Part II.
Upgrade remaining Identity System components in place, as described in Chapter 9.
Prepare Policy Manager instances as described in Chapter 8, and: ▪ If you have a multi-language environment, see "Preparing Multi-Language Installations" on page 8-7. ▪ If you are upgrading a release 6.x installation, see "Preparing Release 6.x Environments" on page 8-4.

Starting the Policy Manager Upgrade, Specifying a Target Directory and Languages

In this sequence you start the process, specify the same target directory as the earlier Policy Manager component, and specify languages to upgrade.

Again, the steps here use GUI method and the recommended Automatic mode to illustrate messages you see, responses you give, and the sequence of events. The sample upgrade in this procedure starts from a release 6.1.1. Your starting release and environment might differ.

> **Note:** Skip any details that do not apply to your installation. For example if you have a UNIX environment, skip Windows details.

To start the Policy Manager upgrade, and specify a target directory and languages

1. Confirm that all prerequisites described in "In-place Policy Manager Upgrade Prerequisites" on page 10-3 have been completed for this instance.
2. Stop the Policy Manager Web server instance and log in as a user with the appropriate administrator privileges to update the Oracle Access Manager files.
3. Locate and launch the installation program using your preferred method:

   GUI Method, Windows:

   Oracle_Access_Manager10_1_4_0_1_Win32_NSAPI_PolicyManager.exe

   Console Method, Solaris:

   ./Oracle_Access_Manager10_1_4_0_1_sparc-s2_NSAPI_PolicyManager

   The Welcome screen appears.
4. Dismiss the Welcome screen as directed, then respond to the administrator question based upon your platform.
5. Choose the directory where you installed the earlier release, then continue as directed.
6. Accept the upgrade by clicking Yes, then click Next
7. Ensure that a check mark appears beside English and any other languages you have installed, then click Next.
8. Confirm the languages listed by clicking Next.
9. Record the time-stamped directory name, then click Next to continue.
10. Note the amount of disk space required, then click Next to start the file extraction into the target directory.

    You are asked to specify a mode for the upgrade process: Automatic or Confirmed.

    If you are using Console method, the installation script exits and a transcript appears. Run the command in the transcript then continue with step 9. (On UNIX, the command is printed to a file (start_migration), and a message is printed to run this file.)
11. Press the number of your choice., then review messages that appear. For example:

```
    1

Creating orig folders ...
-------------------------------------------------
```

```
Copying general configuration files
OK.
-----------------------------------------------------
Updating parameter catalogs ...
OK.
-----------------------------------------------------
```

12. Continue with "Upgrading Policy Manager and Web Server Configuration Files".

Upgrading Policy Manager and Web Server Configuration Files

During this sequence the component-specific upgrade is performed. With the Policy Manager, this includes Web server configuration updates and upgrades for Policy Manager configuration parameters.

The following procedure provides only an abbreviated set of messages to give you an idea of what to expect. Your environment will vary.

To upgrade the Web Server and Policy Manager

1. Review messages and respond appropriately for your environment when asked.

```
-------------------------------------
Updating web server configuration files...
Connecting to server ...Done.
OK.
-------------------------------------
Updating component-specific configuration files...
OK.
-------------------------------------
Starting migration ( 6.5.0 -> 7.0.0 )...
-------------------------------------
Please type 'yes' to proceed:
```

2. Continue with component-specific configuration for release 7.0 or 10*g* (10.1.4.0.1), if needed.

```
     Enter
Updating component-specific configuration files.
```

3. Review the message to confirm the upgrade finished successfully.

```
Directory permissions copied ...
C:\NetPoint\WebComponent\access_20060223_190102\oblix)
C:\NetPoint\WebComponent\access\oblix)
-------------------------------------------------
Migration has completed successfully!
Press <ENTER> to continue.
```

4. When this phase completes, continue as instructed, then proceed to "Finishing and Verifying the Policy Manager Upgrade".

Finishing and Verifying the Policy Manager Upgrade

You finish the upgrade as described in this procedure.

To finish the Policy Manager upgrade

1. Apply any changes to the Web server configuration file, if needed.

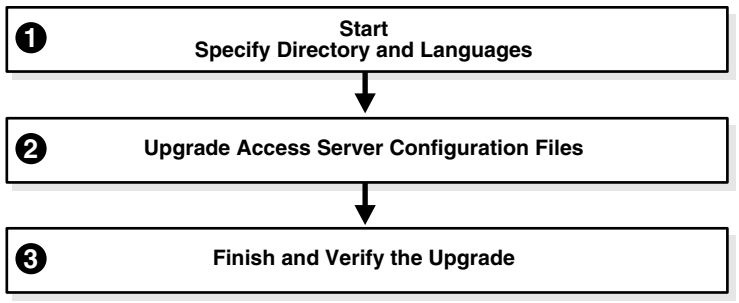
Important: If an earlier Policy Manager component is installed in the same directory as an earlier WebGate on the same computer, you must upgrade the Policy Manager, the all Access Servers that communicate with the WebGate, and the WebGate before restarting the Web server.

2. Start the Web server to confirm that this upgrade was successful.
3. **Policy Manager Web Server Does Not Start**: See troubleshooting tips in Appendix G.
4. View Policy Manager migration log files to see if they contain any errors. See "Accessing Log Files" on page G-2.
5. **Upgrade Successful**: Perform activities in "Backing Up Upgraded Access System Component Directories" on page 10-13 for this instance, then continue upgrading remaining Policy Managers.
6. **Upgrade Not Successful**: Proceed to "Recovering From an In-place Access System Upgrade Failure" on page 10-13.
7. When all Policy Managers are upgraded and backed up, proceed with "Upgrading Access Servers In Place" next.

Upgrading Access Servers In Place

This discussion is divided into the events and decision points you will encounter when upgrading Access Server instances, as shown in Figure 10–3. There is no Web server involved in Access Server upgrades.

Figure 10–3 In-place Access Server Upgrade Process and Tasks



Task overview: Upgrading the Access Server in place includes

1. Starting the Access Server Upgrade, Specifying a Directory and Languages
2. Upgrading Access Server Configuration Files
3. Finishing and Verifying the Access Server Upgrade

In-place Access Server Upgrade Prerequisites

Before you begin upgrading the Access Server, check the tasks inTable 10–2 to ensure you have completed these tasks. Failure to complete prerequisites can adversely affect your upgrade.

Table 10–2 In-place Access Server Upgrade Prerequisites

Access Server Upgrade Prerequisites
Familiarize yourself with introductory chapters in Part I
Perform in-place schema and data upgrade as described in Part II.
Upgrade remaining Identity System components in place, as described in Chapter 9.
Upgrade all Policy Managers in place as described in "Upgrading Remaining Policy Managers In Place" on page 10-2.
Perform preparation activities for the instance as described in Chapter 8, and: ▪ If you have a multi-language environment, see "Preparing Multi-Language Installations" on page 8-7. ▪ If you are upgrading a release 6.x installation, see "Preparing Release 6.x Environments" on page 8-4.

Starting the Access Server Upgrade, Specifying a Directory and Languages

The sample upgrade here starts from an existing Oracle Access Manager 6.1.1 installation. Again, you specify the same target directory as the earlier component, and languages to upgrade.

To start the Access Server upgrade and specify a target directory and languages

1. Confirm that all prerequisites described in "In-place Access Server Upgrade Prerequisites" have been completed.
2. Log in as a user with the appropriate administrator privileges to update the Oracle Access Manager files.
3. Stop the Access Server service.
4. Locate and launch the program in your preferred method:

   GUI Method, **Windows**:

   Oracle_Access_Manager10_1_4_0_1_Win32_AccessServer.exe

   Console Method, **Solaris**:

   ./Oracle_Access_Manager10_1_4_0_1_sparc-s2_AccessServer

   The Welcome screen appears.
5. Dismiss the Welcome screen, then r.espond to the next question based upon your platform.
6. Choose the directory where you installed the earlier component, then click Next.
7. Accept the upgrade by clicking Yes, then click Next.
8. Select a default administrator language from the list, and any others you are upgrading.
9. Ensure that a check mark appears beside English and any other languages you are upgrading, then click Next.
10. Confirm the languages, and click Next.
11. Record the time-stamped directory name, then click continue as directed.
12. Start the file extraction into the target directory.

13. Proceed to "Upgrading Access Server Configuration Files".

Upgrading Access Server Configuration Files

This sequence includes upgrading message and parameter catalogs, creating a directory profile for the Access Server, and completing the component configuration upgrade.

This example starts from Oracle Access Manager 6.1.1. If you started with another release, numbers in the following sequence will differ.

To upgrade the Access Server configuration files

1. Type a 1 to use Automatic mode (or 2 for Confirmed mode), then review and respond to messages as they appear. For example:

   1

   Messages begin.

```
Creating orig folders...
-------------------------------------
Copying general configuration files...
OK.
-------------------------------------
Updating parameter catalogs...
OK.
-------------------------------------
Starting migration ( 6.1.1 -> 6.5.0 )...
DBProfiles created.
-------------------------------------
Updating component-specific configuration files...
OK.
Please note the name of the Oracle Access Manager Access Server service :
NetPoint AAA Server (aaa-viking)
OK.
-------------------------------------
Starting migration ( 6.5.0 -> 7.0.0 )...
-------------------------------------
Updating component-specific configuration files...
OK.
Please note the name of the Oracle Access Manager Access Server service :
NetPoint AAA Server (aaa-viking)
OK.
-------------------------------------
Starting migration ( 7.0.0 -> 10.1.4 )...
-------------------------------------
Updating component-specific configuration files...
OK.
-------------------------------------
Migration has completed successfully!
Press <ENTER> to continue:
-------------------------------------
```

2. Record the name of the Access Server service, then press Enter.
3. Press Enter.

   This completes the sequence, and the usual ReadMe information appears.

Finishing and Verifying the Access Server Upgrade

You finish the upgrade of each instance as described in the next procedure. If you experience an issue, see Appendix G for troubleshooting tips.

Caution: If you have auditing to a database configured in your earlier environment, before restarting the Access Server service be sure to complete appropriate activities in "Upgrading Auditing and Reporting for the Access Server" on page 13-2.

To finish the Access Server upgrade

1. **Auditing and Access Reporting**: If your earlier installation included auditing and access reporting, go immediately to "Upgrading Auditing and Reporting for the Access Server" on page 13-2 before performing step 2.
2. Start the Access Server service. For example, if you do not store the server password in the password.lst file, use the following command:

   ```
   start_access_server -P mypassword port -d -t 61
   ```

   Certain command options can disable the hide option and cause a password to appear in the command line.
3. Provide the password at the prompt, if needed.

   On an IBM SecureWay directory server, the next time you start the Access Server it can take a few minutes for the dialog requesting the PEM pass phrase to appear.
4. **Access Server Service Does Not Start**: See troubleshooting tips in Appendix G.
5. View Access Server migration log files to see if they contain any errors. See "Accessing Log Files" on page G-2.
6. **Upgrade Not Successful**: Proceed to "Recovering From an In-place Access System Upgrade Failure" on page 10-13.
7. **Upgrade Successful**: Perform activities in "Backing Up Upgraded Access System Component Directories" on page 10-13 for this instance, then repeat the procedure to upgrade all Access Servers in your environment.
8. After upgrading all Access Servers, you can continue with:
   - Upgrading WebGates In Place, next.
   - For other options, see "Looking Ahead" on page 10-14.

Upgrading WebGates In Place

Oracle recommends that you upgrade all WebGates. However, this does not need to occur all at one time. As mentioned before, earlier WebGates can communicate with upgraded Access Servers, which have backward compatibility automatically enabled during the upgrade. For details, see "Access System Behavior Changes" on page 4-40.

Before you start upgrading WebGates in place, however, be aware of the following important changes. When you upgrade a WebGate, the WebGateStatic.lst configuration file is removed. Configuration parameters that resided in this file move to the directory server and are made available through the AccessGate Configuration function in the Access System Console.

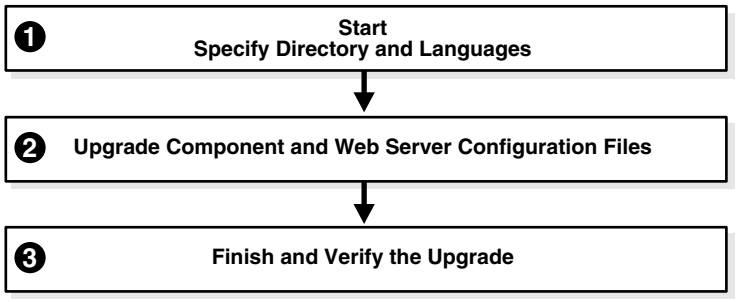
During a WebGate upgrade, the upgrade tool communicates with the Access Server to send configuration information from the WebGatestatic.lst file to be written to the

directory server. A temporary directory profile was created following the master Policy Manager upgrade for this purpose.

If WebGate configuration parameters do not migrate properly, you will not be able to add or change parameter values using the AccessGate Configuration function in the Access System Console. Following a WebGate upgrade, you cannot continue to use the WebGatestatic.lst file. For details about configuring WebGates, see the *Oracle Access Manager Identity and Common Administration Guide* for details. For more information about WebGate changes, see "WebGates" on page 4-52.

The procedures needed to guide you through a WebGate upgrade are provided next and shown in Figure 10–4. There is no update to the schema and data.

Figure 10–4 In-place WebGate Upgrade Process and Tasks



Task overview: Upgrading the WebGate in place includes

1. Starting the WebGate Upgrade, Specifying a Target Directory and Languages
2. Upgrading WebGate and Web Server Configuration Files
3. Finishing and Verifying the WebGate Upgrade

In-place WebGate Upgrade Prerequisites

Before you begin upgrading the WebGate, check the tasks in Table 10–3 to ensure you have completed these tasks.

Failure to complete prerequisites can adversely affect your upgrade.

Table 10–3 In-place WebGate Upgrade Prerequisites

WebGate Upgrade Prerequisites
Familiarize yourself with introductory chapters in Part I
Perform in-place schema and data upgrade as described in Part II.
Upgrade remaining Identity System components in place, as described in Chapter 9.
Upgrade remaining Policy Managers in place, as described in "Upgrading Remaining Policy Managers In Place".
Confirm that all Access Servers are successfully upgraded, as described in "Upgrading Access Servers In Place".
Complete activities in Chapter 8 for this instance, and: ▪ If you have a multi-language environment, see "Preparing Multi-Language Installations" on page 8-7. ▪ If you are upgrading a release 6.x installation, see "Preparing Release 6.x Environments" on page 8-4.

Starting the WebGate Upgrade, Specifying a Target Directory and Languages

This is the same process as other upgrades you have completed. You start the upgrade, specify the same target directory as the earlier WebGate, and indicate the languages to upgrade. The sample here starts from release 6.1.1. Your environment might vary.

To launch the WebGate upgrade, and specify a target directory and languages

1. Confirm that all prerequisites described in "In-place WebGate Upgrade Prerequisites" have been completed.
2. Stop the WebGate Web server instance, then log in as a user with the appropriate administrator privileges to update the Oracle Access Manager files.
3. Locate and launch the program in your preferred method:

   GUI Method, **Windows**:

   Oracle_Access_Manager10_1_4_0_1_Win32_NSAPI_WebGate.exe

   Console Method, **Solaris**:

   ./Oracle_Access_Manager10_1_4_0_1_sparc-s2_NSAPI_WebGate

   The Welcome screen appears.
4. Dismiss the Welcome screen as instructed, then respond to the administrator question based upon your platform.
5. Choose the directory where you installed the earlier WebGate, then continue as directed.
6. Accept the upgrade, then continue.
7. Ensure that a check mark appears beside English and any other languages you have installed, then continue.
8. Confirm the languages that will be upgraded and continue.
9. Record the time-stamped directory name, then continue.
10. Note the amount of disk space required, then click Next.

    You complete activities according to the method you have chosen for the upgrade and respond as needed to continue.

    Note: On Windows, the path to directory security permissions is logged in obmigratenp.log.

11. Proceed to "Upgrading WebGate and Web Server Configuration Files".

Upgrading WebGate and Web Server Configuration Files

During this sequence the WebGate configuration files, and Web server configuration upgrades occur. Very little input from you is required during this automated process.

To upgrade the WebGate and Web server configuration files

1. Type a 1 to continue in Automatic mode (or 2 for Confirmed mode), then review and respond to messages as they appear. For example:

   1

Messages scroll by as the process continues.

```
Creating orig folders...
-----------------------------------
Copying general configuration files...
OK.
-----------------------------------
Updating parameter catalogs...
OK.
-----------------------------------
Starting migration ( 6.1.1 -> 6.5.0 )...
-----------------------------
Updating component-specific configuration files...
OK.
-----------------------------------
Starting migration ( 6.5.0 -> 7.0.0 )...
-----------------------------------
Updating web server configuration files...
OK.
-----------------------------
Updating component-specific configuration files...
OK.
-----------------------------------
Starting migration ( 7.0.0 -> 10.1.4 )...
-----------------------------------
Updating web server configuration files...
OK.
-----------------------------
Updating component-specific configuration files...
OK.
-----------------------------------
Starting the WebgateStatic.lst Migration ...
Completed the WebgateStatic.lst Migration successfully.
OK.

Directory permissions copied...
C:\NetPoint\access\webcomponent-iis\access_20040426_164541\oblix ) -> (
C:\NetPoint\access\webcomponent-iis\access\oblix )
-----------------------------------
Migration has completed successfully!
Press <ENTER> to continue:
-----------------------------------
```

2. Continue as directed, then proceed to "Finishing and Verifying the WebGate Upgrade".

Finishing and Verifying the WebGate Upgrade

There are a few differences when finishing the WebGate upgrade, relative to other component upgrades. For example, you must ensure that the Access Management service for the WebGate is turned off.

To finish the WebGate upgrade

1. Apply any changes to the Web server configuration file, if needed.
2. **Turn off the Access Management service for this WebGate**: In the Access System Console, click Access System Configuration, then click AccessGate Configuration and click the link for the WebGate and see the *Oracle Access Manager Access Administration Guide* for details.

3. Start the WebGate Web server.
4. **WebGate Web Server Does Not Start**: See troubleshooting tips in Appendix G.
5. View WebGate migration log files to see if they contain any errors. See "Accessing Log Files" on page G-2.
6. Confirm that the WebGate performs as expected and that your 10*g* (10.1.4.0.1) environment is working. For more information, see Chapter 4.
7. **Upgrade Successful**: Perform activities in "Backing Up Upgraded Access System Component Directories" on page 10-13 for this instance, then continue upgrading earlier WebGates.
8. **Upgrade Not Successful**: Proceed to "Recovering From an In-place Access System Upgrade Failure" on page 10-13.
9. Continue upgrading WebGates or proceed to "Looking Ahead" on page 10-14.

Backing Up Upgraded Access System Component Directories

As mentioned earlier, Oracle recommends that you finish each component upgrade by backing up the 10*g* (10.1.4.0.1) component directory after verifying that it is working properly. This will enable you to easily restore your environment to the newly upgraded state should that be a requirement.

To back up critical information after the upgrade

1. Back up the 10*g* (10.1.4.0.1) component directory and store it in a new location.
2. **Web Server**: Back up the upgraded Web server configuration file, if needed, using your vendor documentation as a guide.
3. **Windows**: Back up Windows registry data, if required, as described in "Backing Up Windows Registry Data" on page 8-9.
4. Proceed to "Looking Ahead" on page 10-14.

Recovering From an In-place Access System Upgrade Failure

If the component was not successful, you can perform the following steps to rollback this upgrade, then try again.

To recover from an unsuccessful in-place Access System component upgrade

1. Restore the earlier component installation directory that you backed up before the upgrade (to recover the earlier environment), then back it up again. You will retain one of the earlier directories as a backup copy and use one to restart the upgrade.
2. **Web Server**: Restore the backed up Web server configuration file, if required for this component (Policy Manager or WebGate).
3. **Windows**: Restore the backed up registry for the component, if needed for this instance.
4. Using a backup copy of your earlier component installation directory (and Web server configuration, if needed), restart the component upgrade as described in this chapter.

Looking Ahead

Upgraded Access System components send and receive information sent in UTF-8 encoding. Earlier components send and receive data in Latin-1 encoding. When all earlier Access System components are successfully upgraded, proceed to the following chapters and perform tasks as described:

- Chapter 11, "Upgrading Integration Components and an Independently Installed SDK"
- Chapter 12, "Upgrading Your Identity System Customizations"
- Chapter 13, "Upgrading Your Access System Customizations"
- Chapter 14, "Validating the Entire System Upgrade"

For more information about expected system behaviors, see Chapter 4.

11

Upgrading Integration Components and an Independently Installed SDK

When your installation includes only the Identity System, you can skip the upgrade of Access System integration connectors and upgrade the independently installed SDK. However, when your earlier installation includes the Access System and Oracle Access Manager integration connectors for certain third-party products, you must upgrade integration connectors before upgrading the SDK.

> **Note:** The SDK upgrade that is invoked automatically as the last step when upgrading the Identity Server and Oracle Access Manager Security Connector for WebSphere SSPI has no impact on independently installed SDKs for custom AccessGates.

Unless explicitly stated, the information in this chapter applies equally to both upgrade methods (in-place component upgrades and zero downtime upgrades). Topics in this chapter include

- Upgrading Third-Party Integration Connectors
- Upgrading Independently Installed Software Developer Kits
- Backing Up Upgraded Integration Connector or SDK Data
- Recovering From an Integration Connector or SDK Upgrade Failure
- Looking Ahead

> **Note:** You must upgrade the Access System before upgrading integration components or an independently installed SDK. If you are using the zero downtime method, see also Part VI.

Upgrading Third-Party Integration Connectors

When your environment includes the following integrations, you must complete procedures here to ensure compatibility with 10.1.4 and:

- Security Provider for WebLogic SSPI
- Oracle Access Manager Connector for WebSphere

The task here is similar to other upgrades. The example provided in this chapter illustrates how to upgrade the Oracle Access Manager Security Provider for WebLogic SSPI. However, the procedures are similar for other integration connectors.

For the latest information about configuring release 10*g* (10.1.4.0.1) integrations, see the *Oracle Access Manager Integration Guide*.

Task overview: Upgrading third-party Integrations includes

1. Completing Integration Upgrade Prerequisites.
2. Starting the Integration Connector Upgrade
3. Upgrading Security Provider for WebLogic SSPI
4. Finishing the Integration Connector Upgrade

The sample upgrade here starts from a Oracle Access Manager 6.1.1 installation. Your starting release might differ.

Integration Upgrade Prerequisites

Failure to complete prerequisites in Table 11–1 can adversely affect your upgrade.

Table 11–1 Integration Upgrade Prerequisites

Integration Upgrade Prerequisites
Schema and Data upgrade is successful as described in Part II.
Component upgrades are successful as described in Part III.
Perform all required steps to prepare components as discussed in Chapter 8, and: ▪ If you have a multi-language environment, see "Preparing Multi-Language Installations" on page 8-7. ▪ If you are upgrading a release 6.x installation, see "Preparing Release 6.x Environments" on page 8-4.
WebSphere: When upgrading the Oracle Access Manager Connector for WebSphere: ▪ To run the Web Content Management Portlet on the 5.1.x Portal Server, ensure that `wmmGenerateExtId="false"` in the Portal Server wmm.xml, wmm_custom.xml, and wmm_DB.xml files. ▪ To run the Web Content Management Portlet on the 5.0.x Portal Server, ensure that `wmmGenerateExtId="false"` in the Portal Server wmm.xml file.
Weblogic: Ensure that the NetPointProvidersConfig.properties file in your current connector installation directory is synchronized with the one in your Weblogic server's domain directory.
Stop the corresponding Application/Portal Server. For example if you are upgrading Security Provider for WebLogic SSPI then you must stop the corresponding WebLogic Application server.

Starting the Integration Connector Upgrade

This is similar to upgrading other components. Should an error occur, the name of the log file that contains information about the error is identified. Skip any details that do not apply to your installation.

The sample upgrade in this procedure starts from an installation that is integrated with the Oracle Security Provider for WebLogic SSPI. Your environment might vary.

To launch the integration connector upgrade

1. Ensure that you have completed prerequisites for this instance as described in "Integration Upgrade Prerequisites".

2. Stop the corresponding Application/Portal Server. For example if you are upgrading Security Provider for WebLogic SSPI then you must stop the corresponding WebLogic Application server.
3. Log in as a user with administrator privileges.
4. Locate and launch the 10*g* (10.1.4.0.1) installer in your preferred method:

   GUI Method, Windows:
   Oracle_Access_Manager10_1_4_0_1_Win32_BEA_WL_SSPI.exe

   Console Method, Solaris:
   ./Oracle_Access_Manager10_1_4_0_1_sparc-s2_BEA_WL_SSPI

   The Welcome screen appears.

5. Dismiss the Welcome screen by clicking Next, then respond to the question about administrator privileges based upon your platform.
6. Choose the directory where you installed the earlier integration component, then click continue as directed.
7. Accept the upgrade by clicking Yes, then click Next.
8. Complete any language questions, as described earlier, then click Next.
9. When the status screen indicates that this phase is complete, click Next.
10. Proceed to "Upgrading Security Provider for WebLogic SSPI" next.

Upgrading Security Provider for WebLogic SSPI

This procedure is the similar to other component upgrades. However, it does include several steps that are unique to the Security Provider for WebLogic SSPI.

To upgrade the Security Provider for WebLogic SSPI

1. Choose an upgrade mode: Automatic or Confirmed.
2. Follow the prompts onscreen.

   The GUI exits, and a command-line window appears with messages that keep you informed.

```
-----------------------------------
Starting migration (6.1.1 -> 6.5.0)
-----------------------------------------------------
Updating component-specific configuration files ...
OK.
-----------------------------------------------------
Starting migration (6.5.0 -> 7.0.0)
-----------------------------------------------------
Updating component-specific configuration files ...
OK.
-----------------------------------------------------
Starting migration (7.0.0 -> 10.1.4)
-----------------------------------------------------
Updating component-specific configuration files ...
OK.
-----------------------------------------------------
Migration has completed successfully!
Press <ENTER> to continue :
```

3. Upgrade the software developer kit (SDK); otherwise, current SDK configuration settings are not preserved and you must reconfigure the SDK later using the configureAccessGate tool, as described in the *Oracle Access Manager Access Administration Guide*.

Finishing the Integration Connector Upgrade

If you are upgrading the Security Provider for WebLogic SSPI, complete the following steps.

Note: If you are upgrading the integration component for WebSphere Application Server and Portal Server, you must copy the NetPointCMR.jar file to the *Portal_install_dir* and the NetPointWASRegistry.jar file and jobaccess.jar to the *WAS_install_dir* then restart the servers. See the *Oracle Access Manager Integration Guide* for details.

To finish the Security Connector upgrade

1. Copy the appropriate mbean jar file from following location. For example:

   From: S*ecurityProvider_install_dir*/oblix/lib/mbeantypes

   To: *WebLogic_Home*/server/lib/mbeantypes

2. Copy the files here from your *SecurityProvider_install_dir* to your WebLogic domain folder.

   NetPointProvidersConfig.properties

   NetPointResourceMap.conf (only for the Application Server domain)

3. Start the Application/Portal/Web server to confirm that this upgrade was successful.

4. **Server Does Not Start**: Confirm that you have performed all tasks and specified all information accurately. Look for troubleshooting tips in Appendix G.

5. View migration log files to see if they contain any errors. See "Accessing Log Files" on page G-2.

6. **Upgrade Successful**: Perform activities in "Backing Up Upgraded Integration Connector or SDK Data" on page 11-7 for this instance, then continue upgrading earlier Policy Managers.

7. **Upgrade Not Successful**: Proceed to "Recovering From an Integration Connector or SDK Upgrade Failure" on page 11-7.

8. After upgrading all integration connectors, proceed with "Upgrading Independently Installed Software Developer Kits" next.

Upgrading Independently Installed Software Developer Kits

The SDK (formerly known as the Access Server SDK) is now named the Access Manager SDK in 10.1.4. The SDK upgrade that is invoked automatically as the last step when upgrading components bundled with the SDK (the Identity Server and Oracle Access Manager Security Connector for WebSphere SSPI, for example), has no impact on independently installed SDKs for custom AccessGates.

On Windows, if you plan to continue using the SDK provided for the .NET Framework 1.1, you must upgrade any independently installed SDK as described here. After applying the 10*g* (10.1.4.3) patch, you can also install the .NET 2 SDK for custom AccessGates as described in the *Oracle Access Manager Developer Guide*. You can both .NET 1 and .NET 2 SDKs and AccessGates.

> **Note:** If you use the 10*g* (10.1.4.3).NET 2 SDK, you might want to recompile earlier custom AccessGates, as described in "Recompiling Custom AccessGates for .NET 2 Support" on page 13-5.

Task overview: Upgrading the Software Developer Kit includes

1. Completing all SDK Upgrade Prerequisites
2. Starting the SDK Upgrade, Specifying a Target Directory and Languages
3. Upgrading the SDK Configuration and Verifying the Upgrade

SDK Upgrade Prerequisites

Before you begin upgrading the Software Developer Kit, check the tasks in Table 11–2 to ensure you have performed these. Failure to complete prerequisites can adversely affect your upgrade.

Table 11–2 SDK Upgrade Prerequisites

SDK Upgrade Prerequisites
Complete activities in Part II.
Complete activities in Part III, as needed for your environment.
Integration Components: Upgrade integration components, as described in "Upgrading Third-Party Integration Connectors" on page 11-1, if appropriate for your environment.
Perform all required steps in Chapter 8 for this instance and host, and: ▪ If you have a multi-language environment, see "Preparing Multi-Language Installations" on page 8-7. ▪ If you are upgrading a release 6.x installation, see "Preparing Release 6.x Environments" on page 8-4.

Starting the SDK Upgrade, Specifying a Target Directory and Languages

The sample upgrade here starts from a release 6.1.1 installation. Your starting release and environment might vary. Should an error occur, the name of the log file that contains information about the error is identified.

This procedure presumes you are performing an in-place upgrade using 10*g* (10.1.4.0.1) packages. However, you might be performing a zero downtime upgrade, as described in Part VI, "Upgrading Using the Zero Downtime Upgrade Method".

You can skip any details that do not apply to your installation.

To launch the SDK upgrade

1. Confirm that all activities in "SDK Upgrade Prerequisites" have been completed.
2. Turn off the server or service then log in as a user with administrator privileges.
3. Locate and launch the program in your preferred method:

   GUI Method, Windows:

Oracle_Access_Manager10_1_4_0_1_Win32_AccessServerSDK.exe

Console Method, Solaris:
./Oracle_Access_Manager10_1_4_0_1_sparc-s2_AccessServerSDK

The Welcome screen appears.

4. Dismiss the Welcome screen, then respond to the administrator question based upon your platform.
5. Choose the directory where you installed the earlier SDK, then click Next
6. Accept the upgrade by clicking Yes, then click Next.
7. Ensure that a check mark appears beside English and any other languages you have installed, then click Next.
8. Confirm the languages listed by clicking Next.
9. Record the time-stamped directory name, then continue.
10. Record the amount of disk space required, then start the file extraction into the target directory.
11. **UNIX**—Run the command indicated, then press Enter to continue.
12. Proceed to "Upgrading the SDK Configuration and Verifying the Upgrade" next.

Upgrading the SDK Configuration and Verifying the Upgrade

This procedure requires little input from you.

To upgrade the SDK configuration

1. Specify either Automatic or Confirmed, then continue.

   Status messages about the upgrade start scrolling by:

```
-------------------------------------
Starting migration ( 6.1.1 -> 6.5.0 )...
-------------------------------------
Copying general configuration files...
OK.
-------------------------------------
Updating message catalogs...
OK.
-------------------------------------
Updating parameter catalogs...
OK.
-------------------------------------
Updating component-specific configuration files...
OK.
-------------------------------------
```

   The sequence will repeat until 10*g* (10.1.4.0.1) is reached, then you will see the message:

```
-------------------------------------
Migration has completed successfully!
Press <ENTER> to continue :
```

2. Finish the upgrade as directed, then restart the server service.

3. **Server or Service Does Not Start**: Confirm that you have performed all tasks and specified all information accurately. Look for troubleshooting tips in Appendix G.
4. View migration log files to see if they contain any errors. See "Accessing Log Files" on page G-2.
5. **Upgrade Successful**: Perform activities in "Backing Up Upgraded Integration Connector or SDK Data" on page 11-7.
6. **Upgrade Not Successful**: Proceed to "Recovering From an Integration Connector or SDK Upgrade Failure" on page 11-7.
7. Repeat for each independently installed SDK in your environment, then see "Looking Ahead" on page 11-7.

Backing Up Upgraded Integration Connector or SDK Data

As mentioned earlier, Oracle recommends that you finish each component upgrade by backing up the latest component directory after verifying that it is working properly. This will enable you to easily restore your environment to the newly upgraded state should that be a requirement.

To back up critical information after the integration connector or SDK upgrade

1. Back up the upgraded integration connector or SDK directory and store it in a new location.
2. **Web Server**: Back up the upgraded Web server configuration file, if needed, using your vendor documentation as a guide.
3. Back up Windows registry data if required.

Recovering From an Integration Connector or SDK Upgrade Failure

If the component was not successful, you can perform the following steps to rollback this upgrade, then try again.

To recover from an unsuccessful integration connector or SDK upgrade

1. Restore the earlier directory that you backed up before this upgrade (to recover the earlier environment), then back it up again. You will retain one of the earlier directories as a backup copy and use one to restart the upgrade.
2. **Windows**: Restore the backed up registry for the component (to recover the earlier environment).
3. **Web Server**: Restore the earlier backed up Web server configuration file, if required for this component (to recover the earlier environment).
4. Using a backup copy of your earlier environment, restart the upgrade as described in this chapter.

Looking Ahead

Upgraded Identity and Access System components send and receive information sent in UTF-8 encoding. Earlier components send and receive data in Latin-1 encoding. To continue the upgrade, proceed as appropriate for your earlier installation. For example:

- **Identity System Only**: When your earlier installation does *not* include the Access System, you complete activities in the sequence listed here using information in:

  - Chapter 12, "Upgrading Your Identity System Customizations"
  - Chapter 14, "Validating the Entire System Upgrade"
- **Joint Identity and Access System**: In this case, you must complete activities in the following sequence using information in:
  - Chapter 12, "Upgrading Your Identity System Customizations"
  - Chapter 13, "Upgrading Your Access System Customizations"
  - Chapter 14, "Validating the Entire System Upgrade"

For more information about expected system behaviors, see Chapter 4.

Part IV

Upgrading Your Customizations

This part of the book describes how to upgrade your earlier customizations to ensure compatibility with 10*g* (10.1.4.0.1) functionality.

Part IV contains the following chapters:

12

Upgrading Your Identity System Customizations

Tasks in this chapter are intended for administrators who are responsible to upgrade and redeploy earlier Identity System customizations. Oracle recommends that you upgrade and then test your upgraded customizations in a small isolated environment.

Unless explicitly stated, the information in this chapter applies to both upgrade methods. The tasks you perform will depend on what was implemented in your earlier installation. You can skip any task that is not relevant for your earlier environment. This chapter includes the following topics:

> **Note:** When you are performing a zero downtime upgrade, Oracle recommends that you perform these tasks and test your upgraded customizations in the cloned environment. For more information, see "Customization Upgrades Using the Zero Downtime Upgrade Method" on page 15-15.

Prerequisites and Guidelines

Before starting to upgrade any Identity System customizations, Oracle recommends that you:

- Review information in "Customization Upgrade Planning" on page 1-16 if you are performing an in-place upgrade. If you are performing a zero downtime upgrade, see "Customization Upgrades Using the Zero Downtime Upgrade Method" on page 15-15.
- Back up the file system directory that contains the earlier customization and store the copy in a new location to help you if you choose to roll back to this later.

After completing and testing each upgraded customization, Oracle recommends that you back up the directory containing the upgraded customization and store it in a new location.

Upgrading Auditing and Access Reporting for the Identity System

If your earlier installation was configured for auditing and access reporting, you must complete specific activities in this discussion before starting your Identity Server after the upgrade. If your earlier installation was not configured for auditing and access reporting, you can skip this discussion.

Oracle Access Manager 10*g* (10.1.4.0.1) supports the Unicode standard. The Oracle equivalent for the Unicode UTF-8 standard is the AL32UTF8 character set. The code used to process this character set resides within the libraries bundled with each Oracle Access Manager 10*g* (10.1.4.0.1) component and is installed automatically. To support all the languages available with Oracle Access Manager 10*g* (10.1.4.0.1), the definitions of auditing and reporting tables have changed.

WARNING: Retain your earlier auditing database to preserve the original data. Simply upgrading or altering existing database instances and tables is not supported and could result in permanent truncation and loss of existing data.

After upgrading the first Identity Server, you must create a new database instance to operate with 10*g* (10.1.4.0.1). All Identity and Access Servers audit to the same database instance. Therefore, you need only create a new database instance following the upgrade of the first Identity Server (not for additional Identity Server instances nor for the Access Server).

You must upload the new Audit table schema (to support the auditing of 10*g* (10.1.4.0.1) UTF-8 data and the writing of this data to the new SQL Server instance). To accomplish this, you must create a new oblix_audit_events table for the auditing application. This schema upgrade includes datatype changes within the Audit table columns, as discussed in "Database Record Sizing" on page 12-5.

Next you must create tables for the reporting application (oblix_rpt_as_reports, oblix_rpt_as_resources, and oblix_rpt_as_users) in 10*g* (10.1.4.0.1).

Note: Whether you have only one or multiple Identity Server instances, you set up a new audit database instance, upload the audit schema, and create new tables for the reporting application only once.

To query or generate any report that requires data from both the old and new database, you must import data from the original database instance into the new instance *before* you start auditing with 10*g* (10.1.4.0.1). For each Identity Server instance (and Access Server instance), you import earlier audit data into the new audit database

instance. Otherwise, you cannot generate any report that requires data from both the old and new database.

> **Note:** Be sure to retain the earlier database to preserve the original data. Importing earlier data can result in truncation of data and some data loss.

Finally, you must change the DSN (ODBC Data Source Name used by the RDBMS profile of audit & reporting applications) to refer to the new database instance. If you have multiple Identity Servers on the same computer, be sure to upgrade all instances on the computer before you change the DSN to refer to the new database. For each Identity Server instance (and Access Server instance), you must change the DSN to refer to the new database instance.

If you observe any problem with the characters (for example, Latin-1) after importing data and before auditing with 10*g* (10.1.4.0.1):

- For the first Identity Server, you must create a new database instance with the proper configuration and import your original data again.
- For later Identity Servers, you must delete all newly inserted audit records (which can be differentiated with the help of the `serverId` field) and try importing them again.

Even when you have an English only environment, certain steps depend on the type of database you are using. For more information, see:

- Upgrading Auditing and Reporting with a Microsoft SQL Server
- Upgrading Auditing and Reporting with an Oracle Database

Upgrading Auditing and Reporting with a Microsoft SQL Server

The default character set for the Microsoft SQL Server is UCS-2 (also known as UTF-16 Unicode format). UCS-2 includes all languages supported by Oracle Access Manager 10*g* (10.1.4.0.1) and mimics the way in which the 32-bit Windows kernel stores information so that data does not need to be converted to another format. As a result, no character set change is required for the Microsoft SQL Server for Oracle Access Manager 10*g* (10.1.4.0.1) globalization support.

Earlier data might be truncated during the import, as described in "Database Record Sizing" on page 12-5.

Refer to the task overview here for the sequence of tasks you must perform. For more information about individual steps, including uploading the audit schema, see the *Oracle Access Manager Identity and Common Administration Guide*.

Task overview: Ugrading auditing and reporting with a Microsoft SQL Server

1. Retain the original database, as is, to preserve your original data.
2. After upgrading the first Identity Server (and before restarting the Identity Server Service), set up a new audit database instance for 10*g* (10.1.4.0.1) using instructions in the *Oracle Access Manager Identity and Common Administration Guide*.
3. Create a new oblix_audit_events table for the 10*g* (10.1.4.0.1) auditing application (which will upload the 10*g* (10.1.4.0.1) schema definition). For information about uploading the audit schema, see the *Oracle Access Manager Identity and Common Administration Guide*.

4. Create new oblix_rpt_as_reports, oblix_rpt_as_resources, and oblix_rpt_as_users. tables for the 10*g* (10.1.4.0.1) reporting application as described in the *Oracle Access Manager Identity and Common Administration Guide*.

   Note: You complete steps 1 through 4 for only the first Identity Server in your environment (even when you have multiple Identity Servers).

5. Review information in "Database Record Sizing" on page 12-5.

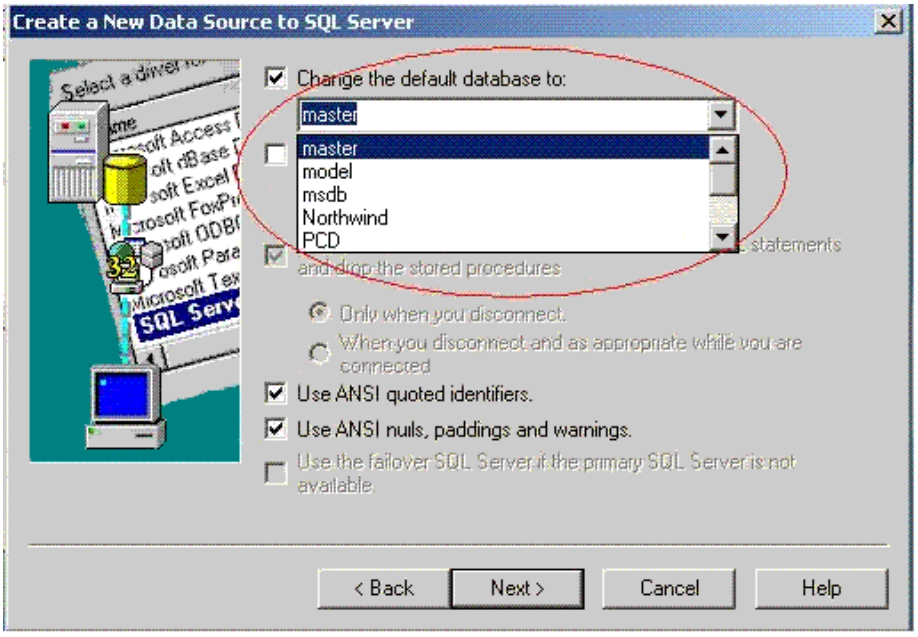
6. **Optional**: Import the earlier data audited by this Identity Server instance into the 10*g* (10.1.4.0.1) database and confirm that it is imported successfully. You will repeat this step for each Identity Server instance.

   The `serverId` field in audit table indicates the ID of the Identity Server that audited that record. Based on the `serverId` field, it is feasible to differentiate the records audited by each Identity Server instance. The same rule applies to the Access Server, as discussed later.

7. Change the DSN (ODBC Data Source Name used by the RDBMS profile of audit & reporting applications) on this computer to refer to the new database instance. For example:

   Note: If you have multiple Identity Servers on the same computer, be sure to upgrade all Identity Server instances on this computer before you change the DSN to refer to the new database. In this case, skip to step 9.

Figure 12–1 Create a New Data Source to SQL Server Window



8. Start the Identity Server service.

The Identity Server will now audit and store data in the new database instance. However, other Identity Servers (and Access Servers) will continue to audit and store data in the old database instance.

9. Upgrade all other Identity Server instances as follows:
   - Upgrade the next Identity Server instance but do not restart the Identity Server service.
   - Repeat step 6 to import data for this Identity Server instance.
   - Repeat step 7 to change the DSN (ODBC Data Source Name used by the RDBMS profile of the audit & reporting applications) on this computer to refer to the new database instance.

     Note: If you have multiple Identity Servers on the same computer, be sure to upgrade all Identity Server instances on this computer before you change the DSN to refer to the new database.

   - Repeat step 8 to restart the Identity Server service on this computer.
   - Repeat this step (9) for all Identity Servers in your environment.
10. After upgrading all Identity Server instances, upgrade all WebPass instances then complete the rest of the Identity System deployment-specific activities in this chapter before starting to upgrade the Access System.
11. Start auditing, as described in the *Oracle Access Manager Identity and Common Administration Guide*.

Database Record Sizing

For the SQL Server, the maximum length of a database record is 8096 bytes. The Oracle Access Manager Audit table contains 27 columns (23 of which are of type varchar). The previous Oracle Access Manager (release 7.0.4, also available as part of Oracle Application Server 10g Release 2 (10.1.2)) record size was 23 columns * varchar(255) + four additional columns), which equals less than the SQL Server maximum of 8096 bytes for each database record.

To support UTF-8 data in Oracle Access Manager 10*g* (10.1.4.0.1), the column types have changed from varchar(255) to nvarchar(170). When the column data type is nvarchar, the SQL Server stores data in UTF-16 encoding. In this case, 23 columns * nvarchar(170) * 2 + four additional columns equals slightly less than 8096 bytes.

In earlier Oracle Access Manager releases, only values greater than 255 characters were truncated. In 10*g* (10.1.4.0.1), however, any column value that exceeds 170 characters is truncated before inserting the record into the SQL Server audit database.

For the reasons stated earlier, upgrading the existing database could result in permanent data loss. Therefore, with the SQL Server you must retain the original database as is, create and set up a new database, a new Audit Table for Oracle Access Manager with the 10*g* (10.1.4.0.1) schema definition, then create new auditing and reporting tables.

As stated earlier, you can import data from the original database instance into the new database instance (which might be truncated) in order to query or generate any report that requires data from both the old and new database. You will still have the original database instance and data.

See "Task overview: Ugrading auditing and reporting with a Microsoft SQL Server" on page 12-3 and the *Oracle Access Manager Identity and Common Administration Guide* for more information.

Upgrading Auditing and Reporting with an Oracle Database

As described earlier, to support all the languages available with Oracle Access Manager 10*g* (10.1.4.0.1), the definitions of oblix_audit_events, oblix_rpt_as_reports, oblix_rpt_as_resources, and oblix_rpt_as_users tables have changed. After upgrading the first Identity Server, you create a new Oracle database instance with AL32UTF8 as character set and UTF-8 as National character set.

Note: Upgrading the database instance and tables is not supported.

You must complete activities outlined in the task overview here because upgrading the database instance and tables is not supported. For more information about the steps, including uploading the audit schema, see the *Oracle Access Manager Identity and Common Administration Guide* and your vendor documentation.

Task overview: Ugrading auditing and reporting with an Oracle database

1. Retain the original database as is, to preserve your original data for import.
2. After upgrading the first Identity Server, set up a new Oracle audit database instance with AL32UTF8 as the character set and UTF8 as the National character set for the Oracle database. See also the *Oracle Access Manager Identity and Common Administration Guide*.
3. Create a new oblix_audit_events table for the 10*g* (10.1.4.0.1) auditing application (which will upload the 10*g* (10.1.4.0.1) schema definition). For information about uploading the audit schema, see the *Oracle Access Manager Identity and Common Administration Guide*.
4. Create new oblix_rpt_as_reports, oblix_rpt_as_resources, and oblix_rpt_as_users. tables for the 10*g* (10.1.4.0.1) reporting application as described in the *Oracle Access Manager Identity and Common Administration Guide*.

   Note: You complete steps 1 through 4 for only the first Identity Server in your environment (even when you have multiple Identity Servers).

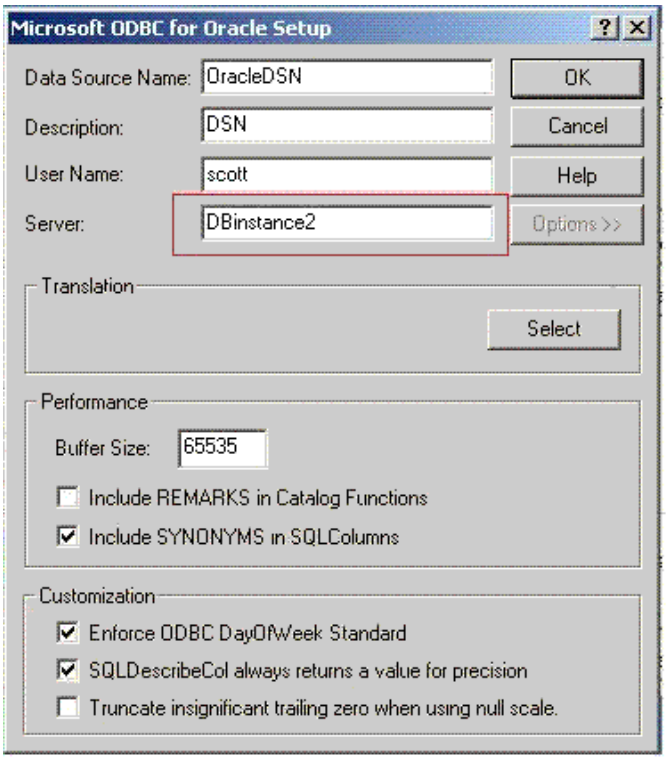
   To query or generate any report that requires data from both the old and new database, you must import data from the original instance into the new instance before you start auditing with 10*g* (10.1.4.0.1).
5. Import earlier data audited by this Identity Server instance into the 10*g* (10.1.4.0.1) database and confirm that it imported successfully using your Oracle database documentation for details.

Note: You will repeat this step for each Identity Server instance. There is no truncation of data during the import, because the Audit table column size is 255 characters. If after importing data and before auditing with 10*g* (10.1.4.0.1) you observe any problem in characters (Latin-1), create a new database instance with the proper configuration (including but not limited to AL32UTF8 as character set and UTF-8 as National character set) and import your original again.

6. Change the DSN (ODBC Data Source Name used by the RDBMS profile of audit & reporting applications) on this computer to refer to the new database instance. See your vendor documentation for details about performing this task. For example:

Note: If you have multiple Identity Servers on the same computer, be sure to upgrade all Identity Server instances on this computer before you change the DSN to refer to the new database. In this case, skip to step 7.

Figure 12–2 Microsoft ODBC for Oracle Window



7. Start the Identity Server service.

   The Identity Server will now audit and store data in the new database instance. However, other Identity Servers (and Access Servers) will continue to audit and store data in the old database instance.

8. Upgrade all other Identity Server instances as follows:

- Upgrade the next Identity Server instance but do not restart the Identity Server service.
- Repeat step 5 to import data for this Identity Server instance.
- Repeat step 6 to change the DSN (ODBC Data Source Name used by the RDBMS profile of the audit & reporting applications) on this computer to refer to the new database instance.

> **Note:** If you have multiple Identity Servers on the same computer, be sure to upgrade all Identity Server instances on this computer before you change the DSN to refer to the new database.

- Repeat step 7 to restart the Identity Server service on this computer.
- Repeat this step (8) for all Identity Servers in your environment.

9. After upgrading all Identity Server instances, proceed with following activities:
   - Rename audit files after upgrading Identity Servers as described in "Renaming Audit Files After Upgrading the Schema and Data" on page 6-21.
   - Upgrade remaining WebPass instances and perform other activities as described in Chapter 9.
   - Perform remaining Identity System deployment-specific activities in this chapter before starting to upgrade the Access System
   - Start auditing, as described in the *Oracle Access Manager Identity and Common Administration Guide*

Combining Challenge and Response Attributes on a Panel

In earlier releases, the challenge phrase and response attributes were allowed on different panels of the Profile page of the User Manager, Group Manager, and Organization Manager. In 10*g* (10.1.4.0.1), however, both the challenge phrase and response attributes must be on the *same* panel. In 10*g* (10.1.4.0.1), challenge phrases and responses are displayed one after the other even though these are not configured one after the other in the panel.

> **Note:** If your original installation included both the challenge phrase and response attribute on a single panel, you can skip this discussion.

If a panel contains only the challenge phrase attribute, it will be displayed on the Profile page without a response. If the panel contains only the response (without the challenge phrase), the response will not be displayed in Profile Page at all.

If challenge and response attributes are present in different panels in Identity System application configuration pages (User Manager Configuration, Group Manager Configuration, or Org. Manager Configuration), you must move these into a single panel.

The next task overview outlines the steps you will perform to combine the challenge phrase and response attributes on a single panel. For more information about configuring Tab Profile Pages and Panels, configuring attributes, and assigning challenge and response semantic types to attributes for lost password management, see the *Oracle Access Manager Identity and Common Administration Guide*.

The User Manager Configuration page was selected in this example. However, the procedure is similar if you modify panels on Group Manager Configuration or Org. Manager Configuration pages.

Task overview: Combine challenge and response attributes on a single panel

1. Navigate to the Modify Panels page containing the Response attribute. For example:

   Identity System Console, User Manager Configuration
   Tabs *existing_tab_link* (for Response attribute panel)
   View Object Profile, Configure Panels
   panel_name, Modify

   The Modify Panel page appears.

2. **Remove the Response Attribute**: From the list of attributes on the Modify Panel page, locate the Response attribute and select ---- from the list, then click the Save button.

3. **Add the Response Attribute**: Navigate to the Modify Panel page containing the challenge phrase attribute, click the Add button, then select the Response attribute and click the Save button.

   Identity System Console, User Manager Configuration
   Tabs *existing_tab_link* (for Challenge attribute panel)
   View Object Profile, Configure Panels
   panel_name, Modify

IdentityXML changes have also been made for this feature. For details, see the *Oracle Access Manager Developer Guide*. See also "Challenge Response Might Not Convert Properly" on page G-5.

Confirming Identity System Failover and Load Balancing

Your earlier implementation might include failover between an Identity Server and the directory server. The Identity Server failover configuration has resided in the directory server profile since release 5.2. As a result, there is **no** migration of parameters from failover configuration files to directory profiles. Although the schema itself has changed, migration of these changes is performed automatically during the upgrade.

There is also no impact on Identity System connection pools. The values for Initial Connections and Maximum Connections specified in the Database Instance profile are retained and will operate as they did previously.

> **Note:** For concurrent authentication requests on NDS directory servers, Oracle recommends that you increase the connection pool size to something higher than the default (1) for the user directory profile using the System Console.

During the upgrade, you do not need to complete any special handling for failover or load balancing. After upgrading Identity System components, simply test to ensure that any failover or load balancing that you had previously configured for the Identity System is still operating as expected.

You can use the following procedure to view details in the Database Instance Profile before testing.

To view failover, load balancing, and connection pool details for the Identity System

1. From the Identity System Console, select System Configuration, Directory Profiles.
2. Under the heading Configure LDAP Directory Server Profiles, select the name of the Profile you want to check.
3. On the Directory Server Profile page, confirm the servers that use the failover information and confirm that the information matches previous settings. For example:
   - Maximum Active Servers
   - Failover Threshold
   - Sleep For (Seconds)
   - Max. Session Time (Min.)
4. Locate the Database Instances list on the Directory Server Profile page and select the name of the Database Instance Profile you want to check.
5. In the Database Instance Profile, verify the values for `Initial Connections` and `Maximum Connections`.
6. Make any changes needed and save the profile.
7. Perform a test to ensure that everything is working as expected.

For more information about configuring failover and load balancing, see the *Oracle Access Manager Deployment Guide*.

Migrating Custom Identity Event Plug-Ins

When your original installation included custom Identity Event Plug-ins, Oracle recommends that you complete this activity immediately after upgrading all Identity System components.

Earlier Identity Event Plug-ins are not copied during the upgrade. At a minimum, you must move your earlier plug-ins from the renamed source directory to the target directory as indicated in the procedure here. To send or receive internationalized data you must re-design plug-ins to use UTF-8 encoding.

Solaris and Linux: Plug-ins earlier than release 7.x must be re-compiled using the GCC v3.3.2 C++ compiler. For more information, see "Plug-ins" on page 3-11

> **Note:** Release 7.0 plug-ins as well as earlier plug-ins implemented as executables or those using a scripting language (such as perl) do not require recompiling after the upgrade. However, to send and receive internationalized data, earlier plug-ins should be redesigned to communicate using UTF-8 encoding.

To use earlier custom Identity Event plug-ins with 10*g* (10.1.4.0.1)

1. Create a folder in the top level of your Identity Event API directory and copy your earlier Identity Event plug-ins in to the new directory.
2. Redesign Identity Event plug-ins to use UTF-8 encoding, if desired.
3. **Solaris and Linux**: Recompile release 5.2 or 6.x plug-ins on platforms using the GCC v3.3.2 compiler.

WARNING: You must use the GCC v3.3.2 compiler, regardless of the compiler that might be provided with the Operating System.

4. Complete any testing to ensure your plug-ins are working properly with 10*g* (10.1.4.0.1).
5. When using plug-ins that send and receive data in Latin-1 encoding, ensure that any new Identity Servers added to the upgraded environment are backward compatible as described in Chapter 4.

Authentication and authorization plug-ins also need to be recompiled or redesigned after the upgrade, as discussed in "Recompiling and Redesigning Custom Authentication and Authorization Plug-Ins" on page 13-5.

Ensuring Compatibility with Earlier Portal Inserts

Oracle Access Manager 10*g* (10.1.4.0.1) cannot detect query string character encoding and assumes it to be UTF-8. An earlier Identity Server that you upgrade to 10*g* (10.1.4.0.1) has backward compatibility enabled to process Latin-1 data from earlier Portal Inserts. Oracle recommends that you change the encoding of the query string in earlier Portal Inserts from Latin-1 to UTF-8.

Note: If you add a 10*g* (10.1.4.0.1) Identity Server to an upgraded environment, you must manually enable backward compatability with older plug-ins by including the Latin-1 encoding tag in *IdentityServer_install_dir*\identity\oblix\apps\common\bin\oblixpppcatalog.lst. For details, see the *Oracle Access Manager Installation Guide*.

10*g* (10.1.4.0.1) supports two encoding formats for IdentityXML requests: ISO-8859-1 (Latin-1) and UTF-8. The response, however, will be in UTF-8 encoding only. Within this required string you can use a tag to select an encoding specification:

- With new 10*g* (10.1.4.0.1) installations, use the UTF-8 encoding tag (`encoding="UTF-8"`), as shown here.

```
<?xml version="1.0" encoding="UTF-8" ?>
```

- For backward compatability with older plug-ins in an upgraded environment, use the Latin-1 encoding tag (`encoding="ISO-8859-1"`). For example:

```
<?xml version="1.0" encoding="ISO-8859-1" ?>
```

For more information about customizing portal inserts, see the *Oracle Access Manager Customization Guide*.

About Custom Items and Upgrades

Customized .XSL style files, images, and JavaScript files are not migrated during the upgrade. If your previous installation includes significant changes to earlier XSL stylesheets, or if you use a style other than the Oracle Access Manager default Classic Style, you must manually include those changes in 10*g* (10.1.4.0.1) stylesheets, images, and JavaScript files.

> **WARNING:** **If you simply copy earlier stylesheets, you might receive stylesheet bug reports or experience unpredictable behavior when using new features designed to work with new stylesheets.**

When you view the Customize Styles page in the upgraded 10*g* (10.1.4.0.1), style names are listed to reflect the style definitions maintained in the directory server as Oracle Access Manager configuration data. However, it is important to note that the customized style files themselves are not migrated, which is why the procedures in this chapter are required.

To illustrate this, suppose a system-level change was made to the 10*g* (10.1.4.0.1) basic.xsl stylesheet to accommodate a new feature. In this case, copying an earlier release of basic.xsl to replace the 10*g* (10.1.4.0.1) basic.xsl will not guarantee that the new feature will work (because the new feature requires the 10*g* (10.1.4.0.1) basic.xsl stylesheet).

> **Note:** As discussed earlier, the directory structure has changed starting with Oracle Access Manager release 6.5 and continuing through 10*g* (10.1.4.0.1) to accommodate multiple languages. Of specific interest for activities in this chapter are the differences in the PresentationXML directories and message storage, described in Appendix A.

During the upgrade to 10*g* (10.1.4.0.1)

- Files in the earlier \style0 directory are **replaced**, not migrated.
- The original files are saved in the renamed source directory.

  For example:

  ```
  IdentityServer_install_dir_timestamp\identity\oblix\apps\specific_app\ui\style0\name.xsl
  ```

- Any style directories that you have created in the earlier installation are **saved**, not migrated, and are stored in the renamed (backup) source directory created during the upgrade.

> **WARNING:** **Do not attempt to copy earlier stylesheets to upgraded locations. Instead, you must use procedures in this chapter to alter new stylesheets so they reflect changes in earlier stylesheets.**

The process you must complete to include earlier customized styles in the upgraded 10*g* (10.1.4.0.1) environment differ depending on your starting release. For more information, see the appropriate topic for your environment:

- Incorporating Customizations from Release 6.5 and 7.x
- Incorporating Customizations from Releases Earlier than 6.5

Incorporating Customizations from Release 6.5 and 7.x

Including customized styles from release 6.5 or 7.x in the upgraded 10*g* (10.1.4.0.1) environment is a fairly straight forward process.

Note: Oracle recommends that you locate all recorded changes made in the release 6.5 or 7.x environment before starting and track all operations as you complete them in the 10*g* (10.1.4.0.1) environment.

To incorporate styles created with release 6.5 or 7.x

1. Locate any information about changes and customizations made to the release 6.5 or 7.x environment to use those as a guide when completing the following tasks.
2. **Preserving Custom Styles Directories**: Copy your release 6.5 or 7.x custom language-specific style directories from the renamed source to the 10*g* (10.1.4.0.1) Identity Server language directories. For example:

   From: *IdentityServer_timestamp_install_dir*/identity/oblix/lang/*langtag*/*YourStyleName*

   To: *IdentityServer_install_dir*/identity/oblix/lang/*langtag*/*YourStyleName*

3. **Preserving Custom Images**: Copy your release 6.5 or 7.x (or new) custom images from the renamed source directory to the 10*g* (10.1.4.0.1) WebPass directories. For example:

   From: *WebPass_timestamp_install_dir*/identity/oblix/lang/*langtag*/*style0*

   To: *WebPass_install_dir*/identity/oblix/lang/*langtag*/*style0*

4. **Transferring Stylesheet Customizations**: This is a multiple step process where you inspect individual messages from the release 6.5 or 7.x catalog to the 10*g* (10.1.4.0.1) catalog and manually copy these to the 10*g* (10.1.4.0.1) catalog. For example:

   - **Inspect Earlier Message Changes and Additions**: In your release 6.5 or 7.x renamed source directory, manually inspect any changes to messages in msgctlg.xsl (new messages added or original message was changed) in:

     From: *IdentityServer_timestamp_install_dir*/identity/oblix/lang/*langtag*/msgctlg.xsl

   - **Copy Individual Message Changes**: Manually edit the 10*g* (10.1.4.0.1) msgctlg.xsl file to match the release 6.5 or 7.x version.You can copy information from the release 6.5 or 7.x file into the 10*g* (10.1.4.0.1) version:

     To: *IdentityServer_install_dir*/identity/oblix/lang/*langtag*/msgctlg.xsl

   - **Copy Individual Stylesheet Changes**: In the release 6.5 or 7.x stylesheet in the renamed source directory, identify any changes then edit the 10*g* (10.1.4.0.1) stylesheet files to match the earlier version. You can copy any changes to the 10*g* (10.1.4.0.1) version.

5. **Preserving JavaScript Customizations**: This is a two step process that must be performed for each installed language.

   - **Inspect earlier message changes and additions**: In the release 6.5 or 7.x renamed source directory, identify any JavaScript code changes in the msgctlg.js file, then manually copy these to the 10*g* (10.1.4.0.1) version. For example:

     From: *WebPass_timestamp_install_dir*/identity/oblix/lang/*langtag*/msgctlg.js

     To: *WebPass_install_dir*/identity/oblix/lang/*langtag*/msgctlg.js

- **Copy individual JavaScript customization**: In the release 6.5 or 7.x renamed source directory, identify any Javascript code changes and then manually copy these to 10*g* (10.1.4.0.1).

For complete details about customized styles, see the *Oracle Access Manager Customization Guide*.

Incorporating Customizations from Releases Earlier than 6.5

If you have upgraded from release 6.5 or later (or your earlier installation did not include custom images, styles, or JavaScript that you want to use with 10*g* (10.1.4.0.1)), you can skip this discussion.

For a successful stylesheet upgrade, you must complete all procedures in this chapter. The stylesheet upgrade task has been divided into several functional procedures that you can use as a guide.

Task overview: Incorporating custom styles includes

1. Completing activities in Style Customization Prerequisites.
2. Recreating Custom Style Directories in 10g (10.1.4.0.1)
3. Customizing New Stylesheets
4. Incorporating Custom Images
5. Using New Customized Styles
6. Incorporating JavaScript Customizations
7. Handling Language-Specific Message Catalogs

Style Customization Prerequisites

Before you begin upgrading stylesheets, check Table 12–1 to ensure you have properly prepared the environment for this task. Failure to complete prerequisites can adversely affect your upgrade.

Table 12–1 Identity Style Customization Prerequisites

Style Customization Prerequisites
Finish "Upgrading Remaining Identity System Components In Place" on page 12-1 and confirm that the upgraded system is working properly
Review "About Custom Items and Upgrades" on page 12-11.

Recreating Custom Style Directories in 10*g* (10.1.4.0.1)

As you re-create (add) custom style directories to Oracle Access Manager in following steps, you must use the same style names and the same style file system locations that were used before the upgrade. See the *Oracle Access Manager Identity and Common Administration Guide* for additional information.

To add custom styles in 10*g* (10.1.4.0.1)

1. Complete tasks in "Style Customization Prerequisites" on page 12-14.
2. Log in to the upgraded Identity System Console and navigate to the Configure Styles page.

   For example:

Identity System Console, System Configuration, Configure Styles

3. Enable Classic Style as the default stylesheet if this is not currently the default.
4. Delete the placeholders for your customized styles listed on the Customize Styles page.

> **Note:** You cannot delete the Classic Style maintained in the \style0 file system directory because this style is required by the Identity System Console.

5. From the Customize Styles page, click the Add Style button.

   The Add Styles page appears.
6. On the Add Style page, fill in the Name and (file system) Directory Name fields using the same style name and file system location used before the upgrade.

   For example:

   Name *Pastel*

   Directory Name *Pastel*

   The next step enables Oracle Access Manager to create the appropriate file system directory structure automatically and copy the upgraded default stylesheets into it.
7. Select Classic Style in the Copy From list, then click the Save button.

   For example:

   Copy From Classic Style

   Save

   Your new custom style directory duplicates \style0 and contains wrapper stylesheets that point to default global stylesheets in the \shared directory (when you selected Copy From Classic Style).
8. Repeat previous steps 4 through 7, to re-create in Oracle Access Manager each customized style from the earlier installation.

   For additional information, see the *Oracle Access Manager Identity and Common Administration Guide*

   The new style name is listed in the Customize Styles page and one or more directories were created to hold the new wrapper stylesheets.
9. Select a new style as your default style, as follows:
   a. Click the Setup Default Style button to display the Set Default Style page.
   b. Click the Make Default button beside your new style name, then click Save.
10. Check your file system for the new style directory name you specified.

You are ready to start the next procedure, "Customizing New Stylesheets" on page 12-16, to include earlier customizations in the new stylesheets.

Customizing New Stylesheets

At this point, you must edit a copy of each new-default stylesheet using your own originally customized files as a guide. It is a good idea to take notes about your work as you go.

Locating and selectively copying stylesheets is an iterative process that you complete one stylesheet at a time, as described in the *Oracle Access Manager Customization Guide*, including:

- Base stylesheets
- Stylesheets *included* in base stylesheets
- Specific function-related stylesheets identified for the program in the application's registration file
- Stylesheets *included* in the function-related stylesheet

To verify that a stylesheet has been successfully applied, just launch the page and perform a visual check.

Task overview: Customizing New Stylesheets

1. Complete the procedure "Recreating Custom Style Directories in 10g (10.1.4.0.1)" on page 12-14.
2. Follow the steps in the procedure "To customize new stylesheets" on page 12-17 to:
   - Locate, in the renamed source directory, a customized earlier stylesheet to use as a reference.
   - Locate, in your new custom directory, the wrapper stylesheet that corresponds to your earlier customized stylesheet.
   - Locate, in your upgraded \shared directory, the default stylesheet that corresponds to the new wrapper.
   - Overwrite the new wrapper stylesheet in your new custom style directory with the new-default stylesheet from the 10*g* (10.1.4.0.1) \shared directory.
   - Edit the new-default stylesheet using your earlier customized file as a guide.
3. Replace messages in stylesheets, as described in "Handling Language-Specific Message Catalogs" on page 12-21.

See the *Oracle Access Manager Customization Guide* for more information about stylesheet structure and content, and how to customize these.

> **WARNING: Do not copy the original customized file into any upgraded directory. Do not copy content from the original customized file into any upgraded file. Do not attempt to copy all new-default stylesheets into your custom directory at once.**

Remember that your new custom style directory duplicates the default \style0 and contains wrapper stylesheets that point to default stylesheets in the \shared directory. You cannot be assured that a wrapper file will be *called* before the actual stylesheet because both the common registration file and the application's own registration file *call* stylesheets according to an internal ordering.

In addition, the stylesheets in the \shared directory are used with all languages and applications and should be retained as is. Eventually your custom directory will

contain a copy of all stylesheets, including those identified in the application's registration file and in oblixbasereg.xml. Even if you do not need to edit a stylesheet, it must be copied to your custom directory.

> **Note:** For the Access System, there are only JavaScript changes; no stylesheets. You must update the stylesheet for each "style" directory for each language. Oracle recommends that you perform these steps to retain all customizations for one language first, then simply copy the updated file to other "style" directories and remaining languages.

To customize new stylesheets

1. In the renamed source directory created during the upgrade, select and open one original customized stylesheet file.

   For example:

   \IdentityServer_install_dir_timestamp\identity\oblix\apps*AppName**ui**style0**name*.xsl

2. In your new custom directory, locate and open the wrapper stylesheet that corresponds to your earlier customized stylesheet.

   For example:

   \IdentityServer_install_dir\identity\oblix\lang\en-us*Pastel**name*.xsl

3. In the new wrapper stylesheet, review the "include href=" statements for files that are included and record these names and paths.

   For example:

   ```
   <?xml version="1.0" encoding="ISO-8859-1"?>
   - <!--    Copyright (c) 1996-2005, Oracle Inc. All Rights Reserved. -->
   - <xsl:stylesheet version="1.0"
   xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
   xmlns:oblix="http://www.oblix.com/">
   <xsl:include href="./name.xsl" />
   <xsl:include href="../name.xsl" />
   <xsl:include href="../../shared/name.xsl" />
   </xsl:stylesheet>
   ```

   Next you must overwrite the wrapper file in your new custom directory with a copy of the new-default stylesheet you intend to customize.

4. In the 10*g* (10.1.4.0.1) \shared directory, locate and copy the new-default stylesheet that corresponds to your original customized stylesheet, as indicated:

   Copy From \shared

   \IdentityServer_install_dir\identity\oblix\lang\shared\name.xsl

   Copy To new custom directory

   \IdentityServer_install_dir\identity\oblix\lang\en-us*Pastel*\name.xsl

5. In your new custom directory, locate and edit the copied-default stylesheet to reflect changes made to the earlier customized file, and record your changes.

6. Repeat the steps in this list as you locate and copy each related default stylesheet to your new custom directory, then customize it to match changes in the earlier customized release:

- Base stylesheets
- Stylesheets *included* in base stylesheets
- Specific function-related stylesheets identified for the program in the application's registration file
- Stylesheets *included* in the function-related stylesheet

7. Ensure that file system access control for your new custom style directories and files is set to match the ownership and permissions of \style0.
8. Restart the Identity Server.
9. To verify that a stylesheet has been successfully applied, just launch the page and perform a visual check.
10. Continue with "Incorporating Custom Images" on page 12-18.

Incorporating Custom Images

If your earlier installation did not include custom images that you want to use with 10*g* (10.1.4.0.1), you can skip this discussion.

In earlier versions of Oracle Access Manager, images were distributed throughout the installation directory and referred to with respect to the application path. From 10*g* (10.1.4.0.1) onward, images are language dependent and are consolidated into a single directory. When installations include multiple languages, you will have multiple *langTag* directories. For directory details, see Appendix A.

- **Identity System images** are in the directory:

  WebPass_install_dir\identity\oblix\lang*langTag*\style0

- **Access System images** are in the following directory:

  install_dir\access\oblix\lang*langTag*\style0

> **Note:** All common images require a copy for each language.

gifPathName and jsPathName Variables

Due to the change in location of all image files, a new *gifPathName* variable is defined in wrapper stylesheet style.xsl. In addition to style.xsl, the msgctlg.js file also includes the gifPathName variable to mention the path for image locations:

IdentityServer_install_dir\oblix\lang*langTag*\style0\style.xsl
IdentityServer_install_dir\oblix\lang*langTag*\msgctlg.js

A language independent stylesheet in the \shared directory picks up the images from the modified image path mentioned by the gifPathName variable. This is important for two reasons:

- It prevents hard-coding of URLs in the stylesheets and makes it easier to reuse the same stylesheet across styles.When customizing stylesheets, you should use this global variable whenever constructing a URL path to a GIF or other image.
- It incorporates the current language and current style tag and generates the correct path.

Note: Stylesheets refer to the gifPathName variable to locate the image directory. JavaScript files refer to the jsPathName variable.

For more information about msgctlg files, see "Handling Language-Specific Message Catalogs" on page 12-21.

Example—style.xsl with variables highlighted

The style.xsl wrapper resides in the \style0 directory and can reside in your custom directory:

IdentityServer_install_dir\identity\oblix\lang\en-us\style0\style.xsl
IdentityServer_install_dir\identity\oblix\lang\en-us*Custom*\style.xsl

```
<?xml version="1.0" encoding="ISO-8859-1"?>
- <!--    Copyright (c) 1996-2005, Oracle Inc. All Rights Reserved. -->
- <xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
xmlns:oblix="http://www.oblix.com/">
  <xsl:variable name="styleName">style0</xsl:variable>
  <xsl:variable name="localeName">en-us</xsl:variable>
- <xsl:variable name="gifPathName">
  ../../../lang/
  <xsl:value-of select="$localeName" />
  /
  <xsl:value-of select="$styleName" />
  </xsl:variable>
  <xsl:variable name="jsPathName">../../../lang/shared</xsl:variable>
  ...
  </xsl:stylesheet>
```

Note: You must replace the image path in the 10*g* (10.1.4.0.1) stylesheet you are modifying.

For 10*g* (10.1.4.0.1), you must reference images using the two variables ($gifPathName and jsPathName) to make your customization language and style independent. To do so, modify your 10*g* (10.1.4.0.1) stylesheet with the corresponding <img src="{$gifPathName}/<custom gif name>.gif"/> reference as described in the next procedure.

To incorporate custom images

1. Copy all custom images from the renamed source directory to the target (repeat this for each language):

   From—*source_directory_timestamp*

   To target—*WebPass_install_dir*\identity\oblix\lang*langTag*\style0

2. Copy all custom images for the Access System from the source directory to the target:

   From—*source_directory_timestamp*

   To target—*install_dir*\access\oblix\lang*langTag*\style2

3. Modify the image source path name in 10*g* (10.1.4.0.1) stylesheets in your custom directory:

   For example:

IdentityServer_install_dir\identity\oblix\lang*Pastel*

4. **For Releases Before 6.5**: Change image path to use the $gifPathName variable.

   For example, suppose the image source is mentioned in the Oracle Access Manager 6.1 stylesheet:

   install_dir\oblix\apps\common\ui\style0\navbar.xsl

   as:

   ```
   <img src="../../common/ui/style0/T1oblixnetpoint.gif"/>
   ```

   You must change the image path for 10*g* (10.1.4.0.1) as follows:

   ```
   <img src="{$gifPathName}/T1oblixnetpoint.gif"/>
   ```

5. See also:
   - Using New Customized Styles
   - Incorporating JavaScript Customizations
   - Handling Language-Specific Message Catalogs

Using New Customized Styles

Before you can use the new customized style, you must complete the task here.

Note: Due to extensive coverage in the *Oracle Access Manager Customization Guide*. The specific details are outlined but not repeated here.

Task overview: Using new customized styles

1. Copy images and styles to WebPass to create a custom style directory structure on WebPass and include all images in this structure, as described in the *Oracle Access Manager Customization Guide*.
2. Test your customized style, as described in the *Oracle Access Manager Customization Guide*.
3. Propagate new stylesheets to other Identity Servers and WebPass hosts, as described in the *Oracle Access Manager Customization Guide*.
4. Continue with:
   - Incorporating JavaScript Customizations
   - Handling Language-Specific Message Catalogs

Incorporating JavaScript Customizations

If your earlier installation did not include JavaScript customization that you want to use with 10*g* (10.1.4.0.1), you can skip this discussion.

In 10*g* (10.1.4.0.1), JavaScript files are located in:

WebPass_install_dir\identity\oblix\lang\shared

Like stylesheets, language-specific pop-up messages in JavaScript files are replaced with variables defined in:

install_dir\identity\oblix\lang*langTag*\msgctlg.js

JavaScript files are not present in the \lang*langTag* directory except in the msgctlg.js file. The steps needed to migrate JavaScript files are similar to those you used earlier to migrate stylesheet changes.

To incorporate JavaScript files

1. In the time-stamped source directory created during the upgrade, locate your earlier customized JavaScript files on the computer hosting the upgraded WebPass.
2. In the 10*g* (10.1.4.0.1) \lang\shared directory on the WebPass, locate and copy your new-default JavaScript files to retain for future use.
3. Edit the 10*g* (10.1.4.0.1) JavaScript files in the \lang\shared directory on the WebPass to reflect changes made in the earlier release and record your changes, or see "Handling Language-Specific Message Catalogs" on page 12-21.

Handling Language-Specific Message Catalogs

All custom styles are stored under the *langtag* directories, even when your customized functionality is language independent. The procedure here applies to environments that are upgraded from releases prior to 6.5 because these have embedded message customizations in the stylesheet itself. This only applies to 6.1 customers using single language. If the changes are done for English, then the product will pick up the English message properly.

As discussed elsewhere, multiple languages are available for use with 10*g* (10.1.4.0.1). Messages that were once in stylesheets are language dependent and are now defined separately as variables in message catalogs. See also Appendix A.

The new Oracle Access Manager directory structure consolidates all message catalogs for JavaScript files, XSL, and HTML.

- As the name suggests any language-specific files will be located in \lang*langTag*.
- Any non-language specific objects are located within \lang\shared.

All the stylesheets have a language-specific wrapper in \lang\langTag\style0 which includes the main language-neutral release stylesheet in \lang\shared. This new wrapper segregates the main stylesheet functionality, which is language independent, from language-specific messages.

Language-specific messages are referred to through variables in message catalog files, as discussed in:

- Handling XSL Stylesheet Messages
- Handling Messages for JavaScript

Handling XSL Stylesheet Messages

The messages for stylesheets are defined in the message catalog:

IdentityServer_install_dir\identity\oblix\lang*langTag*\msgctlg.xsl

You must ensure that all displayable strings in your earlier stylesheets are placed in the 10*g* (10.1.4.0.1) stylesheet message catalog.

For example, suppose you have customized a Oracle Access Manager 6.1 stylesheet, navbar.xsl, in:

IdentityServer_install_dir\identity\oblix\apps\common\ui\style0\navbar.xsl

where a message reads as:

```
<xsl:text> &lt;&lt; Click here to return to the previous application(s).
</xsl:text>
```

In the 10*g* (10.1.4.0.1) stylesheet:

IdentityServer_install_dir\identity\oblix\lang\shared\navbar.xsl

you should modify the message to read:

```
<xsl:text> &lt;&lt; <xsl:value-of select="$MPrevAppln"/> </xsl:text>
```

and ensure that MPrevAppln is defined in the 10*g* (10.1.4.0.1) message catalog:

IdentityServer_install_dir\identity\oblix\lang*langTag*\msgctlg.xsl

as follows:

```
<xsl:variable name="MPrevAppln">Click here to return to the previous
application(s). </xsl:variable>
```

To handle language-specific message catalogs for XSL stylesheets

1. Locate the earlier stylesheet containing the customized message.

   For example:

   IdentityServer61_install_dir\identity\oblix\apps\common\ui\style0\navbar.xsl

   ```
   <xsl:text> &lt;&lt; Click here to return to the previous application(s).
   </xsl:text>
   ```

   If you have already copied the stylesheet to your custom directory, skip to step 3.

2. If you have not yet overwritten the wrapper file with the corresponding stylesheet, copy the corresponding 10*g* (10.1.4.0.1) stylesheet to your custom directory.

   For example:

   Copy from

   IdentityServer_install_dir\identity\oblix\lang\shared\navbar.xsl

   Copy to

   IdentityServer_install_dir\identity\oblix\lang*langTag**Custom_dir*\navbar.xsl

3. In the 10*g* (10.1.4.0.1) stylesheet in your custom directory, modify the message to use the appropriate message catalog parameter.

   For example:

   ```
   <xsl:text> &lt;&lt; <xsl:value-of select="$MPrevAppln"/> </xsl:text>
   ```

4. In the 10*g* (10.1.4.0.1) message catalog, ensure that the message parameter is defined.

   IdentityServer_install_dir\identity\oblix\lang*langTag*\msgctlg.xsl

   ```
   <xsl:variable name="MPrevAppln">Click here to return to the previous
   application(s). </xsl:variable>
   ```

5. Restart the Identity Server and WebPass so the changes take affect.

Handling Messages for JavaScript

Language-specific pop-up messages in JavaScript are also replaced by variables, which are defined in:

*WebPass_install_dir**install_dir*\identity\oblix\lang*langTag*\msgctlg.js

This message catalog is divided into sections that show the messages for specific JavaScript files, several of which are named:

misc.js
...
atickets.js
wfqs.js
deactivateuser.js
confirm.js
...

You must ensure that all displayable strings are placed in the message catalog, and the message catalog must be referenced through the I18N_GetMsg function.

For example, the code in the earlier JavaScript file:

install_dir\identity\oblix\apps\admin\bin\admin.js

that pops up a message:

```
alert("Room must have a name.")
```

now appears in:

WebPass_install_dir\identity\oblix\lang\shared\admin.js

as:

```
alert(I18N_GetMsg('MRoomNameReq'))
```

where MRoomName is defined in:

*WebPass_install_dir**install_di*r\identity\oblix\lang*langTag*\msgctlg.js

as:

```
MESSAGE_CATALOG[ 'MRoomNameReq' ] = "Room must have a name.";
```

Note: Oracle recommends that you do not customize files in the \shared directory and, instead, copy files from \shared into your custom directory before customizing.

To handle language-specific message catalogs for JavaScript files

1. Ensure that all displayable strings are placed in the 10*g* (10.1.4.0.1) message catalog:

   WebPass_install_dir\identity\oblix\lang*langTag*\msgctlg.js

2. Ensure that the 10*g* (10.1.4.0.1) message catalog is referenced through the I18N_GetMsg function (which is automatically loaded) located in:

   WebPass_install_dir\identity\oblix\lang\shared\i18n.js

3. Restart the Identity Server and WebPass so changes take affect.

Validating Identity System Customization Upgrades

Oracle recommends that you test your upgraded Identity System customizations in a test or development environment before deploying these in an upgraded production environment.

To validate Identity System customization upgrades

1. Verify that your customizations have been restored properly by performing specific operations that will exercise the upgraded customizations. For example, for workflow PPP plug-ins you run appropriate workflows.
2. Verify that auditing and access reporting is working properly.
3. Perform a visual inspection of the user interface if you customized any stylesheets and the like.
4. **Upgrade Not Successful**: Proceed to "Recovering from an Identity System Customization Upgrade Failure" on page 12-24.
5. **Upgrade Successful**: Proceed to "Backing Up Upgraded Identity System Customizations" next.

Backing Up Upgraded Identity System Customizations

As mentioned earlier, Oracle recommends that you finish each upgrade by backing up the appropriate 10*g* (10.1.4.0.1) directory. This will enable you to easily restore your environment to the newly upgraded state should that be a requirement.

To back up Identity System customizations after the upgrade

1. Back up the 10*g* (10.1.4.0.1) directory that contains the upgraded Identity System customizations and store it in a new location.
2. Proceed as described in "Looking Ahead" on page 12-24.

Recovering from an Identity System Customization Upgrade Failure

If an Identity System customization was not successful, you can perform the following steps to rollback this upgrade, then try again.

To recover from an unsuccessful Identity System customization upgrade

1. Restore the earlier customization files or directory that you backed up before the upgrade (to recover the earlier customization), then back it up again. You will retain one as a backup copy and use one in the next step.
2. Using a backup copy of your earlier customization files, restart the upgrade as described in this chapter.

Looking Ahead

After ensuring that your previous Identity System customizations are integrated and operating properly in the upgraded environment, see Chapter 13 for details about upgrading Access System customization upgrades.

If you do not have an Access System in your environment, proceed to validating your upgraded environment as described in Chapter 14. If you are using the zero downtime upgrade method, see also Part VI.

13

Upgrading Your Access System Customizations

Tasks in this chapter are intended for administrators who are responsible to upgrade and redeploy earlier Access System customizations. Oracle recommends that you upgrade and then test your upgraded customizations in a small isolated environment.

Unless explicitly stated, the information in this chapter applies to both upgrade methods. The tasks you perform will depend on what was implemented in your earlier installation. You can skip any task that is not relevant for your earlier environment. This chapter includes the following topics:

> **Note:** When you are performing a zero downtime upgrade, Oracle recommends that you perform these tasks and test your upgraded customizations in the cloned environment. For more information, see "Customization Upgrades Using the Zero Downtime Upgrade Method" on page 15-15.

Prerequisites and Guidelines

Before starting to upgrade any Access System customizations, Oracle recommends that you:

- Upgrade and redeploy any Identity System customization upgrades, as described in Chapter 12.
- Review information in "Customization Upgrade Planning" on page 1-16.
- Back up the directory containing the earlier customization and store it in a new location to help you if you decide to roll back to this later.

After completing and testing each upgraded customization, Oracle recommends that you back up the directory containing the upgraded customization and store it in a new location.

Upgrading Auditing and Reporting for the Access Server

As discussed earlier, you complete a few activities to ensure that your auditing and access reporting environment is properly set up for Oracle Access Manager 10*g* (10.1.4.0.1). To complete activities for the Access Server, you will use information available in the file:

AccessServer_install_dir\oblix\reports\crystal\audit.sql

The procedures are similar to those you performed for the Identity Server, as outlined next. For details about individual steps within the task here, including uploading the audit schema, see the *Oracle Access Manager Identity and Common Administration Guide*. For general information about the procedures, see "Upgrading Auditing and Access Reporting for the Identity System" on page 12-2.

Task overview: Upgrading auditing and reporting with a Microsoft SQL Server

1. Retain the original database, as is, to preserve your original data.
2. After upgrading all Policy Managers, upgrade the first Access Server (but do not restart the Access Server Service).
3. If you are using an MS SQL database, review information in "Database Record Sizing" on page 12-5.
4. To query or generate any report that requires data from both the old and new database, you must import the earlier data audited by each Access Server instance into the 10*g* (10.1.4.0.1) database and confirm that it is imported successfully. You will repeat this step for each Access Server instance that you upgrade.

   The `serverId` field in audit table indicates the ID of the Access Server that audited that record. Based on the `serverId` field, it is feasible to differentiate the records audited by each Access Server. The same rule applies to the Identity Servers.

   Note: With an MS SQL database instance, earlier data might be truncated, as described in "Database Record Sizing" on page 12-5. There is no data truncation with an Oracle database instance.

5. Change the DSN (ODBC Data Source Name used by the RDBMS profile of audit & reporting applications) on this computer to refer to the new database instance.

   Note: If you have multiple Access Servers on the same computer, be sure to upgrade all Access Server instances on this computer before you change the DSN to refer to the new database.

6. Start the Access Server service.

   The Access Server will now audit and store data in the new database instance. However, other Access Servers will continue to audit and store data in the old database instance.

7. Upgrade all other Access Server instances as follows:

   - Upgrade the next Access Server instance but do not restart the Access Server service.
   - Repeat step 4 to import data for this Access Server instance.

     Note: If you have multiple Access Servers on the same computer, be sure to upgrade all Access Server instances on this computer before you change the DSN to refer to the new database.

   - Repeat step 5 to change the DSN (ODBC Data Source Name used by the RDBMS profile of the audit & reporting applications) on this computer to refer to the new database instance.
   - Repeat step 6 to restart the Access Server service on this computer.
   - Repeat this step (7) for all Access Servers in your environment.

8. After upgrading all Access Server instances, you complete the rest of the Access System deployment-specific activities in this chapter. You can upgrade WebGates as described in"Upgrading WebGates In Place" on page 10-9.

9. Start auditing, as described in the *Oracle Access Manager Identity and Common Administration Guide*.

Confirming Access System Failover and Load Balancing

If your previous Access System installation was configured for failover or load balancing, it is a good idea to verify that these configurations are still working properly.

During Policy Manager Upgrades: When creating the Directory Server Profile during the incremental upgrade to release 6.5, directory server credentials are read from:

PolicyManager_install_dir/access/oblix/config/userDB.lst

If the configuration tree is in the user directory server *and* under the user node, then the configuration directory profile is **not** created. Otherwise, a configuration directory profile is created using directory server information from:

PolicyManager_install_dir/oblix/config/ldap/configdb.lst

The configuration directory profile is marked for use only by the Policy Manager. Profiles are not created for Policy Manager failover servers. In the case of release 6.1, if the policy tree was on a separate directory server a profile for policy data existed.

During Access Server Upgrades: Profiles are not created for the configuration or policy trees at this time. Before release 6.5, Access System connection pools values for `Initial Connections` and `Maximum Connections` appeared in the UserDB.lst and UserDBFailover.lst. These might not be retained. Also, many .lst files have been transformed into .xml files as part of the globalization effort.

After upgrading Access System Components, it is a good idea to verify the values for `Initial Connections` and `Maximum Connections` in the Database Instance profile of the newly created Directory Server profile.

> **Note:** For concurrent authentication requests on NDS directory servers, Oracle recommends that you increase the connection pool size to something higher than the default (1) for the user directory profile using the System Console.

To confirm failover, load balancing, and connection pool details after the Access System upgrade

1. From the Access System Console, select System Configuration, Server Settings.
2. Under the heading Configure LDAP Directory Server Profiles, select the name of the Profile you want to check.
3. On the Directory Server Profile page, confirm the servers that use the failover information and confirm that the information matches previous settings. For example:
   - Maximum Active Servers
   - Failover Threshold
   - Sleep For (Seconds)
   - Max. Session Time (Min.)
4. Locate the Database Instances list on the Directory Server Profile page and select the name of the Database Instance Profile you want to check.
5. In the Database Instance Profile, verify the values for `Initial Connections` and `Maximum Connections`.
6. Make any changes needed and save the profile.
7. Perform a test to ensure that everything is working as expected.

For more information about configuring failover and load balancing, see the *Oracle Access Manager Deployment Guide*.

Upgrading Forms-based Authentication

As discussed in Chapter 4, in 10*g* (10.1.4.0.1), form-based authentication supports non-ASCII login credentials (username/password). When you use form-based authentication with 10*g* (10.1.4.0.1) WebGates, you must ensure that character set encoding for the login form is set to UTF-8.

To set the login form encoding to UTF-8 for 10*g* (10.1.4.0.1)

1. Add the following META tag to the HEAD tag of the login form HTML page.

```
<META http-equiv="Content-Type" content="text/html;charset=utf-8">
```

2. If you upgrade an earlier WebGate to 10*g* (10.1.4.0.1), you must also update the login form HTML page after upgrading.

Note: Basic Authentication fails with non-ASCII login credentials. Use form-based authentication for non-ASCII login credentials. Use Basic Authentication with ASCII login credentials.

Recompiling and Redesigning Custom Authentication and Authorization Plug-Ins

Custom Access System plug-ins are copied into the target directory during the Access Server upgrade. However, as discussed earlier, earlier plug-ins send and receive data in Latin-1 encoding.To send or receive internationalized data you must re-design plug-ins to use UTF-8 encoding.

Solaris and Linux: Release 5.2 and 6.x plug-ins must be re-compiled using the GCC v3.3.2 C++ compiler. For more information, see "Plug-ins" on page 3-11.

Note: Release 7.0 plug-ins as well as earlier plug-ins implemented as executables or those using a scripting language (such as perl) do not require recompiling after the upgrade. However, to send and receive internationalized data, earlier plug-ins should be redesigned to communicate using UTF-8 encoding.

To use authentication and authorization plug-ins in an upgraded environment

1. Create a folder in the top level of your Access API directory and copy your earlier plug-ins in to the new directory.
2. Redesign custom authentication and authorization plug-ins to use UTF-8 encoding, if desired.
3. **Solaris and Linux**: Recompile release 5.2 or 6.x plug-ins on platforms using the GCC v3.3.2 compiler.

WARNING: You must use the GCC v3.3.2 compiler, regardless of the compiler that might be provided with the Operating System.

4. Complete any testing to ensure your plug-ins are working properly with 10*g* (10.1.4.0.1).
5. When using plug-ins that send and receive data in Latin-1 encoding, ensure that any new Access Servers added to the upgraded environment are backward compatible as described in Chapter 4.

Recompiling Custom AccessGates for .NET 2 Support

You must recompile earlier AccessGates only if the 10*g* (10.1.4.3) SDK for .NET 2 is installed and you want to move forward with only .NET 2 AccessGates. For details about adding the 10*g* (10.1.4.3) SDK for .NET 2, see the Oracle Access Manager Developer Guide.

Access Servers can communicate with AccessGates that support the .NET 1 Framework and AccessGates that support the .NET 2 Framework. As a result, you can have a mixed environment that includes the upgraded SDK for .NET 1 and earlier

AccessGates along with the 10*g* (10.1.4.3) SDK for .NET 2 and new AccessGates. In this case, you might not want to recompile earlier AccessGates.

For more information about the SDK and .NET, see "Installing the Access Manager SDK" in the *Oracle Access Manager Developer Guide*.

To recompile earlier custom AccessGates for .NET 2 support

1. Create a folder in the top level of your AccessGate directory and copy your earlier AccessGates in to the new directory.
2. Redesign custom AccessGates to use UTF-8 encoding, if desired.
3. **.NET 2 SDK**: Recompile any custom AccessGate with .NET 2.0.
4. Complete any testing to ensure your AccessGates are working properly in the upgraded environment.

Associating Release 6.1.1 Authorization Rules with Access Policies

If you upgraded from release 6.5 or later, you can skip this discussion.

During an upgrade, the names of any release 6.1.1 Authorization Rules move to the Authorization Rules tab of the corresponding policy domain. In addition, the original rule is renamed with a combination of the name of the Policy to which the rule belongs, followed by the Authorization Rule name: *PolicyName_ AuthorizationRuleName*.

For example, suppose your 6.1.1 installation includes a Policy Domain (named *MyPolicyDomain*) with two policies (named P1 and P2). And suppose that you have three Authorization Rules associated with these two policies: rules "A1" and "A2" are associated with policy P1, and rule A3 is associated with policy P2. In this case, after the upgrade you will find the following (under the Authorization Rules tab of MyPolicyDomain):

P1_A1

P1_A2

P2_A3

To confirm Release 6.1.1 Policy Domain Authorization Rule names

1. After upgrading from release 6.1.1, navigate to the Policy Manager/Access System Console using the appropriate URL for your environment. For example:

   ```
   http://hostname:port/access/oblix
   ```

   where *hostname* refers to computer that hosts the Web server; *port* refers to the HTTP port number of the WebPass Web server instance; and /access/oblix connects to the Policy Manager and Access System Console.
2. On the Access System landing page, select the Policy Manager link.
3. On the main Policy Manager page, select My Policy Domains on the left side of the page.
4. On the My Policy Domains page, select the link to one of your earlier Policy Domains: *DomainName*.
5. On the domain page, select the Authorization Rules tab.
6. On the Authorization Rules page, look for the renamed rules which are sorted alphabetically.

Assuring Proper Authorization Failure Re-directs After Upgrading from 6.1.1

Each authorization rule in your Policy Domains might include Allow Access and Deny Access conditions. The Allow Access condition of the rule specifies who is authorized to access a protected resource. The Deny Access condition of an authorization rule specifies the end users and groups of users who are explicitly denied access to a resource protected by the rule. If Allow Access or Deny Access conditions (or both) are specified and they do not apply to a user, the user is not qualified by the rule. If a user is unqualified by a rule, by default the user is denied access to the requested resource.

A new authorization state was introduced in release 7.x (apart from authorization success and failure states). This new state is "inconclusive". To accommodate this new state when your earlier installation included authorization failure redirects, you complete the procedure here to specify an explicit Deny rule and to change `Allow takes precedence` to `Yes` on the General panel of the authorization rule.

To reset your Authorization Rule

1. After upgrading from release 6.1.1, navigate to the Policy Manager/Access System Console using the appropriate URL for your environment. For example:

   `http://`*`hostname`*`:`*`port`*`/access/oblix`

   where *hostname* refers to computer that hosts the Web server; *port* refers to the HTTP port number of the WebPass Web server instance; and /access/oblix connects to the Policy Manager and Access System Console.
2. On the Access System landing page, select the Policy Manager link.
3. On the main Policy Manager page, select My Policy Domains on the left side of the page.
4. On the My Policy Domains page, select the link to one of your earlier Policy Domains: *DomainName*.
5. On the domain page, select the Authorization Rules tab.
6. On the Authorization Rules page, look for the renamed rules which are sorted alphabetically and select the rule you want to modify.
7. On the General panel, confirm that `Allow takes precedence` is set to `Yes`.
8. Select the Deny Access panel, then create or modify a rule to specify the users and groups who are denied access to resources protected by this rule (using the People, Role, Rule, and IP Address controls) as indicated in the *Oracle Access Manager Access Administration Guide*.

Updating the ObAMMasterAuditRule_getEscapeCharacter in Custom C Code

If your earlier installation does not use C code created with the Policy manager, that includes the ObAMMasterAuditRule_getEscapeCharacter you can skip this discussion.

An object of the ObAMMasterAuditRule class represents the master audit rule, which specifies global audit parameters and defaults to be used if there is no audit rule specified for a specific policy. In earlier releases, `ObAMMasterAuditRule_getEscapeCharacter` returned the audit escape character. In 10*g* (10.1.4.0.1), the C language API the `ObAMMasterAuditRule_getEscapeCharacter` remains and you

can continue using this. However, the audit escape character must be an ASCII character; otherwise the return value is incorrect.

You might need to modify your C code to use the new `ObAMMasterAuditRule_getUTF8EscapeCharacter`, which returns a pointer to the UTF-8 encoded audit escape character.

For more information, see "Policy Manager API" on page 4-50. For details about using the Policy Manager API, see the *Oracle Access Manager Developer Guide*.

Validating Access System Customization Upgrades

Oracle recommends that you test your upgraded Access System customizations in a test or development environment before deploying these in an upgraded production environment.

To validate Access System customization upgrades

1. Verify that your customizations have been restored properly by performing specific operations that will exercise the upgraded customizations.
2. Verify that auditing and access reporting is working properly.
3. **Upgrade Not Successful**: Proceed to "Recovering from an Access System Customization Upgrade Failure" on page 13-8.
4. **Upgrade Successful**: Proceed to "Backing Up Upgraded Access System Customizations" next.

Backing Up Upgraded Access System Customizations

As mentioned earlier, Oracle recommends that you finish each upgrade by backing up the appropriate 10*g* (10.1.4.0.1) directory. This will enable you to easily restore your environment to the newly upgraded state should that be a requirement.

To back up Access System customizations after upgrading them

1. Back up the 10*g* (10.1.4.0.1) directory that contains the upgraded customizations and store it in a new location.
2. When all customizations are completed and redeployed, proceed to validating operations as described in Chapter 14.

Recovering from an Access System Customization Upgrade Failure

If an Access System customization was not successful, you can perform the following steps to rollback this upgrade, then try again.

To recover from an unsuccessful Access System component upgrade

1. Restore the earlier customization files or directory that you backed up before the upgrade (to recover the earlier customization), then back it up again. You will retain one as a backup copy and use one in the next step.
2. Using a backup copy of your earlier customization files, restart the upgrade as described in this chapter.

Looking Ahead

After ensuring that your previous Access System customizations are integrated and operating properly in the upgraded environment, see Chapter 14.

If you are using the zero downtime upgrade method, see also Part VI.

Part V

Validating the Upgrade

This part of the book helps you validate the success of the entire upgrade.

Part V contains the following chapters:

- Chapter 14, "Validating the Entire System Upgrade"

14

Validating the Entire System Upgrade

Activities in this chapter should be performed after upgrading the schema and data, after upgrading Identity System components, after upgrading Access System components, after upgrading integration components, SDKs, and customizations. Unless explicitly stated, topics in this chapter apply equally to both upgrade methods. Topics in this chapter include:

Validating the Identity System Upgrade

After upgrading, Oracle recommends that you perform tasks to validate that you can access and use the Identity System Console and applications. For more information about these tasks, see the *Oracle Access Manager Identity and Common Administration Guide*.

> **Note:** If you are using the zero downtime upgrade method, you will perform these tasks after upgrading the schema, the data, the clone system, and the original system. For more information, see "Validating Successful Operations in Your Environment" on page 16-69.

To validate your Identity System upgrade

1. Identify the COREid System applications and functions that are affected by your upgrade and develop a plan to test these.
2. Delete all Web browser caches once the upgrade is complete.
3. Ensure that your Identity Server service and WebPass Web server instance are running.
4. Navigate to the Identity System Console from your browser by specifying the appropriate URL. For example:

   ```
   http://hostname:port/identity/oblix
   ```

where *hostname* refers to computer that hosts the Web server; port refers to the HTTP port number of the WebPass Web server instance; /identity/oblix connects to the Identity System Console.

The Oracle Access Manager landing page should appear.

5. **Landing Page Does Not Appear**: Confirm that you have specified information accurately. Look for troubleshooting tips in Appendix G.
6. Perform any of the tasks listed next to verify operations, and use your own test plan as a guide:
   - View the directory server profile for this Identity Server by selecting Identity System Console, System Configuration, Directory Profiles, *link_to_this_profile*
   - Set up panels in the User Manager, Group Manager, Organization Manager.
   - Set up object-based searchbases in the User Manager.
   - Set up access controls in the User Manager, Group Manager, or Organization. Manager.
   - Create workflow definitions.
   - Configure options such as the mail server and session settings.

Validating Access System Upgrades

You can complete any of the next steps to validate that the Access System schema and data upgrade have been successful. For more information, see *Oracle Access Manager Access Administration Guide*.

Note: If you are using the zero downtime upgrade method, you will perform these tasks after upgrading the schema, the data, the clone system, and the original system. For more information, see "Validating Successful Operations in Your Environment" on page 16-69.

To verify a successful Access System upgrade

1. Identify the Access System functions that are affected by your upgrade and develop a plan to test these.
2. Ensure your Policy Manager Web server and WebPass Web server instance are running.
3. Delete all Web browser caches once the upgrade is complete
4. Navigate to the Access System Console from your browser by specifying the appropriate URL. For example:

   ```
   http://hostname:port/access/oblix
   ```

   where *hostname* refers to computer that hosts the Web server; port refers to the HTTP port number of the WebPass Web server instance; /access/oblix connects to the Access System Console.

   The Oracle Access Manager landing page should appear.

5. **Landing Page Does Not Appear**: Confirm that you have specified information accurately. Look for troubleshooting tips in Appendix G.
6. Log in to the Policy Manager/Access System Console as a Master Administrator.

7. Complete the following tasks, and refer to your own test plan to ensure that the Access System is working properly. For example:
   - Display configuration details for an authentication scheme by clicking the link that corresponds to the scheme.
   - Define or modify a policy domain.
   - Explore the Access System Console.
   - Access a protected resource to confirm that login is working.
8. Log out, as usual.

Applying the Latest Patch Set

After validating that everything in your upgraded environment is working properly, Oracle recommends that you apply the latest patch set, available on My Oracle Support (formerly Metalink).

Skip any steps that do not apply to you.

Task overview: Applying the latest patch set

1. Perform procedures in "Preparing Upgraded Environments for 10g (10.1.4.3) Language Packs" on page 14-3, as needed for your environment.
2. See Obtaining Packages for Upgrades in Chapter 4 for details about the sequential application of patch sets and how to acquire them.
3. **10*g* (10.1.4.0.1) Environment**: Apply the 10*g* (10.1.4.2.0) patch set as described in the *Oracle Access Manager Patchset Notes Release 10.1.4 Patchset 1 (10.1.4.2.0) For All Supported Operating Systems* and then proceed to step 4.
4. **10*g* (10.1.4.2.0) Environment**: After applying the 10*g* (10.1.4.2.0) patch (or performing the zero downtime upgrade) apply the 10*g* (10.1.4.3) patch set as described in the *Oracle Access Manager Patchset Notes Release 10.1.4 Patchset 2 (10.1.4.3.0) For All Supported Operating Systems*.
5. To use NPTL after applying the 10*g* (10.1.4.3) patch set, see ""NPTL Requirements and Post-Installation Tasks" on page G-10.

Preparing Upgraded Environments for 10*g* (10.1.4.3) Language Packs

Oracle Access Manager 10*g* (10.1.4.3) supports only 10*g* (10.1.4.3) Language Packs. A 10.1.4 environment includes at least the English language and perhaps one or more non-English Language Packs.

This section describes how to prepare a 10.1.4 environment before applying the 10*g* (10.1.4.3) patch. After upgrading to 10.1.4 using either method described in this book, you must remove 10*g* (10.1.4.0.1) Language Packs before applying the 10*g* (10.1.4.3) patch set. After applying the 10*g* (10.1.4.3) patch set you can install 10*g* (10.1.4.3) Language Packs.

> **Note:** To retain multi-language functionality from your earlier deployment during an upgrade to 10.1.4, see "Acquiring and Using Multiple Languages" on page 4-11.

For more information, see the following topics:

Note: Oracle Access Manager 10*g* (10.1.4.3) does not provide combination Policy Manager/WebGate packages (except for IIS Web servers). If you have a 10*g* (10.1.4.0.1) environment that includes combination Policy Manager/WebGate, you must first install separate 10*g* (10.1.4.0.1) Policy Manager and WebGate before applying 10*g* (10.1.4.2.0) and then 10*g* (10.1.4.3) patch sets.

English is the Default Language in the Upgraded 10.1.4 Environment

The following task overview describes how to proceed when English is the default language in your upgraded environment.

Task overview: Preparing an upgraded 10.1.4 environment with English as the default language

1. Remove any installed 10*g* (10.1.4.0.1) Language Packages using instructions in the chapter "Removing Oracle Access Manager" in the *Oracle Access Manager Installation Guide*.

   Policy Manager and WebGate in Same Directory: If you have installed the same Language Pack twice (once for Policy Manager and once for WebGate in the same directory), you will have two uninstallers available. For example, if the Japanese Language Pack was installed twice, you will have _uninstAccessLP_ja-jp and _ uninstAccessLP_ja-jp2 in the installation directory. In this case:

   a. Back up the JVM directory related to Language Pack installation, for example, as _jvmAccessLP_ja-jp.

   b. Uninstall the **second** installed Language Pack, for example as _ uninstAccessLP_ja-jp2.

   c. Restore the JVM directory related to Language Pack installation from the backup copy you made in Step a.

   d. Uninstall the **first** installed Language Pack, for example as _uninstAccessLP_ ja-jp.

2. **10*g* (10.1.4.0.1) Environment**: Perform the tasks below before proceding to Step 4.

   a. Apply the 10*g* (10.1.4.2.0) patch according to instructions in the patch set notes on My Oracle Support (formerly Metalink).

   b. Apply the 10*g* (10.1.4.3) patch; according to instructions in the patch set notes on My Oracle Support (formerly Metalink).

   c. **Policy Manager and WebGate in Same Directory**: Apply the 10*g* (10.1.4.3) patch to Policy Manager and WebGate.

3. **10*g* (10.1.4.2.0) Environment**: Apply the 10*g* (10.1.4.3) patch according to instructions in the patch set notes on My Oracle Support (formerly Metalink) before proceding to Step 4.

4. Install required 10*g* (10.1.4.3) Language Packs using instructions in the chapter "Installing Language Packs Independently" in the *Oracle Access Manager Installation Guide*.

Policy Manager and WebGate in Same Directory: Install the required 10*g* (10.1.4.3) Language Packs one time only; this will apply to both Policy Manager and WebGate.

Non-English Default Language in the Upgraded 10.1.4 Environment

The following task overview describes how to proceed when a non-English language is the default in your upgraded environment.

Note: Most steps here are the same as those in "English is the Default Language in the Upgraded 10.1.4 Environment", above. Differences occur in Step 4.

Task overview: Preparing an upgraded 10.1.4 environment with a non-English default language

1. Remove installed 10*g* (10.1.4.0.1) Language Pack, including the default language using instructions in the chapter "Removing Oracle Access Manager" in the *Oracle Access Manager Installation Guide*.

   Policy Manager and WebGate in Same Directory: If you have installed the same Language Pack twice (once for Policy Manager and once for WebGate in the same directory), you will have two uninstallers available. For example, if the Japanese Language Pack was installed twice, you will have _uninstAccessLP_ja-jp and _uninstAccessLP_ja-jp2 in the installation directory. In this case:

   a. Back up the JVM directory related to Language Pack installation, for example, as _jvmAccessLP_ja-jp.

   b. Uninstall the **second** installed Language Pack, for example as _uninstAccessLP_ja-jp2.

   c. Restore the JVM directory related to Language Pack installation from the backup copy you made in Step a.

   d. Uninstall the **first** installed Language Pack, for example as _uninstAccessLP_ja-jp.

2. **10*g* (10.1.4.0.1) Environment**: Perform the tasks below before proceding to Step 4.

   a. Apply the 10*g* (10.1.4.2.0) patch according to instructions in the patch set notes on My Oracle Support (formerly Metalink).

   b. Apply the 10*g* (10.1.4.3) patch according to instructions in the patch set notes on My Oracle Support (formerly Metalink).

   c. **Policy Manager and WebGate in Same Directory**: Apply a 10*g* (10.1.4.3) patch to Policy Manager and WebGate.

3. **10*g* (10.1.4.2.0) Environment**: Apply the 10*g* (10.1.4.3) patch according to instructions in the patch set notes on My Oracle Support (formerly Metalink).

4. Proceed as follows to install required 10*g* (10.1.4.3) Language Packs:

   Note: **Policy Manager and WebGate in Same Directory**: Install the required 10*g* (10.1.4.3) Language Packs one time only; this will apply to both Policy Manager and WebGate.

Install required 10*g* (10.1.4.3) Language Packs using instructions in the chapter "Installing Language Packs Independently" in the *Oracle Access Manager Installation Guide*.

Reinstate the Default Language:

a. Prepare an options.txt file with contents as shown in the following example, and store this file in the same directory as 10*g* (10.1.4.3) Language Pack installer. For example:

```
-W ObPropBean.defaultLocale="ja-jp"
```

Here "ja-jp" represents the default language for your deployment. The default language you choose might be different.

b. Start the 10*g* (10.1.4.3) Language Pack installer as follows to reinstate the default language:

```
Oracle_Access_Manager10_1_4_3_0_JA_Win32_LP_Identity_System.exe -options
options.txt
```

Restarting On-the-fly User Data Migration for In-place Upgrades

You can skip this discussion if you performed a zero downtime upgrade, or if you did not halt on-the-fly user data migration during an in-place upgrade.

You use the procedure here to restart on-the-fly user data migration only if you performed an in-place upgrade and only:

- When immediate (on-the-fly) user data migration was temporarily halted as described in Chapter 5. If on-the-fly user data migration was not halted, you can skip this procedure.
- After validating that your upgraded deployment is operating as expected and that no rollback to the earlier release is needed

> **Note:** If you roll back to an earlier release after performing activities here, any user data that has been migrated will not be reverted.

In the following procedure you must reconfigure the attributes used for challenge and response at both the tab level and the object class level.

> **Note:** If you performed an upgrade using the zero downtime method, skip this activity.

To restart on-the-fly user data migration

1. **Tab Level**: Reconfigure the Challenge and Response semantic types at the tab level, as follows:
   a. Click Identity System Console, then click User Manager Configuration, click Tabs.
   b. Select Employees from the list, then click Modify Attributes to open the Modify Attributes page.
   c. From the Attribute list select the attribute that is used for Challenge, set the Semantic Type to Challenge and the Display Type to Single Line Text, then click Save.

d. From the Attribute list select the attribute that is used for Response, set the Semantic Type to Response and the Display Type to Password, then click Save.

e. Click Done.

2. **Object Class Level**: Reconfigure the Challenge and Response semantic types at the object class level, as follows:

a. Click Identity System Console, then click Common Configuration, click Object Classes.

b. Select the person object class from the list, then click Modify Attributes to open the Modify Attributes page.

c. From the Attribute list select the attribute that is used for Challenge, set the Semantic Type to Challenge and the Display Type to Single Line Text, then click Save.

d. From the Attribute list select the attribute that is used for Response, set the Semantic Type to Response and the Display Type to Password, then click Save.

e. Click Done.

3. Set the obVer attribute for oblixConfig (the configuration data root node in the LDAP directory server) to 10.1.4.0 as follows:

Note: With Oracle Internet Directory, Oracle recommends that you set the LDAP_PASSWORD_PROMPTONLY variable to TRUE or 1 to disable the options -w *password* and -P *password* whenever possible, and use -q (or -Q), the command to prompt you for the user password (or wallet password.

```
ldapmodify.exe  -h <Host> \
-p <Port>
-D <Bind DN>
-q <Bind Password> \
-f <ldif file containing attribute to be modified>
```

The format of LDIF file to be created is as follows. This example is for the Netscape Directory Server:

```
dn: o=oblix,<configuration DN>
changetype: modify
replace: obver
obver: 10.1.4.0
```

4. Restart all upgraded Identity Servers and Access Servers.

Deleting the Temporary Directory Server Profile

Regardless of the method you used for the Access System upgrade, an administrator created a temporary directory profile to grant the Access Server write access to policy data stored in the directory server. This temporary directory profile was required when the Access Server gathered configuration information stored in the WebGatestatic.lst file and updated the directory server during WebGate upgrades.

Note: Do not perform this task until all earlier WebGates in your environment have been upgraded and verified to be working.

After upgrading *all* earlier WebGates and confirming proper operation of the upgraded WebGates, you can delete the temporary directory server profile.

To delete the temporary directory server profile

1. From the Access System Console, click the System Configuration tab.
2. Click Server Settings.
3. In the Configure LDAP Directory Server Profiles section, click the check box for the profile that you want to delete.
4. Click Delete.
5. When all earlier custom plug-ins and WebGates have been successfully upgraded and backward compatibility is no longer needed, proceed to "Reverting Backward Compatibility" next.

Reverting Backward Compatibility

Regardless of the upgrade method that you used, backward compatibility with earlier custom plug-ins (and WebGates/AccessGates) was enabled automatically during earlier Identity Server and Access Server upgrades.

After upgrading all older plug-ins, WebGates and AccessGates, and confirming that the entire system upgrade has been successful, Oracle recommends that you disable (revert) backward compatibility.

The steps you complete to revert backward compatibility are similar to those used to manually enable backward compatibility. For more information, see:

- Reverting Identity Server Backward Compatibility
- Reverting Access Server Backward Compatibility

Reverting Identity Server Backward Compatibility

After extending your custom Identity plug-ins to support UTF-8, you perform the steps in this procedure on every Identity Server in your environment whether backward compatibility was enabled automatically or manually.

To revert backward compatibility on Identity Servers

1. Upgrade all Identity System customizations as described in Chapter 12.
2. Redeploy all upgraded Identity System customizations and verify that all are working as expected.
3. Locate and open the Identity Server oblixpppcatalog.lst file in *IdentityServer_install_dir*\identity\oblix\apps\common\bin\oblixpppcatalog.lst.
4. Set the encoding flag from `Latin-1` to `encoding` after the `ApiVersion` flag (if there is one) to provide backward compatibility for Latin-1 data. For example:

   From:

   ```
   userservcenter_view_pre;lib;;..\..\..\unsupported\ppp\ppp_dll\
   ppp_dll.dll;Publisher_USC_PreProcessingTest_PPP_Automation;;Latin-1
   ```

   To:

   ```
   userservcenter_view_pre;lib;;..\..\..\unsupported\ppp\ppp_dll\
   ppp_dll.dll;Publisher_USC_PreProcessingTest_PPP_Automation;;encoding
   ```

5. Repeat as needed for entries in this file.
6. Save the file.
7. Restart the Identity Server service.
8. Repeat for each Identity Server in the upgraded environment to revert backward compatibility.

Reverting Access Server Backward Compatibility

After verifying that your custom Access System plug-ins were redesigned to support UTF-8, and after upgrading all WebGates/AccessGates successfully, backward compatibility is no longer needed. In this case, Oracle recommends that you manually set `"IsBackwardCompatible" Value="false"` in all Access Server globalparams.xml files.

Whether backward compatibility was enabled automatically or manually, you perform the steps in this procedure on every Access Server in your environment.

To revert backward compatibility on Access Servers

1. Upgrade all Access System customizations as described in Chapter 13.
2. Redeploy all upgraded Access System customizations and verify that all are working as expected.
3. Locate and open the Access Server globalparams.xml file in *AccessServer_install_dir*\access\oblix\apps\common\bin\globalparams.xml.
4. Set `"IsBackwardCompatible" Value="false"`. For example:

```
<SimpleList
     <NameValPair
           ParamName="IsBackwardCompatible"
            Value="false">
     </NameValPair>
</SimpleList>
```

5. Save the file.
6. Restart the Access Server service.
7. Repeat for each Access Server in the upgraded environment.

Part VI

Upgrading Using the Zero Downtime Upgrade Method

This part of the book helps you perform and validate an upgrade using the zero downtime method.

Part VI contains the following chapters:

15

Introduction to the Zero Downtime Upgrade Method

Release 10.1.4 Patch Set 1 (10.1.4.2.0) includes new tools and updated utilities to support a zero downtime upgrade methodology for mission-critical deployments. Oracle recommends that you review all information about the zero downtime upgrade method to ensure that this approach is the right one for your enterprise. This chapter introduces the zero downtime upgrade methodology and includes the following topics:

- About Zero Downtime Upgrades and Planning
- Duration of Zero Downtime Tasks and Validation
- Zero Downtime Upgrade Tasks and Sequencing
- Zero Downtime Upgrade Tools, Processes, and Logs
- Backup and Recovery Strategies for Zero Downtime Upgrades
- Developing a Plan for a Zero Downtime Upgrade

> **Note:** If you are using the in-place upgrade method, skip this chapter.

About Zero Downtime Upgrades and Planning

The zero downtime methodology is an alternative to the in-place upgrade methodology that is described in Part II and Part III of this book. The zero downtime upgrade methodology is also known as an *out-of-place upgrade* for reasons that are described in this chapter. Before you decided which method is appropriate for use when upgrading your deployment, Oracle recommends that you read all information about zero downtime upgrades as well as the in-place upgrade.

> **Note:** You cannot use 10*g* (10.1.4.3) packages for upgrading.

The zero downtime upgrade method is available as an option for those who want to upgrade with very little disruption to their original deployment and the services that are provided to internal and external customers. The zero downtime method provides the following features for mission-critical deployments:

- Eliminates most Oracle Access Manager service downtime during the upgrade

- Separates the Oracle Access Manager schema upgrade from Oracle Access Manager data upgrades
- Separates the upgrade of attributes and objectclasses
- Enables you to roll back changes and return to your starting position at any stage

Oracle Access Manager Release 10*g* (10.1.4.2.0) is a patch set release, as described in Chapter 1. Oracle Access Manager Release 10*g* (10.1.4.2.0) provides the tools that you must use to perform a zero downtime upgrade. You can use the zero downtime upgrade method to upgrade directly to Oracle Access Manager release 10*g* (10.1.4.2.0) from releases as early as 6.1.1. For example, you can use this method to upgrade directly:

- From Release 6.1.1
- From Release 6.5
- From Release 7.x

If your starting release is earlier than 6.1.1, you cannot upgrade directly. For more information, see "Indirect Upgrade Paths" on page 1-30. For more information about upgrade paths, see Chapter 1.

Some situations are not appropriate for the zero downtime upgrade method. For example, do not use the zero downtime method:

- If your starting release is Oracle Access Manager 10*g* (10.1.4.0.1), do not use the zero downtime upgrade method. Instead, you can apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to each 10*g* (10.1.4.0.1) component instance, and then apply Release 10.1.4 Patch Set 2 (10.1.4.3.0). For more information, see the *Oracle Access Manager Patch Set Notes Release 10.1.4 Patchset 1 (10.1.4.2.0) For All Supported Operating Systems* and *Oracle Access Manager Patchset Notes Release 10.1.4 Patchset 2 (10.1.4.3.0) For All Supported Operating Systems*
- If you are performing a switch from a Solaris platform to a Linux platform while upgrading from an earlier release, follow instructions in Appendix B. Afterward, you can apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the 10*g* (10.1.4.0.1) components as described in the *Oracle Access Manager Patch Set Notes Release 10.1.4 Patchset 1 (10.1.4.2.0) For All Supported Operating Systems*. Do not use the zero downtime upgrade method in this case.

The following topics provide more information about the zero downtime upgrade method:

- Deployment Scenarios for Zero Downtime Upgrades
- Original and Clone Environments for the Zero Downtime Upgrade Method
- Hardware Requirements for Zero Downtime Upgrades
- Web Server Requirements for Zero Downtime Upgrades
- Directory Server Requirements for the Zero Downtime Upgrade
- Schema and Data Upgrades with the Zero Downtime Upgrade Method
- Preparation Tasks for the Zero Downtime Method
- Validation During a Zero Downtime Upgrade
- Customization Upgrades Using the Zero Downtime Upgrade Method

Note: Oracle recommends that you review all information about the zero downtime method before you decide whether it is the right choice for your deployment and before you perform any upgrade tasks.

Deployment Scenarios for Zero Downtime Upgrades

A zero downtime upgrade can be performed with any deployment type or scenario. For example, you can perform a zero downtime upgrade on a development or test area or on a full production deployment. The deployment category can be either extranet or intranet. For more information about deployment scenarios and categories, see Chapter 1 and the *Oracle Access Manager Deployment Guide*.

Oracle recommends that you first use the zero downtime upgrade method in a small, isolated deployment. After performing the zero downtime upgrade and validating that this method produced the results that you expected in a small area, you can use the zero downtime method to upgrade a larger deployment. The tasks that you perform are the same regardless of the size or complexity of your deployment.

For more information about the duration of the zero downtime upgrade task and processing, see "Duration of Zero Downtime Tasks and Validation" on page 15-21.

Original and Clone Environments for the Zero Downtime Upgrade Method

The zero downtime upgrade method is also known as an out-of-place upgrade method because you will be working with two complete environments:

- The Original Environment
- The Clone Environment

The Original Environment

This topic describes the original deployment and the role that it plays during a zero downtime upgrade. When you upgrade using the zero downtime method, your original Oracle Access Manager instances remain intact.

During a zero downtime upgrade, original instances typically remain on the same computer where they were installed. However, before upgrading a component you can change the hardware or the operating system or Web server. For more information, see "Hardware Requirements for Zero Downtime Upgrades" on page 15-6.

Original instances use the original configuration and policy data. This data is stored in the original branch of the LDAP directory server that was specified when you installed the components. For more information, see "Schema and Data Upgrades with the Zero Downtime Upgrade Method" on page 15-9.

Original instances provide a source for the copied instances (known as clones) that you will create and upgrade. Creating, upgrading and validating the clone system enables you to leave the original instances and data intact. For more information, see "The Clone Environment".

Original instances continue to serve all customers while you upgrade clones and validate the cloned system upgrade. You upgrade original component instances only when you are satisfied that the upgraded cloned environment is operating as expected.

Oracle recommends that you upgrade customizations early on in the upgrade process, so that you can test these thoroughly. When you use the zero downtime upgrade

method, you can upgrade customizations and test these with the upgraded cloned environment. For more information, see "Customization Upgrades Using the Zero Downtime Upgrade Method" on page 15-15.

The Clone Environment

At the center of the zero downtime upgrade method is a copy of each earlier Oracle Access Manager instance in your original deployment. The copy is referred to as a clone. You will also have a copy of the original oblix branch. This topic describes the clone setup and the role that it plays during a zero downtime upgrade.

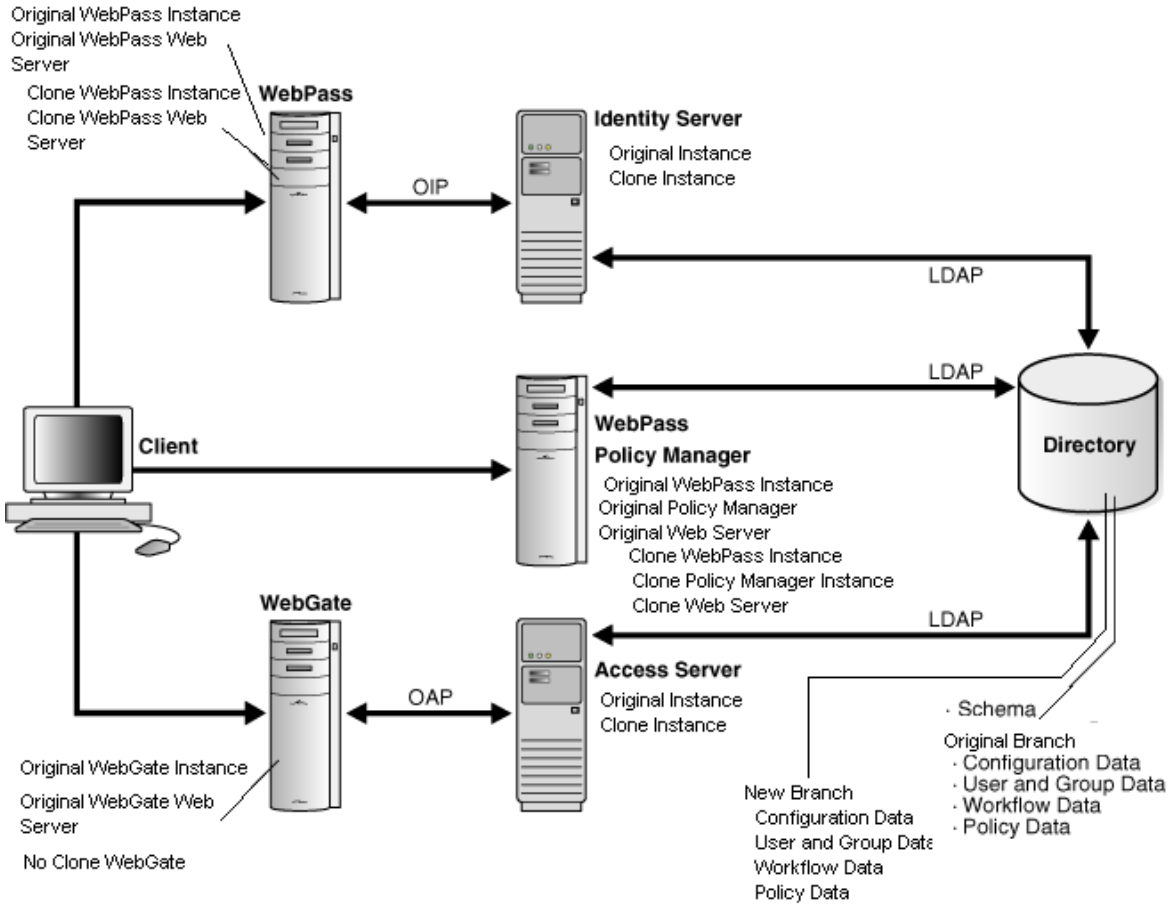
Using the zero downtime upgrade method, you will create a clone of each component instance that resides in the original deployment (except WebGates).

The clone file system is a back up copy of the original file system. In later tasks, you will rename each clone subdirectory to create a source for the clone upgrade. The source becomes the back up copy of the component and remains intact while the destination that contains the 10.1.4.2.0 tools, libraries, and files, is upgraded. The original file system is untouched during clone upgrades.

You can install another instance of an earlier release Oracle Access Manager component to use as a clone. For example, if you have original instances operating with an IIS Web server on a Windows platform you must place the clone on a different computer host. After you install the earlier instance on the new host you copy any customizations and configuration changes from the original instance to the newly installed clone. If the instance uses either Simple or Cert mode to communicate with existing components, you must copy the \config subdirectory from the original instance to the newly installed instance to ensure that all certificates are in order.

For example, suppose that you have a small distributed sandbox-type deployment with one instance each of the COREid Server (now named the Identity Server), WebPass, Access Manager (now named the Policy Manager), Access Server, and WebGate. Figure 15–1 shows both the original and clone instances in this sample environment.

Figure 15–1 Original and Clone Instances for a Zero Downtime Upgrade



As you can see in Figure 15–1, you will have a clone component instance for each original instance except WebGates. The clones can reside on the same computer host as the original; however, they can reside on a different computer host if you prefer. For more information, see "Hardware Requirements for Zero Downtime Upgrades" on page 15-6.

WebGates: You do not clone WebGates because you can delay WebGate upgrades. Delaying WebGate upgrades is possible because an upgraded Access Server provides backward compatibility with earlier WebGates and earlier custom plug-ins. This backward compatibility is enabled automatically when you upgrade an earlier Access Server. As a result, you will configure original WebGates to work with cloned Access Servers and delay WebGate upgrades. For more information about backward compatibility, see Chapter 4.

Having only one WebGate will result in downtime when upgrading that WebGate (or when rolling back). Oracle recommends that you have more than one WebGate to avoid downtime. Alternatively, you can keep the older WebGate and not upgrade it because it will work with the upgraded Access Server.

Access Servers: Each WebGate upgrade requires that at least one Access Server configured for that WebGate is running. This is required to enable the migration of information from the WebGateStatic.lst file to the WebGate profile in the System Console.

SDK and Integration Connectors: In addition to delaying WebGate upgrades, you can delay upgrading the Software Developer Kit (SDK). Any item that must be handled manually can be upgraded at any time. For more information about manual tasks, see Chapter 3.

Separate Web Server for Clones: On computers that are hosting Web components, you need a separate Web server instance to serve the clone WebPass and Access Manager instances. For more information, see "Hardware Requirements for Zero Downtime Upgrades".

LDAP Directory Server: Also shown in Figure 15–1 is the LDAP directory. It contains the Oracle Access Manager schema that was installed when you installed the earlier original components, as well as the original branch where configuration and policy data are stored. The clone setup uses a copy of the data (there is no copy of the schema) from your original environment.

For the clone setup, you will create a new branch in the same LDAP directory server instance and populate the new branch with a copy of the original configuration and policy data. The original branch remains intact. After populating the new branch, you will reconfigure cloned components to use the new branch. After this reconfiguration, the clone component replicates the original. The original environment continues to use the original branch and the data in the original branch. For more information, see "Schema and Data Upgrades with the Zero Downtime Upgrade Method".

After upgrading the clones, you will validate the upgraded environment to ensure that it is operating as expected with the upgraded schema and data in the new branch. After validation, you can use the upgraded clones to serve in place of original components while you upgrade the originals. For an introduction to validation tasks, see "Validation During a Zero Downtime Upgrade".

Hardware Requirements for Zero Downtime Upgrades

Original instances reside on existing hardware. When you create a clone instance, Oracle recommends that clone resides on the computer that is hosting the original instance. However, you can create the clone on any computer that meets Oracle Access Manager 10*g* (10.1.4.2.0) requirements.

If you would like to upgrade hardware or change the operating system or Web server within your deployment, Oracle recommends that you do this before starting the zero downtime upgrade. Whether you use existing systems or choose to enhance these, you must ensure that the system is supported by Oracle Access Manager 10*g* (10.1.4.2.0). For more information, see "Bringing Host Computers to Oracle Access Manager 10.1.4 Support Levels" on page 16-3.

> **Note:** If you plan to add hardware to the existing deployment, you will need to install the earlier Oracle Access Manager instance on a supported platform before you start the upgrade.

Clone component identifiers and service names will be different from those for the original instance. As a result, there is no need to place Identity Server or Access Server clones on a different computer host when you have an IIS Web server on the same computer as an original Identity Server or Access Server instance. For more information, see "Web Server Requirements for Zero Downtime Upgrades".

Currently supported UNIX-based platforms include Linux and Solaris. Any Reference to UNIX refers only to currently supported UNIX-based platforms.

You can start the zero downtime upgrade when all systems are ready.

Web Server Requirements for Zero Downtime Upgrades

The cloned WebPass and Access Manager require a separate Web server instance. The Web server instance for the clone should be the same Web server type and release that is used with the original Web component instance. For example, if you are using an Oracle HTTP Server based on Apache 2.0.5.2, you should use the same Web server for the clone. There are no cloned WebGates.

The following guidelines apply to Web server instances for cloned Web components:

- If you have only one set of Web components on a single host computer, configured for a single Web server instance, you will need only one new Web server instance to service the clones.
- If you have a more complex deployment, where Web components are distributed across multiple host computers, you will need one new Web server instance on each computer that is hosting cloned Web components.
- If you have more than one Web server configured for more than one pair of WebPass or Access Manager components, you will need a similar pairing of Web server instances for the clone.
- If you have other applications that are protected by Oracle Access Manager using the original Web server instance, you should also clone these applications to use the Web server instance that you create for the cloned Web components.
- When cloning earlier IIS Web components on a Windows system, the Windows registry is not updated for the clone. This might cause issues because the IIS Web server requires the entries for Web components in the registry. For more information, see "Reinstating Original Windows Registry Entries During a Rollback Operation" on page 15-36.

  Oracle recommends that you do not have more than one instance of the IIS Web server on a host computer. If the original component uses an IIS Web server, Oracle recommends that you create the clone on a different host; the name of the host computer will differ for the clone.

Web Server Support for Multiple Oracle Access Manager Releases

You must perform Identity System set up for each upgraded COREid Server and WebPass association. You must set up each upgraded Access Manager. However, Web server instances cannot support Oracle Access Manager Web components that are at different release levels (6.1.1 and 10.1.4, for example). This is especially true on UNIX-based systems.

There are implications for setting up the upgraded Identity System and Access Manager, whether it is a clone or an original system. All Web components that are serviced by a single Web server instance (WebPass, Access Manager, and WebGates), must be at the same release level before you restart the Web server. When you have a single Web server instance serving more than one Oracle Access Manager Web component, the Web server must remain stopped until all serviced Web components on the host computer are upgraded.

You cannot set up the upgraded Identity System or Access Manager (whether you are upgrading the clone setup or the original setup) until all Oracle Access Manager Web components that are serviced by the Web server instance have been upgraded to 10*g* (10.1.4.2.0).

The following conditions apply when you are ready to set up either the upgraded clone or upgraded original system:

- **Identity System Only**:
  - A single Web Server instance cannot service multiple WebPass instances.
  - You can set up the Identity System after upgrading the only WebPass.
- **Joint Identity and Access System**: You must delay setting up the Identity System and the Access Manager until you have upgraded all Web components that are serviced by a single Web server instance.

  In the clone environment you upgrade COREid Servers, and serviced WebPass and Access Manager instances before setting up the Identity System and the Access System. There are no WebGate clones. In the original environment, you must upgrade all serviced WebPass, Access Manager, and WebGate instances.
  - When a WebPass and Access Manager both use the same Web server instance, delay Identity System setup until after the serviced Access Manager instances are upgraded.
  - When the same Web server instance is used by WebPass, Access Manager, and WebGate, delay Identity System setup until after you upgrade all serviced Web components.
  - If you have an Access Manager and WebGate installed in the same directory, you must postpone reconfiguring that Access Manager until the WebGate is upgraded.
  - You must upgrade components in the proper sequence on each host (COREid Server, WebPass, Access Manager, Access Server, and WebGate). Do not upgrade a WebGate before upgrading the Access Server on the same host.

You upgrade components on each host in a specific order. There is no need to wait for all the Web components throughout the environment to be upgraded before you set up the Identity System and Access Manager.

Directory Server Requirements for the Zero Downtime Upgrade

As you prepare your original environment for the zero downtime upgrade, you will be instructed to review the topics in the following list and perform any tasks that are applicable to in your environment. These topics are located in Chapter 5:

- Strategies for Upgrading in a Replicated Environment

  Your deployment might employ the use of replicas to increase system availability and improve performance. Oracle recommends that you disable replication until the upgrade is complete and all features have been validated to work correctly.
- Configuring the Challenge/Response Phrase at the Object Class Level

  Oracle recommends that before starting the upgrade you ensure that the Challenge and Response attributes are configured at the object class level. If Challenge and Response attributes are configured at the Employees tab level (rather than at the object class level), then the configuration data upgrade might not complete correctly.
- Configuring Unique Namespaces for Directory Connection Information

  Each directory server profile contains connection information for a directory that includes the profile name, a domain or namespace to which it applies, a directory type, and a set of operational requirements for Read, Write, Search, and so on. To

ensure that namespaces are unique and do not overlap with other directory server profile namespaces, when earlier Oracle Access Manager installation with configuration data or policy data is stored in a different directory server than user data you must configure unique namespaces before upgrading.

- Preparing Your Directory Instances for the Schema and Data Upgrade

  This task includes verifying that the directory server is supported, that specific considerations for your directory server type have been taken into account, and that you have verified that the value of the directory server's search size limit parameter is greater than the number of entries in your configuration tree.

Schema and Data Upgrades with the Zero Downtime Upgrade Method

When you installed and set up the first COREid Server instance and the first Access Manager instance in your original environment, the Oracle Access Manager schema and configuration and policy data were added to the LDAP directory server. This topic outlines the implications of the schema upgrade and data upgrades when you use the zero downtime method

- You will create a new branch in the LDAP directory server and store a copy of your current configuration and policy data there for the clone system to use.
- The schema is upgraded all at one time and is upgraded separately from configuration and policy data. For more information, see "About The Schema Upgrade" on page 15-10.
- Data in the new branch is upgraded when you upgrade the clone of the first installed COREid Server (and in some cases when you upgrade the clone of the first installed Access Manager). Data in the original branch is not upgraded and is available for use by the original system until that system is upgraded. For more information, see "About Configuration and Policy Data Upgrades" on page 15-11.
- Multiple values that are configured as challenge and response attributes for Lost Password Management are migrated during the user's first login after the upgrade. This migration is halted automatically until you upgrade original instances. For more information, see "User-Data Migration and Multiple Values in Challenge and Response Attributes for LPM" on page 15-12.
- Lost password management functions are available for use in the upgraded cloned system. However, multiple challenge and responses for lost password management cannot be used without modifying the user data.
- Parameter catalogs and message files are upgraded with each individual component (whether clone or original). For more information about processing during upgrades, see "Zero Downtime Upgrade Tools, Processes, and Logs" on page 15-23.

Both the schema upgrade and the data upgrade relies on Lightweight Directory Interchange Format (LDIF) files. An LDIF file is an ASCII format file that you can use to exchange and synchronize data between Lightweight Directory Access Protocol (LDAP) servers. There are LDIF files for each specific LDAP directory server.

Each LDIF file includes only the changes from one Oracle Access Manager release to the next. As a result, the data upgrade sequence will repeat one time for each release between your starting release and 10*g* (10.1.4.2.0). For example, if you are upgrading from release 6.1.1, the schema upgrade (and data upgrade) occurs as follows:

- From release 6.1.1 to release 6.5
- From release 6.5 to release 7.0

- From release 7.0 to 10.1.4

About The Schema Upgrade

This topic provides an introduction to the schema upgrade that you perform using the zero downtime upgrade method.

The Oracle Access Manager schema is usually enhanced for each major Oracle Access Manager release. For example, when Identity Server functionality is enhanced it might refer to a greater number of schema attributes and object classes than previous releases. The schema upgrade must be performed by someone who has directory server administrator privileges that includes write access to the LDAP directory server and files.

With the zero downtime upgrade method, the schema upgrade is separate from data upgrades. The schema upgrade occurs all at one time. You can ensure that the schema upgrade was successful before you upgrade any components (or the configuration and policy data).

Before upgrading the schema, Oracle recommends that you create a new branch within the same LDAP directory server instance that is used by the original instances. After creating the new branch, you populate it with a copy of the original configuration and policy data. The clone setup will use this new branch and will mirror the original environment without disrupting the original environment. For more information about how this is done for the zero downtime upgrade, see "About Mkbranch Mode Processing" on page 15-27. The new branch in the directory server will not include a copy of the schema.

After populating the new branch and configuring cloned instances to use the new branch, you can upgrade the schema in the LDAP directory server. If you have only the Identity System deployed, or if you have a joint Identity and Access System with configuration and policy data stored together, you perform the task to upgrade the schema one time only: with the clone of the first installed COREid Server. When configuration and policy data are stored separately, you also need to upgrade the Access System schema. For more information about how this is done using the zero downtime upgrade, see "About Schema Mode Processing" on page 15-28.

The upgraded schema offers backward compatibility with the earlier schema, as far back as release 6.1.1. However, Oracle Access Manager does not provide automated tools to roll back a schema upgrade. Some directory server vendors provide tools that you can use to back up the schema. If you did back up the schema before upgrading the schema, you should be able to reinstate the earlier schema if you decide to roll back to the original release. For more information, see "Backup and Recovery Strategies for Zero Downtime Upgrades" on page 15-33.

Caution: The zero downtime upgrade tools do not provide an automated way to roll back a schema upgrade.

Both the original setup and the clone setup use the upgraded schema. After upgrading the schema, Oracle recommends that you perform validation tasks to ensure that everything is operating properly. For more information, see "Validating Successful Operations in Your Environment" on page 16-69.

For details about upgrading the schema, see "Upgrading the Schema During a Zero Downtime Upgrade" on page 16-63.

About Configuration and Policy Data Upgrades

This topic introduces the configuration and policy data upgrade that occurs when you upgrade certain cloned components.

As discussed in Chapter 1, Identity System data includes:

- Oracle Access Manager configuration data
- Oracle Access Manager user and group data and run-time data
- Oracle Access Manager workflow data

In a joint Identity and Access System, the Access System data includes Oracle Access Manager access policy data.

Original instances use only the configuration and policy data that is stored in the original branch in the LDAP directory server. The original branch was set up when you installed the first COREid Server and first Access Manager in the original environment. Clone components use only the configuration and policy data that is stored in the new branch in the LDAP directory server. Configuration and policy data are upgraded in the new branch only. The original branch of the LDAP directory server remains untouched.

After you upgrade the schema, you can start upgrading clone instances and the configuration and policy data in the new branch. Data upgrades occur as follows:

- If you have only the Identity System deployed, or if you have a joint Identity and Access System with configuration and policy data stored together, data is upgraded when you upgrade the clone of the first installed COREid Server.
- If you have a joint Identity and Access System deployed with configuration and policy data stored in different directory servers, the access policy data is upgraded when you upgrade the clone of the first installed Access Manager.

During subsequent COREid Server (and Access Manager) clone upgrades, the initial data upgrade is detected and data upgrade activities are skipped. For more information about data upgrades for a zero downtime upgrade, see "About Clone Mode Processing" on page 15-30.

> **See Also:** "User-Data Migration and Multiple Values in Challenge and Response Attributes for LPM" on page 15-12.

No data is upgraded during original component upgrades with the zero downtime upgrade method. After upgrading original components, you will reconfigure these to use the new branch.

Any changes that are made to the original setup after creating and populating the new branch in the LDAP directory server will not be available in the clone setup. Similarly, any changes that are made to the clone setup will not be available in the original environment. Oracle recommends that you enforce a moratorium on changes to the original environment that affect configuration and policy data. Otherwise, you must repopulate the new branch of the LDAP directory server and upgrade clones a second time before you can upgrade original instances. For more information, see "About Retrieving Changes to the Original Branch Before Upgrading Original Instances" on page 15-23.

Validation: Oracle recommends that you perform a number of validation activities to ensure that the clone and original environments are operating as expected following the schema upgrade (and the data upgrade). For more information about validation, see "Validation During a Zero Downtime Upgrade" on page 15-14.

User-Data Migration and Multiple Values in Challenge and Response Attributes for LPM

User data is not upgraded. The original searchbase is used by both the clone setup and the original setup.

Multiple values that are configured in challenge and response attributes for lost password management (LPM) are migrated with the first user login after the upgrade. No other user data attributes are migrated during a user's first login.

When you use the zero downtime upgrade method, you do not need to manually halt the migration of multiple values in challenge and response attributes for lost password management. Instead, this migration is automatically halted as a result of using the MigrateOAM script in Clone mode.

Even though the migration of multiple values in challenge and response attributes for LPM are suspended until you manually enable them, the lost password management functionality remains available for use.

Using the zero downtime upgrade method, you must manually restart user data migration after validating that your upgraded clone and original setup does not need to be rolled back to the earlier release.

You will only restart the migration of user data at first login at the end of the zero downtime task, after upgrading and validating your original setup. After upgrading and validating the upgraded cloned setup, you will not restart the migration of user data.

For more information about multiple values in challenge and response attributes for lost password management, see "Migrating User Data At First Login" on page 4-23.

Preparation Tasks for the Zero Downtime Method

The following overview outlines the topics where you will find the preparation tasks that you must perform during a specific phase of the zero downtime upgrade. You do not need to perform these tasks now. The topics are provided as an introduction only and will be presented in the order in which they are to be used.

Topic overview: Preparation tasks for each phase are described in

- Chapter 16
  - Preparing the Original Installation for a Zero Downtime Upgrade
  - Preparing Cloned Identity System Components for the Upgrade
  - Preparing Cloned Access System Components for the Upgrade
- Chapter 17
  - Preparing Original Identity System Components for the Upgrade
  - Preparing Original Access System Components for the Upgrade

Some of the preparation tasks that you will be instructed to perform are specific to zero downtime upgrades and are described in detail in the topics in the previous list. Other preparation tasks apply to both upgrade methods. In this later case, you will be directed to the actual details located in other chapters. For example, Chapter 5 provides steps to help you prepare for a schema and data upgrade when upgrading the clone of the first installed COREid Server and first installed Access Manager. Chapter 8 provides steps to help you prepare components.

> **Note:** If you do not perform all recommended preparation steps, you might not be able to recover from a problem or to roll back to the original release.

About Preparing the Original Installation: Preparing the original installation includes adding profiles to the original System Console for cloned components. Regardless of the component or method, you must prepare the host system and prepare earlier customizations. If you are upgrading a Web component, you will be instructed to back up the existing Web server configuration files. On Windows systems, you will be instructed to back up the Windows registry details for the component. When preparing a release 6.x environment or a multi-language installation there are other preparation activities.

About Preparing for Schema and Data Upgrades: When you upgrade the schema, you are instructed to back up the directory server instance and the schema. You will use vendor-supplied tools to perform these tasks as described in Chapter 5. Data upgrades occur when you upgrade the clone of the first installed COREid Server and Access Manager. The following list identifies the tasks that you will be directed to perform to prepare for data upgrades:

- **Clone of First Installed COREid Server**: Perform the following backup activities as described in Chapter 5:
  - Backing up Oracle Access Manager Configuration and Policy Data
  - Backing Up User and Group Data
  - Backing Up Workflow Data
  - Archiving Processed Workflow Instances
- Clone of First Installed **All Access Manager**: Back up policy data, as described in Chapter 5.

About Preparing for Component Upgrades: Each Operating System provides a hierarchical tree structure where files are organized for storage and retrieval. After performing other preparation activities and before you upgrade each instance (whether clone or original), you will ensure that you have the 10*g* (10.1.4.2.0) MigrateOAM script in an appropriate location for that component. These activities are summarized as follows:

- **Source Creation**: You must rename the subdirectory that contains the instance (whether the instance is a clone or an original instance) to create a source for the upgrade. In this guide, the source file system path will include "_source" as an identifier after the subdirectory is renamed. For example: *np611\ois_01*\identity_source

  Each source provides all the configuration details for the corresponding instance. This information will be extracted during the instance upgrade. The source is not upgraded and you can use it as a backup copy of the earlier instance.

  > **Note:** You must create the source first because the destination will replace the clone or original location in the file system.

- **Destination Creation**: Extract 10*g* (10.1.4.0.1) Identity Server libraries and files and specify the same file system path that the clone (or the original instance if you are upgrading an original instance) had before you renamed it. In other words, the

destination path must exactly match the path of the clone or original subdirectory before it was renamed to create the source. In this manual, the destination path is sometimes referred to as *destination_dir*.

The 10*g* (10.1.4.0.1) component libraries and files provide the foundation for the patch, and a destination for information that is extracted from the source during the upgrade. For more information, see "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28.

- **Obtaining the Tools**: Apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the 10*g* (10.1.4.0.1) instance to obtain the tools needed for the upgrade.

  After the upgrade, this destination will include the instance that was upgraded to 10*g* (10.1.4.2.0) based on the source configuration details (and an updated Windows registry entry if it is on a Windows platform). For more information, see "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32.

For more information about original and clone environments, see the next topic.

Validation During a Zero Downtime Upgrade

Validation during a zero downtime upgrade is critical at several points. This topic introduces validation steps that you will use to ensure proper operations of cloned components and original components throughout the zero downtime upgrade process.

After upgrading the schema, you should confirm that both the clone environment and the original environment is operating without problem with the upgraded schema. Validation after the schema upgrade includes:

- Confirming that the original environment is operating properly with the upgraded schema.
- Confirming that the clone environment is operating properly with the upgraded schema.

After validating operations with the upgraded schema, you can begin upgrading cloned components. During certain clone upgrades, configuration data and policy data are upgraded:

- When you have only the Identity System deployed, or if you have a joint Identity and Access System with configuration and policy data stored together, data is upgraded when you upgrade the clone of the first installed COREid Server.
- When you have a joint Identity and Access System with configuration and policy data stored separately, access policy data is upgraded when you upgrade the clone of the first installed Access Manager.

Steps that you must perform to validate that a particular task is successful are often embedded as steps within the procedure. You will see and perform these steps when you upgrade a clone instance and an original instance. Embedded steps help you determine that the procedure was successful. In addition, individual validation topics are provided at the conclusion of a sequence of procedures to help you validate results in the context of the overall system.

Task overviews like the one that follows provide an outline of the tasks that you must perform and provide a cross-reference link to the topic where you will find the information. In some cases, the description itself is a link to the information. If, as is the case in the following task overview, multiple items refer to the same topic, a general link is provided. For more information about the following task overview, see "Validating Successful Operations in Your Environment" on page 16-69.

Task overview: Validation of clone and original instance upgrades

1. After upgrading and setting up the clone system, which includes upgrading all components, all customizations, and other manual upgrade tasks), you will proceed as outlined here:
   - **Identity System Clones**: Validating the Upgraded Cloned Identity System
   - **Access System Clones**: Validating the Upgraded Cloned Access System
2. After upgrading and setting up the original system, you will proceed as follows:
   - **Original Identity System**: Perform Identity System validation activities in Chapter 14
   - **Original Access System**: Perform Access System validation activities in Chapter 14

To help you with the more in-depth validation tasks, Oracle recommends that you develop deterministic test scripts to run both before and after your tasks to exercise a full end-to-end transaction. For more information, see "Customization Upgrades Using the Zero Downtime Upgrade Method".

If you plan a lengthy validation period, Oracle recommends that you completely isolate the clone and original setups. For more information, see the topic "About Isolating the Original and Cloned Environments" on page 15-22, in the section "Duration of Zero Downtime Tasks and Validation".

Customization Upgrades Using the Zero Downtime Upgrade Method

Customized configurations that are built around your earlier Oracle Access Manager installation must be manually tested for compatibility before upgrading the original deployment. Oracle recommends that you upgrade your customizations and test these thoroughly with the upgraded clone system.

Customizations include those created for the front-end using IdentityXML, PresentationXML, and the Access Manager API (formerly known as the Access Server API or simply as the Access API). Also included are back-end customizations created with the Identity Event API, Authentication API, Authorization API (including AccessGates and plug-ins).

Testing and upgrading earlier customizations is primarily a manual process that can take some development time. It is important to plan ahead to ensure that your customizations can be redeployed into a shared environment quickly (for example, for QA, Integration, or Production).

Recommendation: Upgrading customizations and plug-ins

1. Start well in advance of other upgrades and review customization considerations here.

   Note: While not as critical when performing a zero downtime upgrade, you might find some information in "Planning Considerations for System Downtime During In-Place Upgrades" on page 1-19 helpful.

2. Develop deterministic test scripts to run both before and after the upgrade to exercise a full end-to-end transaction.

For example, the script could request a single page that requires authentication and authorization and a workflow request (all triggered by a single page request). Test scripts that verify the behavior of your earlier customizations help you ensure that these work as expected and produce the same result, both before and after the upgrade. Your test scripts will depend on the specific customization being exercised.

3. Compile and test the code, and the instructions you developed to explain how to configure the customization in a given environment.
4. In your original environment, test the earlier customization (styles, AccessGates, or plug-ins for example) to ensure that these are working properly.
5. To create a 10*g* (10.1.4.2.0) development deployment (ideally a *sandbox*-type setting) where the dependency on the overall Oracle Access Manager services is minimal:
   a. Install 10*g* (10.1.4.0.1) in a small, isolated deployment. For installation details, see the *Oracle Access Manager Installation Guide*.
   b. Use instructions in the *Oracle Access Manager Patch Set Notes Release 10.1.4 Patchset 1 (10.1.4.2.0) For All Supported Operating Systems* to apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to your 10*g* (10.1.4.0.1) component instance.
6. In the 10*g* (10.1.4.2.0) sandbox, test the earlier customization and perform any manual steps that are needed to upgrade the customization to operate with 10*g* (10.1.4.2.0) functionality. For information about specific customizations, see:
   - Chapter 12, "Upgrading Your Identity System Customizations"
   - Chapter 13, "Upgrading Your Access System Customizations"
7. Perform a zero downtime upgrade to upgrade the schema, data, and clones as described in "Zero Downtime Upgrade Tasks and Sequencing" on page 15-16.
8. After upgrading clones, integrate the upgraded custom components.
9. Validate the upgraded cloned environment as described in Chapter 14.
10. When you are satisfied that your upgraded customizations and upgraded cloned environment are working together without problem, finish the zero downtime upgrade by upgrading original components. For more information, see the following topics:
    a. Upgrading Your Original Identity System
    b. Upgrading Your Original Access System
11. Finish by integrating upgraded customizations with the upgraded original environment and validate operations. For more information, see "Validating the Entire Upgraded Original Environment" on page 17-58.

> **See Also:** "Duration of Zero Downtime Tasks and Validation" on page 15-21.

Zero Downtime Upgrade Tasks and Sequencing

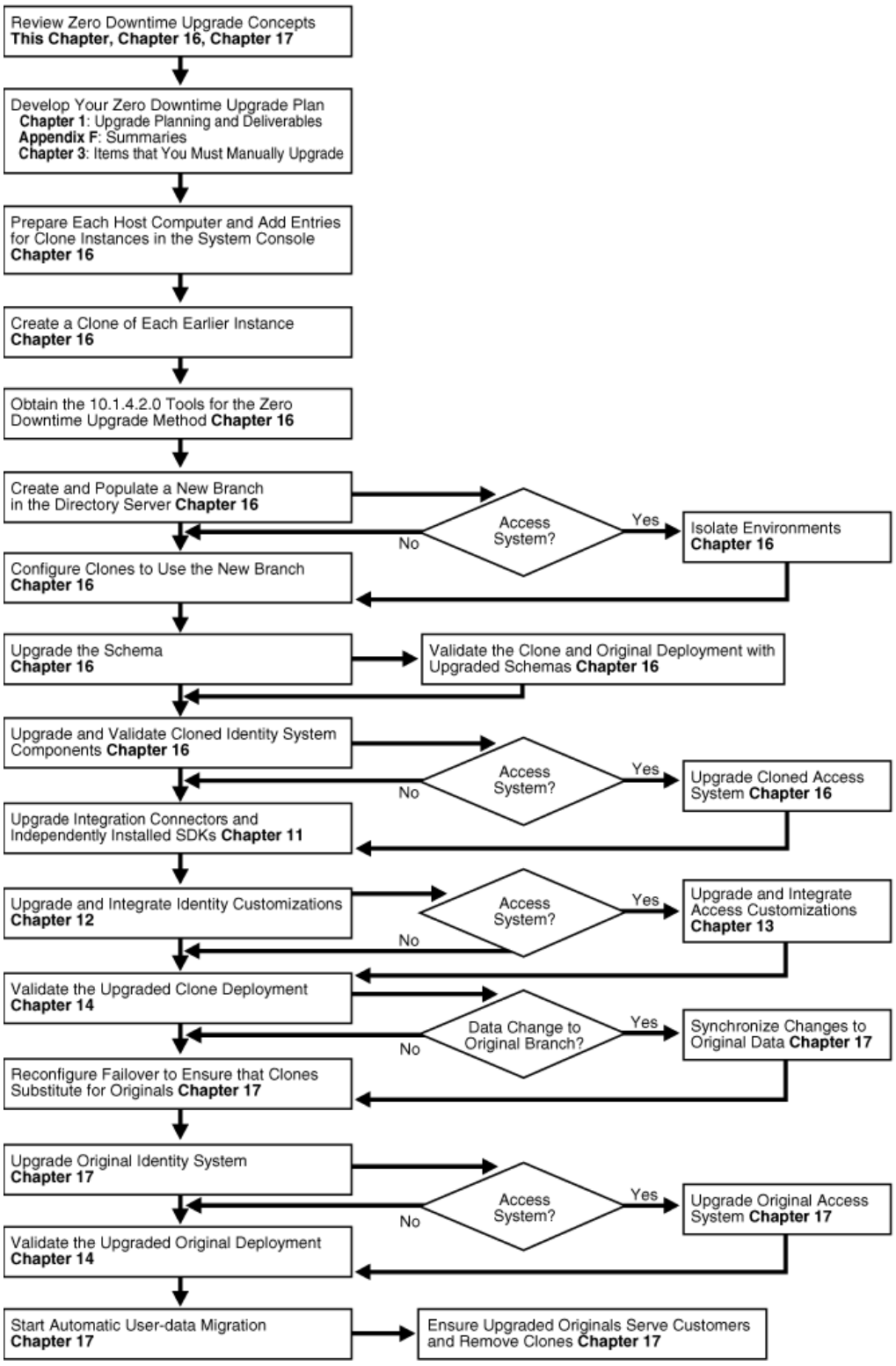
This section provides an overview of the tasks that must be performed when using the zero downtime upgrade methodology. Before undertaking any activity, Oracle recommends that you review all information about the zero downtime upgrade method and then decide if it is right for your environment.

When you use the zero downtime upgrade method, Oracle recommends that you perform all tasks in the sequence that is illustrated in Figure 15–2. The overview that follows Figure 15–2 provides additional information about each task and includes links to specific topics that provide more information.

> **Note:** Oracle recommends that you first use the zero downtime method in a small sandbox-type setting to get familiar with all procedures and tasks. You can then perform these same tasks in a larger deployment. If you have a high-availability environment that duplicates your deployment, you do not need to clone instances.

Caveats: While it is true that all major tasks are required, you might not need to expand the environment with new hardware. Further, you might not need to update your directory server or Web server software before the upgrade. Also,

Figure 15–2 Zero Downtime Upgrade Tasks and Sequence



Task overview: Upgrading using the zero downtime method and tools

1. Study every detail about the zero downtime upgrade method before you start any zero downtime upgrade activities.

Caution: Before you perform any tasks using the zero downtime upgrade method, read through all information to gain a full understanding of what you must do.

2. Develop your plan for a zero-downtime upgrade. For details, see "Developing a Plan for a Zero Downtime Upgrade" on page 15-37.
3. Prepare each host computer and earlier component instance for cloning. To perform this task you will perform the following tasks as they apply to your environment. In general, tasks a, b, c, and e, apply to everyone. However, task d might not apply in your case:
   a. Bring the host computer of each existing component up to a level that is supported by 10*g* (10.1.4.0.1). For details, see Bringing Host Computers to Oracle Access Manager 10.1.4 Support Levels on page 16-3.
   b. Prepare directory server instances, as described in "Preparing Directory Server Instances and Data" on page 16-3.
   c. Create a new Web server instance on each computer that is hosting cloned Web components and update the Web server configuration file by running server configuration update tools available with the original release.
   d. **Optional**: Add new hardware or earlier instances, if desired, to expand the earlier deployment as explained in "Adding New Hardware or Earlier Instances to Your Deployment" on page 16-4.
   e. Add entries in the System Console for each clone instance that you will create (one clone for each original component and instance in the deployment). For details about specific tasks, see the topics listed in Table 15–1.

Table 15–1 Summary of Profiles for Clone Instances for a Zero Downtime Upgrade

Topics that Describe How to Add Profiles for Clone Instances
Adding Profiles for Planned COREid Server Clones in the System Console on page 16-5
Adding Profiles for Planned WebPass Clones in the System Console on page 16-9
Associating WebPass Clone Profiles with COREid Server Clone Profiles on page 16-9
Adding New Directory Server Profiles for Cloned COREid Servers on page 16-11
There are no profiles for Access Manager clones, as described in "About Entries for Access Manager Clones" on page 16-14
Adding a Profile for Access Server Clones on page 16-14
Creating New Directory Server Profiles for Access System Clones on page 16-16
Do not add entries for WebGate clones. Instead, perform activities in "Associating Original WebGates with Access Server Clones" on page 16-17.

4. Create a clone of each earlier component's installation directory in the file system (except WebGates). For details, see "Cloning Earlier Components for a Zero Downtime Upgrade" on page 16-21.

Note: You do not need to create WebGate clones because the upgraded Access Server provides backward compatibility with earlier WebGates. For details, see "Access Server Backward Compatibility" on page 4-40.

5. When instructed to do so, you must obtain the 10*g* (10.1.4.2.0) tools for zero downtime upgrade processing. For details, see "About Destination Creation and Obtaining Tools for a Zero Downtime Upgrade" on page 16-28.

   For example, you will perform the following tasks as part of populating a new branch in the LDAP directory server, as part of upgrading the schema, as part of upgrading each cloned instance, and as part of upgrading each original instance:

   a. Extract fresh 10*g* (10.1.4.0.1) component libraries and files for the instance to be upgraded: Identity Server, WebPass, Policy Manager, Access Server (and WebGate only when upgrading an original WebGate instance). Details are centralized in the topic, "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28.

   b. Obtain and apply the Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the 10*g* (10.1.4.0.1) libraries and files (also known as an instance) to obtain the MigrateOAM script that is required for zero downtime upgrade processing. Details are centralized in the topic, "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32.

      For more information, see "Zero Downtime Upgrade Tools, Processes, and Logs" on page 15-23.

6. Create a new branch in the same LDAP directory server that is used by the original environment, and then populate the new branch with a copy of the original configuration and data. You will use a function in the 10*g* (10.1.4.2.0) MigrateOAM script. For details, see "Copying Configuration and Policy Data to a New Branch in the LDAP Directory Server" on page 16-34.

7. Configure the clones to use the new branch in the LDAP directory server by using command-line tools in the cloned component directory. You will use a function in the 10*g* (10.1.4.2.0) MigrateOAM script. For details, see "Configuring Cloned Components and Services" on page 16-42.

8. Upgrade the schema in the LDAP directory server. You will use a function in the 10*g* (10.1.4.2.0) MigrateOAM script. For details, see "Upgrading the Schema During a Zero Downtime Upgrade" on page 16-63.

9. **Check Point**: Validate your environments to ensure that both original and cloned components are working without problem with the upgraded schema. For details, see "Validating Successful Operations in Your Environment" on page 16-69.

10. Upgrade cloned components using a function in the 10*g* (10.1.4.2.0) MigrateOAM script and then validate the upgraded cloned environment:

    a. **Cloned Identity System:** Upgrade and validate Identity System clones. For details, see "Upgrading the Cloned Identity System" on page 16-73. Configuration data in the new branch of the LDAP directory server is upgraded when you upgrade the clone of the first installed COREid Server. This activity includes tasks in "Renaming Audit Files After Upgrading Identity System Clones" on page 16-88.

    b. **Cloned Access System**: Upgrade and validate Access System clones. For details, see "Upgrading the Cloned Access System" on page 16-90. Policy data in the new branch of the LDAP directory server is upgraded when you upgrade the clone of the first installed Access Manager.

11. Perform any manual tasks to upgrade and integrate customizations so that you can test these with the upgraded cloned system:

    - Upgrade integration connectors and independently installed software developer kits (SDKs). For details, see Chapter 11.

- Upgrade Identity System customizations. For details, see Chapter 12.
- Upgrade Access System customizations. For details, see Chapter 13.

12. **Check Point**: Perform an in-depth validation of the entire upgraded cloned system to ensure that everything is operating without problem. For details, see Chapter 14.
13. **Changes to Original Data in the Original branch**: Repopulate a new branch with updated original data and then perform a new clone upgrade and validation tasks.
    - Before you make your decision, see "About Retrieving Changes to the Original Branch Before Upgrading Original Instances" on page 15-23
    - For steps, see "Retrieving Changes in the Original Branch Before Upgrading Originals" on page 17-2
14. Reconfigure network failover so that the clones substitute for original components while the originals are upgraded. For details, see "Reconfiguring Domain Name Systems (DNS) to Use Upgraded Clones" on page 17-3.
15. Upgrade original components, reconfigure originals to use the new branch in the LDAP directory server, and then confirm that the original upgraded components are operating without problem. You will use a function in the 10*g* (10.1.4.2.0) MigrateOAM script to:
    a. **Upgrade the Original Identity System:** Upgrade, reconfigure, and validate the original Identity System. For details, see "Upgrading Your Original Identity System" on page 17-4.
    b. **Upgrade the Original Access System**: Upgrade, reconfigure, and validate the original Access System. For details, see "Upgrading Your Original Access System" on page 17-30.
16. Upgrade and integrate original customizations. For details, see "Validating the Entire Upgraded Original Environment" on page 17-58.
    a. **Original Identity System Customizations:** Upgrade, and then validate as described in "Upgrading SDKs and Identity System Customizations" on page 17-29.
    b. **Original Access System** Customizations: Upgrade, and then validate as described in"Upgrading SDKs, Integration Connectors, and Access System Customizations" on page 17-57.
17. After confirming that you will not roll back to either the earlier cloned or original deployment, start automatic user data migration. For details, see "Starting On-the-fly User Data Migration" on page 17-58.
18. Finish the upgrade as follows:
    - Reconfiguring Domain Name Systems to Use the Upgraded Original Deployment on page 17-58
    - Deleting the Temporary Directory Server Profile on page 17-59
    - Reverting Backward Compatibility on page 17-59
    - Removing the Cloned System After Upgrading Originals on page 17-59

Duration of Zero Downtime Tasks and Validation

The actual length of time that is needed to upgrade and validate a deployment using the zero downtime method depends on the size and complexity of your original

deployment. For example, when you have only one instance of each component in a joint Identity and Access System deployment with minimal plug-ins and customizations, it can take you a week to perform a zero downtime upgrade. This includes all tasks from planning through upgrading the schema and upgrading the data and the cloned environment.

Of course, validation must be performed to ensure that the upgrade was successful. You will want to perform validation tasks after upgrading the schema, after upgrading clones, after upgrading any customizations, and after upgrading the original instances. to ensure that the upgrade was successful. The deeper your validation is, the more time you need to perform it.

To help you with validation tasks, Oracle recommends that you develop deterministic test scripts to run both before and after your tasks to exercise a full end-to-end transaction. For more information, see "Customization Upgrades Using the Zero Downtime Upgrade Method" on page 15-15.

Oracle recommends that you use the upgraded clone setup to explore release 10*g* (10.1.4.2.0) features. All functions will be available, including lost password management. However, the migration of multiple values in challenge and response attributes for lost password management will be suppressed. For more information, see "User-Data Migration and Multiple Values in Challenge and Response Attributes for LPM" on page 15-12.

The more time that you spend getting acquainted with release 10*g* (10.1.4.2.0) features, the longer the period before you upgrade the original components. If you want to use the upgraded clone setup for a considerable amount of time (2 to 3 months, for example), Oracle recommends that you perform specific activities to completely uncouple the clone environment from the original environment. For more information, see "About Isolating the Original and Cloned Environments" on page 15-22.

Oracle recommends that you do not change any data in the original deployment after you populate the new branch with original configuration and policy data. However, the decision to change data or not is strictly up to you. If any changes are made to the original setup during your validation of the cloned environment, you will need to take additional steps to copy the updated original data into the new branch and then upgrade the clones a second time. This will ensure that the data changes made in the original deployment are stored in the new branch of the directory before you set up network failover so that the clones replace the originals. Once the upgraded cloned environment replaces the original, it could take several weeks to upgrade the original environment.

Oracle recommends that you allow a time frame of about 3 months for upgrading and evaluation using the zero downtime method in a large scale, customized deployment.

About Isolating the Original and Cloned Environments

This task is optional. If you plan to use the upgraded clone setup for a considerable amount of time (2 to 3 months, for example), Oracle recommends that you completely isolate the upgraded clone environment from the original environment.

The clone and original systems will operate independently and will use different branches of the LDAP directory server in any case. Isolating the two environments has no impact on the schema or data. Both the clone and original systems will use the upgraded schema.

You can perform these tasks either before upgrading the clone setup or after upgrading the clone setup and validating that it is fully operational, or not at all. There are implications if you choose to perform this optional task.

Before you decide if or when to perform this task, consider the following implications for a roll back and restart of the zero downtime upgrade:

- Without original profiles in the clone System Console. In this case, there are no implications for roll back
- Without clone profiles in the original System Console, you must re-enter these if you roll back and then restart the clone upgrade.

  You must also re-enter clone profiles in the original System Console if you decide to create another new branch that includes changes made to original data during the clone system upgrade and validation period. For details about retrieving changes made to original data, see the next topic.

For steps to isolate environments, see "Isolating Environments" on page 16-60.

About Retrieving Changes to the Original Branch Before Upgrading Original Instances

You can use the upgraded clone system to perform validation tasks and to get acquainted with 10*g* (10.1.4.2.0) functions. For example, you can create new access policies and alter configuration data in the upgraded clone system.

Any changes that you make to the upgraded clone system are stored in the new branch of the LDAP directory server. These changes cannot be migrated to the original branch and cannot be used by original components.The new branch is not accessible by the original system until after you upgrade and reconfigure original components to use the new branch.

Lost password management functions are available for use in the upgraded clone system. However, multiple challenge and responses for lost password management cannot be used without modifying the user data. For more information, see "User-Data Migration and Multiple Values in Challenge and Response Attributes for LPM" on page 15-12.

In the upgraded clone system, you can also customize stylesheets and files to test new customizations. You can retain new customizations in the upgraded clone environment. If you have customized files, you can transfer these to the upgraded original environment after you finish upgrading the originals.

If changes are made to the original branch in the LDAP directory server, after you create the new branch and before you upgrade the original, you can choose to retrieve it before you can upgrade original instances. This is an optional task that has implications for isolated environments. For details, see "Retrieving Changes in the Original Branch Before Upgrading Originals" on page 17-2.

Zero Downtime Upgrade Tools, Processes, and Logs

The zero downtime upgrade method uses the MigrateOAM script that is available only with Oracle Access Manager Release 10.1.4 Patch Set 1 (10.1.4.2.0). To obtain the tool, you will install one instance of each Oracle Access Manager 10*g* (10.1.4.0.1) component, and then apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to each 10*g* (10.1.4.0.1) component. For more information, see "About Destination Creation and Obtaining Tools for a Zero Downtime Upgrade" on page 16-28.

The MigrateOAM script provides the following functional modes to help you perform specific tasks during the zero downtime upgrade:

- **Mkbranch**: Populates the new branch that you create in the original LDAP directory server instance with a copy of the original configuration and policy data.

- **Schema**: Upgrades the schema in the LDAP directory server, which will be used by both the original and the clone environment.
- **Clone**: Upgrades clone components and upgrades configuration and policy data in the new branch.
- **Prod**: Upgrades original components, which must be reconfigured to use the new branch.

Table 15–2 provides a general summary of the mode arguments and specifications that are required with the MigrateOAM script. Individual procedures for the zero downtime upgrade activities provide the exact arguments and specifications for that task.

Table 15–2 MigrateOAM Argument and Specifications Summary

MigrateOAM Arguments	Values and Specifications
File system path to the 10*g* (10.1.4.2.0) MigrateOAM script	Change to the 10*g* (10.1.4.2.0) file system path where the MigrateOAM script resides for the instance and the task that you are performing. For example: Windows *clone_np*\identity\oblix\tools\migration_tools UNIX */home/clone_np*/identity/oblix/tools/migration_tools
-*script name*	Windows: MigrateOAM. bat UNIX: MigrateOAM.sh
-M *Mode*	Specify the appropriate mode for the task that you are performing: ■ Mkbranch: populates the new branch in the LDAP directory server with a copy of the original configuration and policy data ■ Schema: upgrades the schema in the LDAP directory server ■ Clone: upgrades a cloned component and upgrades configuration and policy data in the new branch of the LDAP directory server when you upgrade the clone of the first installed COREid Server and first installed Access Manager ■ Prod: upgrades an original component
-C *component*	Specify the appropriate component designation for the task: ■ OIS: Identity Server ■ WP: WebPass ■ AM: Access Manager ■ AAA: Access Server ■ WG: WebGate, which is used only for original instance upgrades
-F *nnn*	Specify the number that identifies your earlier release. For example: ■ 610: if your starting release is either 6.1 or 6.1.1 ■ 650: if your starting release is 6.5 or 6.5.x ■ 700: if your starting release is 7.x
-T 1014	Specify 1014 as the "to" release, the release to which this component will be upgraded.

Table 15–2 (Cont.) MigrateOAM Argument and Specifications Summary

MigrateOAM Arguments	Values and Specifications
-S *"source directory"*	Specify the full path (in quotation marks) to the **renamed** file system directorythat contains the earlier **source** information for the specified component (whether clone or original instance). For example: ■ Identity Server: -S *"C:\IdentityServer_install_dir*\identity_source" ■ WebPass: -S *"C:\WebPass_install_dir\webcomponent*\identity_source" ■ Access Manager: -S *"C:\AccessManager_install_dir\webcomponent*\access_source" ■ Access Server: -S *"C:\AccessServer_install_dir*\access_source" ■ WebGate: -S *"C:\WebGate_install_dir\webgate*\access_source", which is used only for original instance upgrades **Note**: The source provides configuration details for the existing earlier component. This file system directory remains intact during any upgrade activities.
-D "*destination directory"*	Specify the full path (in quotation marks) to the file system directory that contains the 10*g* (10.1.4.2.0) MigrateOAM script for the component instance. For example: ■ Identity Server: -D *"C:\IdentityServer_install_dir*\identity" ■ WebPass: -D *"C:\WebPass_install_dir\webcomponent*\identity" ■ Access Manager: -D *"C:\AccessManager_install_dir\webcomponent*\access" ■ Access Server: -D *"C:\AccessServer_install_dir*\access" ■ WebGate: -D *"C:\WebGate_install_dir\webgate*\access", which is used only for original instance upgrades **Note**: The destination contains 10*g* (10.1.4.2.0) information, which will be updated based upon details from the earlier source directory.
-I *"installation directory*"	The installation directory should always match the destination. For example: ■ Identity Server: -I *"C:\IdentityServer_install_dir*\identity" ■ WebPass: -I *"C:\WebPass_install_dir\webcomponent*\identity" ■ Access Manager: -I *"C:\AccessManager_install_dir\webcomponent*\access" ■ Access Server: -I *"C:\AccessServer_install_dir*\access" ■ WebGate: -I *"C:\WebGate_install_dir\webgate*\access", which is used only for original instance upgrades **Note**: This file system directory is referenced by the script and underlying tools. It contains the 10*g* (10.1.4.2.0) script and tools.
-L *"Languages"*	Specify all installed languages to be upgraded by the appropriate code, in quotations. For example, English, "en-us"; French, "fr-fr"; German, "de-de".
-W *"Web server type*"	When upgrading Web components, you need to specify the appropriate code for the Web Server used, in quotations. For example, "nsapi", "apache2", "isapi", "apache", "ihs", "ohs", "ohs2", "domino".
-B "*bind DN*"	The distinguished name of the user who has full permissions for user and configuration branches of the directory information tree (DIT). Oracle Access Manager will access the LDAP directory server as this account. Specify the distinguished name in quotation marks ("cn=Directory Manager", for example).
-W *Bind_password*	When updating the schema and data, you will be asked to specify the password for the user specified as the bind DN. No quotation marks are needed for this specification.

As with other command line tools, you must enter all arguments and specifications as a single line. In this manual, and on your screen, the line will wrap and might look something like the following example:

```
cd \1014\identity\oblix\tools\migration_tools>MigrateOAM.bat -M Mkbranch
-C OIS -F 610 -T 1014 -S "C:\clone_np\ois_01\identity" -D "C:\1014\identity"
-I "C:\1014\identity"
```

Processing Messages and Prompts: Processing begins when you press the Enter key. Messages and prompts keep you informed about what is occurring. The same sequence of messages and prompts will appear for each operational sequence from your starting release (6.1.1 for example) to the latest release, 10*g* (10.1.4.2.0) which might be referred to as simply 10.1.4. As a result, you might see a sequence of messages and prompts more than once.

Automatic versus Confirmed Mode: Oracle recommends that you accept and conduct operations using the Automatic operational mode when asked and that you do not skip any processes. The Confirmed operational mode requires more interaction from you and could result in a skipped operation that could lead to an unsuccessful outcome.

Component-oriented Log Files: During each component upgrade, one or more log files are produced. These files are created if any problem occurred. If a log file is created, a message during the upgrade process indicates the name and location of the file.

Logs for File, Message, and Parameter Upgrades: For some operations, the MigrateOAM script calls utilities that are used during an in-place upgrade. Each log file contains information about a particular activity that occurs during the component upgrade. For example, a separate log file might be generated for file upgrades, or message and parameter upgrades, or the Oracle Access Manager schema upgrade, to name a few. For information about specific log files and their content, see Appendix C.

MigrateOAM Log File: The MigrateOAM script produces a single log file when you use Mkbranch mode. The Mkbranch log file is stored in the destination file system path. For example:

destination_dir\identity|access\oblix\tools\migration_tools\
makebranch.log

where *destination_dir* is the file system directory for the specific component libraries and files that were extracted and patched; identity|access represents the system to which the component belongs (Identity System or Access System, respectively); and makebranch.log is the name of the file.

Logs for LDAP-specific Errors: In addition, the following log files are created to inform you of any LDAP-specific errors:

- During Identity Server data migration, error_output_*fromversion*_to_*toversion*_osd.ldif file is created in the destination file system path for the specific component. For example, *IdentityServer_destination_dir*\identity\oblix\tools\migration_tools\obmigratedata directory in the file system.
- During Policy Manager data migration, error_output_*fromversion*_to_*toversion*_psc.ldif file is created in the destination file system path. For example: *PolicyManager_destination_dir*\access\oblix\tools\migration_tools\obmigratedata directory in the file system

> **See Also:** Appendix G for details about using log files

For more information about the processes and utilities that are called for each mode, see the following topics:

- About Mkbranch Mode Processing

- About Schema Mode Processing
- About Clone Mode Processing
- About Original Mode (Prod) Processing

About Mkbranch Mode Processing

This topic introduces the MigrateOAM script Mkbranch mode, which is used to populate a new branch in the LDAP directory server with a copy of the original configuration and policy data.

Before you use this mode, you must manually create the new branch node as a child node of original configuration base (also known as the configuration DN) and policy base (also known as the policy DN). For example:

Original Configuration DN: *o=company,c=us*
New Configuration DN: *o=Newbranch,o=company,c=us*

Original Policy Base: *o=Policy_base,o=company,c=us*
New Policy Base: *o=NewPolicyBase,o=Policy_base,o=company,c=us*

The new branch must be in the same LDAP directory server instance as the original branch. The original branch will not be altered. You can define the new config DN as follows:

- `o=Newbranch,<OldConfigDN>` and `o=NewPolicyBase,<oldPolicyBase>`
- `o=Newbranch,o=company,c=us` where `o=company,c=us` is the old config DN
- `o=Newbranch,dc=us,dc=company,dc=com` where `dc=us,dc=company,dc=com` is the old config DN

During Mkbranch mode processing, a copy of the data is modified for the new configuration DN or policy DN and then imported into an ldif file. The imported data is then exported from the new ldif file into the new branch.

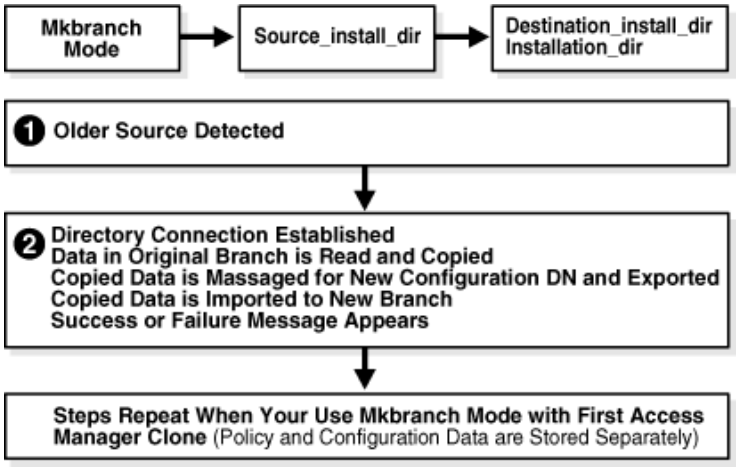
The tools that are called and the processes that are automatically performed during the Mkbranch operation are shown in Figure 15–3.

When you have only the Identity System, there is no policy data. In this case, you use the Mkbranch mode with only the clone of the first installed COREid Server. The original configuration data is copied into the new branch.

When you have a joint Identity and Access System and configuration and policy data are stored together in the same LDAP directory server node, data is copied together when you use the Mkbranch mode with the clone of the first installed COREid Server. However, if policy data is stored in a different branch or on a different directory instance, you must repeat the Mkbranch operation with the clone of the first installed Access Manager to copy policy data into the new branch.

Configuration or Policy DNs Containing a Space: In this case only, before you create a new directory server branch using Oracle Access Manager tools, you must apply Bundle Patch 10.1.4.2.0-BP04 which provides a fix that will handle DNs containing a space. For details, see "Creating and Populating a New `oblix` Branch" on page 16-37.

Figure 15–3 Overview of MigrateOAM MkBranch Function and Processes



Process overview: Populating the new branch with MigrateOAM

1. After you enter the Mkbranch command and specifications, the earlier source directory is detected in the file system.
2. The directory connection is established and the new configuration DN is requested:
   - Data in the original branch is read and copied.
   - The copy is massaged for the new configuration DN (and policy DN if both are stored together), and exported to an LDIF file. A success or failure message appears.
   - The copied data is imported from the LDIF file to the new branch.
   - A success or failure message appears.
   - This sequence repeats when you have configuration and policy data stored separately and you use Mkbranch mode with the clone of the first Access Manager component that was installed and set up.

About Schema Mode Processing

This topic introduces the schema upgrade processing that occurs when you execute the MigrateOAM script in Schema mode.

With the zero downtime upgrade method, a schema upgrade is performed only with cloned components that interface with the directory server: Identity Server and Policy Manager. The number of times that you must perform a schema upgrade depends on the way in which data is stored. For more information, see "Upgrading the Schema During a Zero Downtime Upgrade" on page 16-63.

During the schema upgrade, any differences between an earlier schema release and the next release are uploaded to your directory server using the required schema ldif file for your specific directory server. Every schema ldif file includes entries to modify the schema based on the difference between two versions.

Schema upgrades (like all other upgrades) occur incrementally. As a result, the earlier release is upgraded to the next-latest release, the resulting schema is upgraded to the next-latest release, and so on until all interim schema changes between your original

release and the latest release are completed. Obsolete schema elements are deleted during the upgrade.

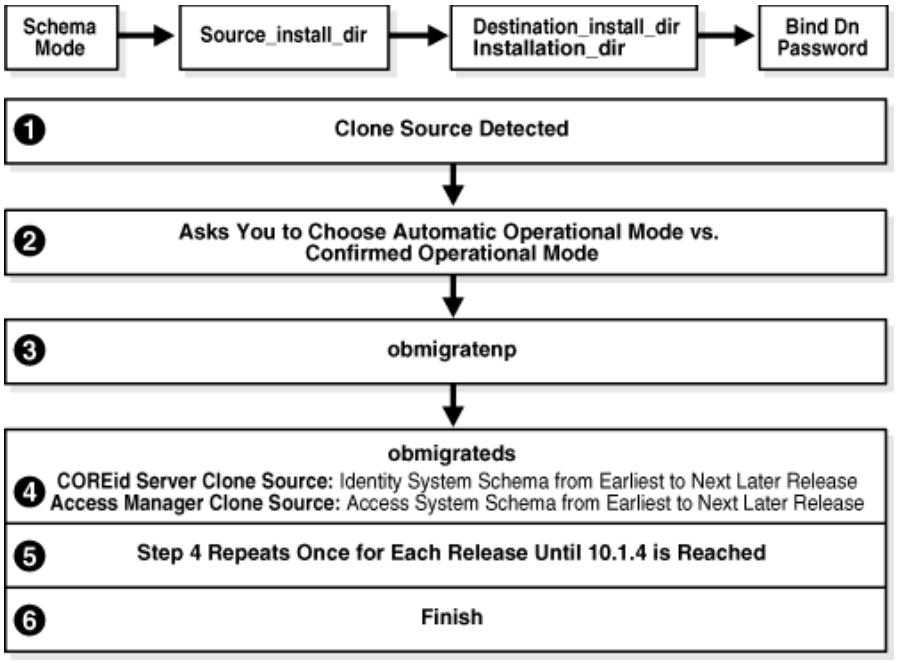
After the upgrade, you can review the following log files for more information about the processing:

destination_dir\identity | access\oblix\tools\migration_tools\obmigratenp.log

destination_dir\identity | access\oblix\tools\migration_tools\obmigrateschema.log

When you execute the MigrateOAM script in Schema mode, processes to upgrade the schema in the LDAP directory server are launched, as shown in Figure 15–4.

Figure 15–4 Overview of MigrateOAM Schema Mode and Process



Process overview: During the schema upgrade with MigrateOAM

1. After you launch MigrateOAM and specify the Schema mode and specifications, the source directory is detected in the file system:
2. You are asked to choose either Automatic operational mode or Confirmed operational mode. Oracle recommends that you choose Automatic.
3. The utility obmigratenp is called to determine which other utilities should be called and to manage language migrations.
4. The utility obmigrateds is called, which:
   - Reads configuration files, assesses schema data (OSD), and determines the directory server with which Oracle Access Manager is communicating.
   - Gathers the information required to connect and bind to the directory server.
   - Locates the schema file for the specific directory type, and the from and to versions, then uploads the appropriate ldif file to the directory server using the ds_conf_update.exe utility.

- Using information read from the OSD (for example, 'o=oblix, ..'node) and configuration files, obmigrateds creates an input map file to be passed to obmigratedata.exe.

  For example, for osd, policy, and workflow upgrades:

  ```
  data_fromrelease_to_torelease_osd.lst
  ```

  For example, for user data upgrade:

  ```
  data_fromrelease_to_torelease_user.lst
  ```

- The upgrade sequence for the schema begins, based on the component and data storage in your LDAP directory server:
  - First Installed COREid Server, the Identity System schema is upgraded starting from the earliest release to the next later release (from 6.1.1 to 6.5, for example).
  - First Installed Access Manager: The Access System schema is upgraded starting from the earliest release to the next later release (from 6.1.1 to 6.5, for example). For more information, see "Upgrading the Schema During a Zero Downtime Upgrade" on page 16-63.

5. Step 4 repeats as needed, to continue the upgrade from the point where it concluded to the next later release (from 6.5 to 7.x, for example); this continues until release 10.1.4 is reached.
6. You are asked to confirm and conclude.

About Clone Mode Processing

This topic introduces the processing that occurs when you use MigrateOAM Clone mode to upgrade clone components. Configuration and policy data in the new branch of the LDAP directory server are also upgraded, as follows:

When the newer release of Oracle Access Manager include a new Oracle Access Manager-specific data organization or values, data upgrades occur in much the same way as the schema upgrade. The delta between the old and new versions is determined and the appropriate data ldifs are provided so they can be uploaded to the directory server. An incremental upgrade is performed between each major release and the next major release until you have completed the upgrade. After the upgrade, Oracle Access Manager can identify and use the data present in the directory and run smoothly.

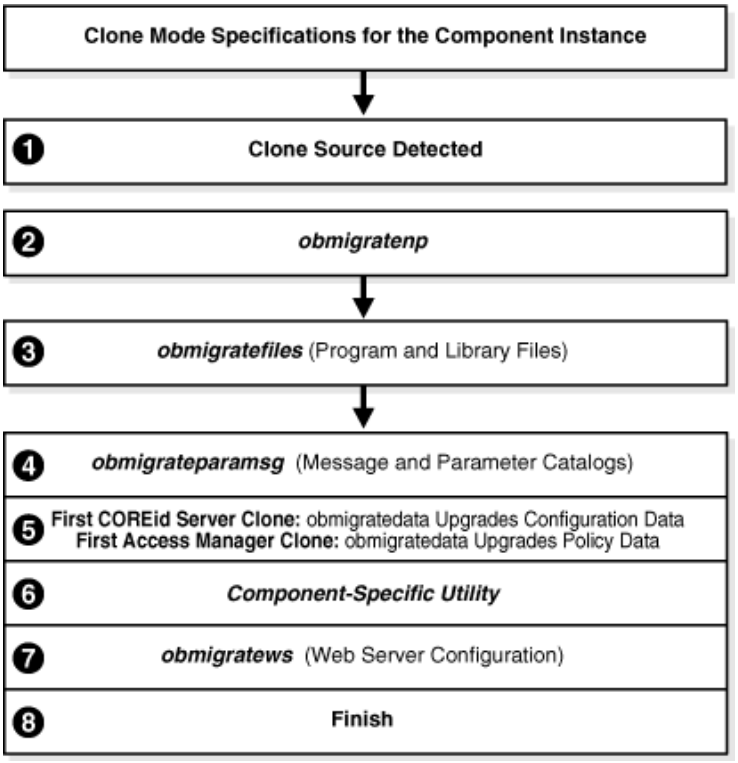
A data upgrade can occur only with Oracle Access Manager components that interface with the directory server: Identity Server and Policy Manager.

Files that contain both object-class and attribute mappings are provided for this purpose. The object and attribute mapping files reside in the obmigratedata file system directory. For example:

```
IdentityServer_install_dir\identity|access\oblix\tools\migration_tools\
obmigratedata
```

The MigrateOAM script processing that occurs when you use the Clone mode is shown in Figure 15–5. The copied configuration data in the new branch of the LDAP directory server is upgraded only when you upgrade the clone of the first installed COREid Server. Copied policy data in the new branch of the LDAP directory server is upgraded only when you upgrade the clone of the first installed Access Manager. Data in the original branch of the LDAP directory server remains intact and untouched.

Figure 15–5 Overview of MigrateOAM Clone Function and Process



Process overview: During a clone component upgrade with MigrateOAM

1. After you launch MigrateOAM and specify the Clone mode and details for this clone instance, the file system source is detected.

   Note: If you upgrade an existing multi-language implementation without 10*g* (10.1.4.0.1) Language Packs, you will lose multi-language functionality.

2. A utility (obmigratenp) is called to detect which features need to be upgraded for this particular component based on the release you are upgrading *from* and the release you are upgrading *to*.

   obmigratenp calls other utilities as needed. When your installation includes multiple languages, obmigratenp migrates message catalogs. Also, obmigratenp oversees data and file migration.

   Note: Installed languages are upgraded when you include appropriate 10*g* (10.1.4.0.1) Language Packs for each installed language in the same directory in the file system as the 10*g* (10.1.4.0.1) component installer.

3. The obmigratefiles is called to upgrade earlier program and library files. For more information about obmigratefiles, see "File Upgrade: obmigratefiles" on page C-7.

4. obmigrateparamsg is called to upgrade earlier message and parameter catalog files. For more information about obmigrateparamsg, see "Message and Parameter Upgrade: obmigrateparamsg" on page C-9.

5. **Data Upgrades**: obmigrateds is called in NoSchema mode for a data only (not schema) upgrade. The data upgrade occurs in a sequence that brings the data from the earlier release to the next latest release until the data is upgraded for 10.1.4.

   obmigrateds is called only with the clone of the first COREid Server that you installed and set up (and the clone of the first Access Manager that you installed and set up). During subsequent clone upgrades, the data upgrade is detected and skipped.

   No data in the original branch of the LDAP directory server is upgraded. For more information about data upgrades, see "About Configuration and Policy Data Upgrades" on page 15-11. For more information about obmigrateds, see "Schema Upgrade: obmigrateds" on page C-12.

6. A component-specific utility is selected and run to make changes to related registry entries for Windows, plug-ins, and other files. The component's configuration files are updated in a sequence that repeats from your earlier release to the next latest release, and so on until 10.1.4 is reached. This might be interspersed with data upgrades when you are upgrading the clone of the first installed COREid Server (or Access Manager). A single tool is called for the corresponding component upgrade, as follows:

   a. **Identity Server:** obMigrateNetPointOis upgrades existing registry entry for the Identity Server to reflect the newer release; modifies PPP catalog if needed; modifies password from password.xml, if needed; re-creates proper uninstall_info.txt. For details, see "Identity Server: obMigrateNetPointOis" on page C-17.

   b. **WebPass:** obMigrateNetPointWP upgrades existing registry entry for the WebPass to reflect the newer release; modifies password from password.xml, if needed. For details, see "WebPass: obMigrateNetPointWP" on page C-18

   c. **Policy Manager:** obMigrateNetPointAM upgrades registry entry for Policy Manager; modifies password encryption from password.lst, if needed; copies your custom plug-ins to the target installation directory from your renamed source directory. For details, see "Policy Manager: obMigrateNetPointAM" on page C-19.

   d. **Access Server:** obMigrateNetPointAAA upgrades registry entry for Access Server; modifies password encryption, if needed; copies your custom plug-ins from your renamed source directory to the target installation directory; upgrades the following failover files:

      AppDB.lst—converted to .xml

      ConfigDB.lst—converted to .xml

      Group.lst—if present, converted to .xml

      UserDB.lst—if present, converted to .xml

      WebResrcDB.lst—converted to .xml

      For more information about the items that are upgraded and converted, see "Upgraded Items" on page 3-5. For details about the obmigratenp utility, see "Access Server: obMigrateNetPointAAA" on page C-19.

   e. **WebGate:** You will not clone WebGates.

f. **SDK:** obMigrateNetPointASDK is called by obmigratenp to accomplish an Access Manager SDK upgrade.

The SDK upgrade will be invoked automatically as the last step when upgrading components bundled with SDK (Identity Server and the Oracle Access Manager Connector for WebSphere).For more information about "Software Developer Kit (SDK): obMigrateNetPointASDK" on page C-20.

Note: If you decline the automatic SDK upgrade, current SDK configuration settings are not preserved and you must reconfigure SDK using the configureAccessGate tool, as described in the *Oracle Access Manager Access Administration Guide*.

7. **Web Server Configuration Updates**: A utility (obmigratews) is called to perform a selective Web server configuration file and filter upgrade, to accommodate changes for newer releases of WebPass, Access Manager, and WebGate. For more information, see "Web Server Upgrade: obmigratews" on page C-16.
8. Process concludes with final remarks.

About Original Mode (Prod) Processing

This topic discusses the differences between upgrading with MigrateOAM in Prod mode (production or original instance mode) versus Clone mode.

The processing that occurs when you upgrade original components using the MigrateOAM script in Prod mode is nearly the same as when you upgrade clone components using MigrateOAM script in Clone mode.

In Prod mode, the following exception applies: obmigrateds is not called; no schema or data upgrades occur when upgrading the first COREid Server or Access Manager that was installed.

After upgrading original components, you must reconfigure the upgraded originals to use upgraded data in the new branch of the LDAP directory server. This is explained in detail in Chapter 17.

Backup and Recovery Strategies for Zero Downtime Upgrades

Many of the same back up and recovery strategies that are discussed for in-place upgrades also apply to a zero downtime upgrade. Rather than repeat the same information with zero downtime procedures, you will be instructed to find the information in the original location in this manual. Table 15–3 lists the information that you will be instructed to back up and the location of that information in this manual.

Table 15–3 Back Up Strategies Before a Zero Downtime Upgrade

Back Up the Following	As Described In
Oracle Access Manager Schema	Chapter 5: Backing up the Earlier Oracle Access Manager Schema
Oracle Access Manager Configuration and Policy Data	Chapter 5: Backing up Oracle Access Manager Configuration and Policy Data
Oracle Access Manager User and Group Data	Chapter 5: Backing Up User and Group Data
Oracle Access Manager Workflow Data	Chapter 5: Backing Up Workflow Data
Processed Workflows	Chapter 5: Archiving Processed Workflow Instances

Table 15–3 (Cont.) Back Up Strategies Before a Zero Downtime Upgrade

Back Up the Following	As Described In
Existing Directory Instances	Chapter 5: Backing Up Existing Directory Instances
Web Server Configuration Files	Chapter 8: Backing Up the Existing Web Server Configuration File
Windows Registry	Chapter 8: Backing Up Windows Registry Data

The following details will give you an idea of what to expect during a zero downtime upgrade. Do not perform these tasks now.

The Zero Downtime Schema Upgrade: The upgraded schema offers backward compatibility with the earlier schema, as far back as release 6.1.1. However, you cannot roll back a schema upgrade using any Oracle-provided tools. If you backed up the earlier schema using external tools before upgrading, you should be able to reinstate the backup copy if you decide to roll back to the original release. Look for details in Chapter 5.

The Zero Downtime Data Upgrade: Data in the original branch of the directory server is not modified during a zero downtime upgrade. However, it is a good idea to perform the data backup tasks in Table 15–3 before you create and populate the new branch in the LDAP directory server during the zero downtime upgrade.

Oracle Access Manager Instance Upgrades: With the zero downtime upgrade method you do not need to back up the original instance file system directory. The source that you will create remains intact during an upgrade and becomes a back up copy. For more information, see "Preparation Tasks for the Zero Downtime Method" on page 15-12. Source creation does not take care of Web server configuration details or Windows registry details for an instance. For details about backing these up before each instance upgrade, see Chapter 8.

Backing Up After Upgrading: Most tasks finish with specific steps that help you quickly assess whether the procedure was successful or not successful. Oracle recommends that you finish upgrading the Identity System (whether clone or original) and validate that it is fully operational before you back up upgraded Identity System information. If you have a joint Identity and Access System, upgrade and validate the Access System (whether clone or original) before you back up the upgraded Access System.

The information that you back up is similar whether you have upgraded a clone or the original instance. For instance, you will back the upgraded component file system directory and customization directories, as well as Web server configuration file and the Windows registry entry if needed.

Table 15–4 lists the topics that discuss backing up after zero downtime upgrade tasks.

Table 15–4 Back Up Strategies After a Zero Downtime Upgrade

Back Up the Following	As Described In
Upgraded Cloned Identity System	Chapter 16: Backing Up Upgraded Identity System Clones
Upgraded Cloned Access System	Chapter 16: Backing Up Upgraded Access System Clones
Upgraded Original Identity System	Chapter 17: Backing Up the Upgraded Original Identity System
Upgraded Original Access System	Chapter 17: Backing Up the Upgraded Original Access System

When something does not operate as expected after a zero downtime upgrade task (whether the instance is a clone or an original), you can pursue one of the following courses of action:

Recovery

Recovery is a process where you can perform steps to restore the earlier instance (either cloned or original), and then try the upgrade again.

> **Caution:** Recovery strategies can be successful only when you have performed appropriate backup tasks when instructed to do so.

Chapter 2 provides general information about recovery procedures that you can follow. For more information, see Table 2–3, " Upgrade Recovery Strategies" on page 2-7. In addition:

- Each zero downtime upgrade task includes one or more steps to help you assess if there is any problem with the specific instance at the end of the task. Rrecovery steps that you can perform immediately are generally included.
- Specific recovery topics are provided for the zero downtime upgrade method. For details, see Table 15–5.

Table 15–5 RecoveryTopics for a Zero Downtime Upgrade

Task	See Topic in
Create Clone Profiles	Chapter 16: Recovering From Issues With Information Entered in the System Console
Creating and Populating a New Branch in the Directory Server	Chapter 16: Recovering from Problems With Populating the New Branch
Identity System Clone Upgrade	Chapter 16: Recovering From a Cloned Identity System Upgrade Failure
Access System Clone Upgrade	Chapter 16: Recovering from a Failed Cloned Access System Component Upgrade
Original Identity System Upgrade	Chapter 17: Recovering From an Original Identity System Upgrade Failure
Original Access System Upgrade	Chapter 17: Recovering From an Original Access System Upgrade Failure

Rolling Back

Rolling back is a process where you undo everything that you have done and return to the original setup and the starting point of the zero downtime upgrade. You will have only your original installation and the original release level after rolling back.

Having only one WebGate will result in downtime when rolling back. Oracle recommends that you have more than one WebGate to avoid downtime. Alternatively, you can keep the older WebGate and not upgrade it because it will work with the upgraded Access Server.

Table 15–6 Rolling Back During a Zero Downtime Upgrade

Task	See Topics In
Clone Profiles in the System Conslle	Chapter 16: Rolling Back to the Starting Point After Entering Clone Details
Cloning Instances	Chapter 16: Rolling Back Changes After Cloning Components
Creating and Populating a New Branch in the Directory Server	Chapter 16: Rolling Back Changes Made for the New `oblix` Branch
Reconfiguring Clones To Use the New Branch	Chapter 16: Rolling Back Changes for Reconfigured Clones
Schema Upgrades	Chapter 16: Rolling Back After the Schema Upgrade
Data Upgrade or Identity System Clone Upgrades	Chapter 16: Rolling Back After Upgrading Identity System Clones
Data Upgrade or Access System Clone Upgrades	Chapter 16: Rolling Back After Upgrading Access System Clones
Original Identity System Upgrades	Chapter 17: Rolling Back After Upgrading the Original Identity System
Original Access System Upgrades	Chapter 17: Rolling Back After Upgrading the Original Access System

For information about Windows registry entries during a rollback operation, see "Reinstating Original Windows Registry Entries During a Rollback Operation".

Reinstating Original Windows Registry Entries During a Rollback Operation

This topic explains how to reinstate the registry entry when you are rolling back after upgrading original component instances that are installed on a Windows platform. This topic is not relevant for other platforms.

During Oracle Access Manager component installation on a Windows platform, a Windows registry entry is created for the instance. The Windows registry entry always points to the installed location and the product release (Oracle Access Manager release 6.1.1 for example). The registry entry is created after specific installation phases based on the type of Oracle Access Manager component you are installing:

- When you install an Identity Server or Access Server, the Windows registry entry is created after you specify the service name for the instance.
- When you install Web components (WebPass, Policy Manager, and WebGate), there is no service name. In this case, the Windows registry entry is created after the libraries and files are extracted into the specified installation path.

Windows registry details are not transferable. As a result, you cannot copy libraries and files from one installed location to another and then use the services in the new location. However, when you upgrade a component, the original registry is deleted and a new entry is created for the latest release. This means:

- After upgrading, the Windows registry will contain only the entry for the upgraded instance in the destination file system path.
- After upgrading, you cannot roll back and use the original instance unless you can reinstate the original registry entry. Otherwise, the Oracle Access Manager service will fail.

To help streamline the roll back procedure, Oracle recommends that you back up the Windows registry entry for each original instance immediately before you start upgrade activities for the instance. For example, before you rename the original file system path to create a source for the zero downtime upgrade, you must back up the original Windows registry entry. In fact, Step 1 of each upgrade procedure directs you to perform specific preparation tasks that are described in detail in Chapter 8. Backing up file system directories, Web server configuration files, and Windows registry details are among those tasks.

The following approaches are available to reinstate the original registry entry when you roll back:

- **Recommended**: Back up the original registry entry before you rename the original instance file system path to create an upgrade source.

  Oracle recommends that you export registry details for the instance (whether clone or original) before starting upgrade activities for each instance. This enables you to import the registry entry if you decide to roll back to the original release.

- **Alternative**: Reinstall the original instance during the rollback task.

  If you do not have a backup registry entry to import during a rollback, there is no automated way to reinstate the entry. In this case, you must start the original component installation anew. After the registry entry is created, you will end the installation process and then copy original configuration details from the source that was renamed before the upgrade. For details, see "Generating a New Registry Key To Use When Rolling Back an Original Instance Upgrade" on page G-18 in the appendix on troubleshooting.

Developing a Plan for a Zero Downtime Upgrade

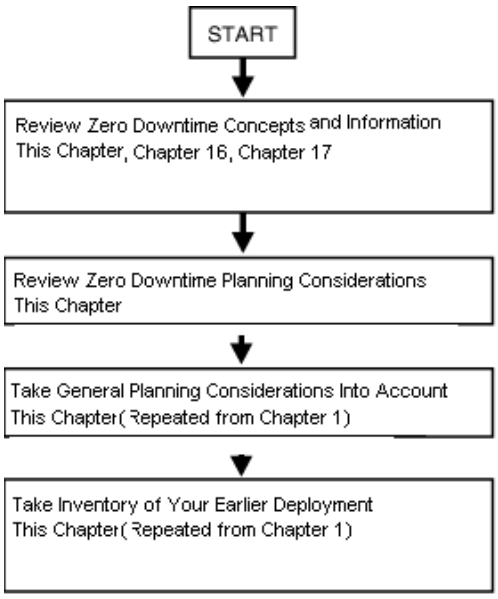
Before you start any zero downtime upgrade activities, it is important to read through this entire chapter. For downtime assessment planning for in-place upgrades, see "Duration of Zero Downtime Tasks and Validation" on page 15-21.

Whether you perform an in-place upgrade or you use the zero downtime upgrade method, Oracle recommends that you develop a solid plan for prerequisite and upgrade tasks. Your planning deliverables will include an inventory of details that you have gathered for all existing component instances in your deployment.

Oracle recommends that you collect and record specific details about each component and instance in your original deployment. Planning and tracking summaries are provided in Appendix F.

When developing a plan for a zero downtime upgrade, you perform the following tasks. After your planning is complete, you are ready to start upgrading as described in Chapter 16.

Figure 15–6 Developing a Zero Downtime Upgrade Plan



Task overview: Developing a plan for a zero downtime upgrade

1. Review all information about the zero downtime upgrade in this chapter, and in Chapter 16 and Chapter 17.
2. Take all zero downtime upgrade considerations into account as you begin to develop your plan For example:
   - Identify original components to be upgraded immediately, and record details in your planning documents. For more information, see the sumamries in Appendix F.
   - Identify components that can be upgraded later (dormant Access Servers, WebGates, and the Software Developer Kit (SDK)).
   - Develop a plan to manually migrate items that are not upgraded automatically, as described in "Items that You Must Manually Upgrade" on page 3-9.
3. Take the following general planning considerations into account:
   - **Deployment Scenarios**: The upgrade task should be performed in a sequential order in relation to the deployment approach adopted in your organization: Identity System only versus Joint Identity and Access System; intranet versus extranet; number and type of installed environments.

     For example, if you have an earlier Identity System-only release deployed for intranet-only use with three different LDAP environments (one for Development, another for Test/Demonstration, and one Production deployment), the upgrade process should be performed and fine tuned in the smaller environments before ultimately being performed in your production environment. For more information about deployment types, see .
   - **Stability**: Each deployment that you upgrade should currently be running a stable and appropriately installed release. In other words, each earlier Oracle Access Manager configuration must be confirmed to be stable and complete before you start upgrading.

A good approach to validate that the original environment is stable is to develop a deterministic test script and run it both before and after the upgrade. For example, the script could exercise a full end-to-end transaction by requesting a single page that requires authentication and authorization and a workflow request (all triggered by a single page request). This script can also help you validate that a task was successful and that the system is still operating without problem after upgrading clones or original components.

- **Administrative Access**: Schema upgrade operations (as well as other upgrade operations) require administrative access with write permissions to the LDAP directory server and Oracle Access Manager files.
- **Schema and Data Upgrades**: These are performed independently when you use the zero downtime upgrade method. For details, see "Schema and Data Upgrades with the Zero Downtime Upgrade Method" on page 15-9.
- **Customization Upgrades**: This is primarily a manual process. Oracle recommends that you complete any testing and alterations in a development environment before redeploying these in a shared or production environment. For details, see "Customization Upgrades Using the Zero Downtime Upgrade Method" on page 15-15.

4. **Take Inventory of the Earlier Deployment**: If you have not already recorded the exact details of the earlier Oracle Access Manager installation, be sure to include details for Identity and Access components, LDAP directory servers, Web servers, and applications as indicated in Table 15–7 (repeated from Chapter 1). Planning summaries that you can use as either a reference or duplicate or pages to fill in are provided in Appendix F.

Table 15–7 Inventory of Earlier Deployment Details

Detail Types	Description
Environment Details	Transport security mode; Simple, Cert, or Open
	Root CA details if certificate mode is used
	Any host definition type entries relevant to NetPoint (for example, /etc/host)
Identity Server Inventory	Workflows, search bases and ACLs
	Object definition details for all objects managed through NetPoint, if possible
	Auditing configuration details
	Password policy configuration
Access Server Inventory	Policy domains, authentication schemes, resource definitions, host identifiers
	Auditing configuration
	Directory profile information

Table 15–7 (Cont.) Inventory of Earlier Deployment Details

Detail Types	Description
Application Tier details that will be impacted during the upgrade	Any WebGate protected integration that uses Cookies or header variables (the impact on these should be minimal)
	Any custom AccessGate integration created using the API, which can have a more noticeable impact.
	Applications exposing Oracle Access Manager Identity Portal Inserts (such as portals). Look carefully at these to ensure that "service temporary unavailable" pages can be displayed during the upgrade process when access to workflows is unavailable.
	Applications relying on IdentityXML are significantly impacted because the IdentityXML service might be unavailable altogether (it could be complicated to separate read-only calls from write calls and might be best to disable the entire application during the upgrade process.)
Administration and Presentation tier details for each WebGate, WebPass, and Web server	Web server type, version, operating system, WebPass or WebGate identifier and exact patch version of the binary (for example, 6.1.1.19 or 7.0.4.2)
	Exact Oracle Access Manager patch version (for example, 6.1.1.19 or 7.0.4.2)
	WebPass or WebGate installation directory in the file system
	Connection information between the component and corresponding
	Oracle Access Manager Server, including primary or secondary status and number of connections
Details for each and every AccessGate, WebGate, Policy Manager, application server integration	HTTP Cookie domain, preferred host name, cache timeout and size, failover threshold
	Inventory any IdentityXML client that has been custom developed
Note: Policy Manager was formerly known as the Access Manager component	Inventory any virtual IP and DNS aliases used to reference the WebPass or Web server farm protected with WebGate, such that it would be feasible to alter their definition in cases where staged upgrade of the Web server components (WebPass and WebGate be planned/required)

Table 15–7 (Cont.) Inventory of Earlier Deployment Details

Detail Types	Description
Oracle Access Manager Server Tier (for each Identity and Access Server)	Exact patch level (6.1.1.19 or 7.0.4.2, for example)
	Installation directory for the Identity or Access Server
	Installation directory for the associated WebPass or WebGate
	TCP port number for the service for example, port 6021)
	Host name (DNS) and Identity (formerly COREid) Server identifier
	For the Access Server, note the status of the Access Management flag (on or off)
	Inventory any customizations performed
	Identify any Identity Event plug-ins
	For the Access Server, note any customized authentication or authorization plug-ins
	Record any file-based changes such as changes in globalparams.xml or .lst files
	Record any PresentationXML and XSL stylesheet customizations
	Are the Identity Server (and Access Server) configured to audit to files or a database
	For UNIX systems, record the user name and group membership for the Identity Server (formerly known as the COREid Server). Note that these are the system user and groups. This information is typically recorded in obuser.conf file in component_install_dir/identity or access/oblix/config/obuser.conf.
LDAP Directory Server Tier	Exact LDAP directory server version and patch level for example, Sun ONE v5.2 SP2)
	LDAP directory server DNS name and Port
	Transport security mode: LDAP, LDAPS, ADSI
	Binding credentials used by Oracle Access Manager
	DIT and schema objects used in Oracle Access Manager
	Master/replica configuration details
	For details, see "Schema and Data Upgrades with the Zero Downtime Upgrade Method" on page 15-9.
Customization Assessment and Planning	Ensure that any custom developed plug-ins, Access Manager API clients, IdentityXML clients, PresentationXML customizations, Portal Inserts, and customized styles are compatible with Oracle Access Manager 10*g* (10.1.4.0.1). This is primarily a manual process. For details, see: ■ Customization Upgrades Using the Zero Downtime Upgrade Method ■ Duration of Zero Downtime Tasks and Validation

16

Upgrading the Schema, Data, and Clone System

This chapter describes how to upgrade the schema, the data, and how to create and upgrade a clone system when you are using the zero downtime upgrade method. Oracle recommends that you review all information about the zero downtime upgrade method to ensure that this approach is the right one for your enterprise. This chapter provides the following topics:

> **Note:** If you are using the in-place upgrade method, skip this chapter.

Prerequisites Before Starting a Zero Downtime Upgrade

Oracle recommends that before you start the zero downtime upgrade you become familiar with the following information:

- General information about deployments; upgrade planning, concepts and methods; and upgrade processing as described in Part I of this book.

- Details about in-place upgrades, as described in Part II and Part III, include some preparation tasks that are relevant regardless of the upgrade method that you choose.
- Details about performing manual customization upgrade tasks, as described in Part IV of this book. These tasks must be performed manually regardless of the upgrade method you are using.
- General validation tasks are introduced in Part V. Tasks that you perform with the zero downtime upgrade method are described in "Validating Successful Operations in Your Environment" on page 16-69.
- All information about zero downtime upgrades, as described in this chapter and in Chapter 15 and Chapter 17.

New product terms are used in this chapter when referring to the Oracle Access Manager 10.1.4 components and System Console. Earlier product terms (COREid Server and Access Manager) are used when referring to original instances before they are upgraded and to clones of original component instances. The name COREid System Console is used when referring to activities that you perform using the earlier (original) System Console. For details about name changes with Oracle Access Manager, see "Product and Component Name Changes" on page xxviii.

Preparing the Original Installation for a Zero Downtime Upgrade

This section describes the unique planning and preparation tasks that are related to the clone system that you will create for the zero downtime upgrade method. If you do not perform all preparation steps, you might not be able to recover from a problem or to roll back after a failed upgrade.

To start, you must add new component profiles for the clones that you will create. To do this, you will use the existing (original) COREid System Console. In addition, you must add new LDAP directory server profiles for the copy of the original `oblix` tree that you will create in a new branch of the LDAP directory server.

When creating new profiles, you will use the original COREid System Console. If you have a joint Identity and Access System, you will also use the original Access System Console. For example:

- **Identity System Only**: You must perform tasks 1 through 6 in the following task overview.
- **Joint Identity and Access System**: You must perform all tasks in the following task overview.

> **Note:** Task overviews include a description of the task and a link to the topic where you will find the information needed to perform the task. In some task overviews, like the one here, the description is the actual topic heading and link.

Task overview: Preparing your original installation for a zero downtime upgrade includes

1. Bringing Host Computers to Oracle Access Manager 10.1.4 Support Levels
2. Preparing Directory Server Instances and Data
3. **Optional**: Adding New Hardware or Earlier Instances to Your Deployment
4. Adding Profiles for Planned COREid Server Clones in the System Console

5. Adding Profiles for Planned WebPass Clones in the System Console
6. Associating WebPass Clone Profiles with COREid Server Clone Profiles
7. Adding New Directory Server Profiles for Cloned COREid Servers
8. **Joint Identity and Access System**: After performing tasks 1-7, perform the following tasks:
   a. Adding a Profile for Access Server Clones

      Note: The only profiles in the System Console for Access Managers are related to the directory server profile used by Access Manager.

   b. Creating New Directory Server Profiles for Access System Clones
   c. Associating Original WebGates with Access Server Clones: You perform this task because you will defer WebGate upgrades and will not have WebGate clones.

Bringing Host Computers to Oracle Access Manager 10.1.4 Support Levels

Before starting the upgrade, you must ensure that all computers that are hosting earlier components and the LDAP directory server are supported by Oracle Access Manager 10*g* (10.1.4.2.0). If you want to add new computers to the deployment or upgrade the Operating System or Web server, Oracle recommends that you set up these systems before you start the upgrade.

To locate the latest certification details

1. Go to Oracle Technology Network:

   `http://www.oracle.com/technology/software/products/ias/files/fusion_certification.html`

2. Locate and click the link for Oracle Access Manager Certification.

   System Requirements and Supported Platforms for Oracle Access Manager 10gR3 (**xls**)

Describing how to bring an older system up to currently supported levels is outside the scope of this manual. For information about upgrading the host computer, operating system, and Web server, see your vendor documentation.

> **See Also:** "Upgrade Strategies When Support is Changed or Deprecated" on page 2-13.

Preparing Directory Server Instances and Data

This topic is presented as an overview of tasks that you will be instructed to perform.

Configuration or Policy DNs with Spaces: A problem can occur when you copy configuration and policy data to a new branch when the old configuration DN or policy DN contains a space. To avoid a potential problem, you must apply the latest 10*g* (10.1.4.2.0) bundle patch available on My Oracle Support (formerly Metalink) before creating the new branch using 10*g* (10.1.4.2.0) tools. For details, see "Creating and Populating a New `oblix` Branch" on page 16-37.

Oracle recommends that you review the topics in Chapter 5 that are listed next and perform tasks as needed.

Task overview: Preparing directory server instances before a zero downtime upgrade includes

1. Configuring Unique Namespaces for Directory Connection Information

   Unique Namespaces for Directory Connections: Each directory server profile contains connection information that includes the profile name, a domain or namespace to which it applies, a directory type, and a set of operational requirements for Read, Write, Search, and so on. Before you add a new directory server profile for use by clones, Oracle recommends that you ensure that the namespace is unique on the directory server.

2. Configuring the Challenge/Response Phrase at the Object Class Level

   Configuring the Challenge/Response Phrase at the Object Class Level: If Challenge and Response attributes are configured at the Employees tab level (rather than at the object class level), then the configuration data upgrade might not complete correctly. Oracle recommends that before starting other activities in this task, that you ensure that the Challenge and Response attributes are configured at the object class level.

3. Preparing Your Directory Instances for the Schema and Data Upgrade

   Preparing Directory Instances: This includes changing the directory server search size limit parameter, and performing any other tasks that are relevant for you specific directory server type.

4. Reviewing Strategies for Upgrading in a Replicated Environment and applying these when needed.

   Replicated Environment: When you have a replicated environment, you can disable the replication agreement before you work on the master and then enable the agreement when you are ready to push changes out to the replicas. For example, disable it before upgrading the schema and enable it after ugrading the data.

Adding New Hardware or Earlier Instances to Your Deployment

This task is optional. There are a number of reasons that you might consider adding new hardware or earlier instances to your existing deployment before starting the upgrade. For instance:

- When you want to expand your deployment to add more host computers or earlier component instances
- When you have original instances operating with an IIS Web server on a Windows platform, you must place the clone on a different computer host.

  In this case, you also need to install the earlier component instance (as a clone) on the new host and then copy any customizations and configuration changes from the original file system to the clone file system. If the instance uses either Simple or Cert mode to communicate with existing components, you must copy the \config subdirectory from the original instance to the newly installed instance to ensure that all certificates are in order.

Oracle recommends that you perform these tasks before you begin other upgrade activities. If you are adding components, Oracle recommends that you perform a complete installation for each earlier component that you want to add. You can add hardware and install and setup additional earlier component instances using the following procedure as a guide.

To add hardware and additional component instances before the upgrade

1. Review hardware considerations in the following topics before you add any new hardware to host additional earlier components or to host cloned components:
   - Hardware Requirements for Zero Downtime Upgrades on page 15-6
   - Bringing Host Computers to Oracle Access Manager 10.1.4 Support Levels
2. Set up the new system as needed to host components, as described in the preparation chapter of your earlier *Oracle COREid or Oblix NetPoint Installation Guide*.
3. Install additional earlier components using instructions in your earlier *Oblix NetPoint or Oracle COREid Installation Guide*, and the following considerations:
   - **All Components**: Perform prerequisite tasks for the specific components that you will install, as described in the preparation chapter of your earlier *Oracle COREid or Oblix NetPoint Installation Guide*.
   - **All Components**: Answer questions and perform activities based on appropriate specifications for your earlier installation.
   - **Identity Server**: Answer No when asked if this is the first Identity Server for this LDAP directory server.
4. Confirm that the component installations were successful and that all earlier components are operating properly.
5. Add profiles in the original System Console for the new instance, and then add profiles for all planned clones.

Adding Profiles for Planned COREid Server Clones in the System Console

Before you can clone an original COREid Server instance you must add an entry for the clone in the original COREid System Console. Only Master Administrators and Master Identity (or Master Access) Administrators can access the COREid System Console.

Clone details should be the same as the original instance with the following exceptions:

- A different instance name for the clone is recommended. If you use the same instance name, Oracle recommends that you move the clone to a different host.
- A different port number is needed for the clone instance to communicate with other clone instances.
- The name of the host computer might differ.

To add entries for COREid Servers clones, you need either NetPoint Administrator or Master Identity Administrator login credentials and privileges.

The following procedure uses a release 6.1.1 installation. Your release and details will vary. For more information, see your *Oracle COREid Administration Guide*.

To add a profile for a COREid Server clone in the System Console

1. In your browser, enter the path to the original COREid System Console. For example:

   ```
   https://hostname:port/identity/oblix
   ```

In this sample URL, *hostname* is the name of the computer on which the WebPass is installed and *port* is the Web server port for the WebPass. You can log in using the HTTP or HTTPS protocol.

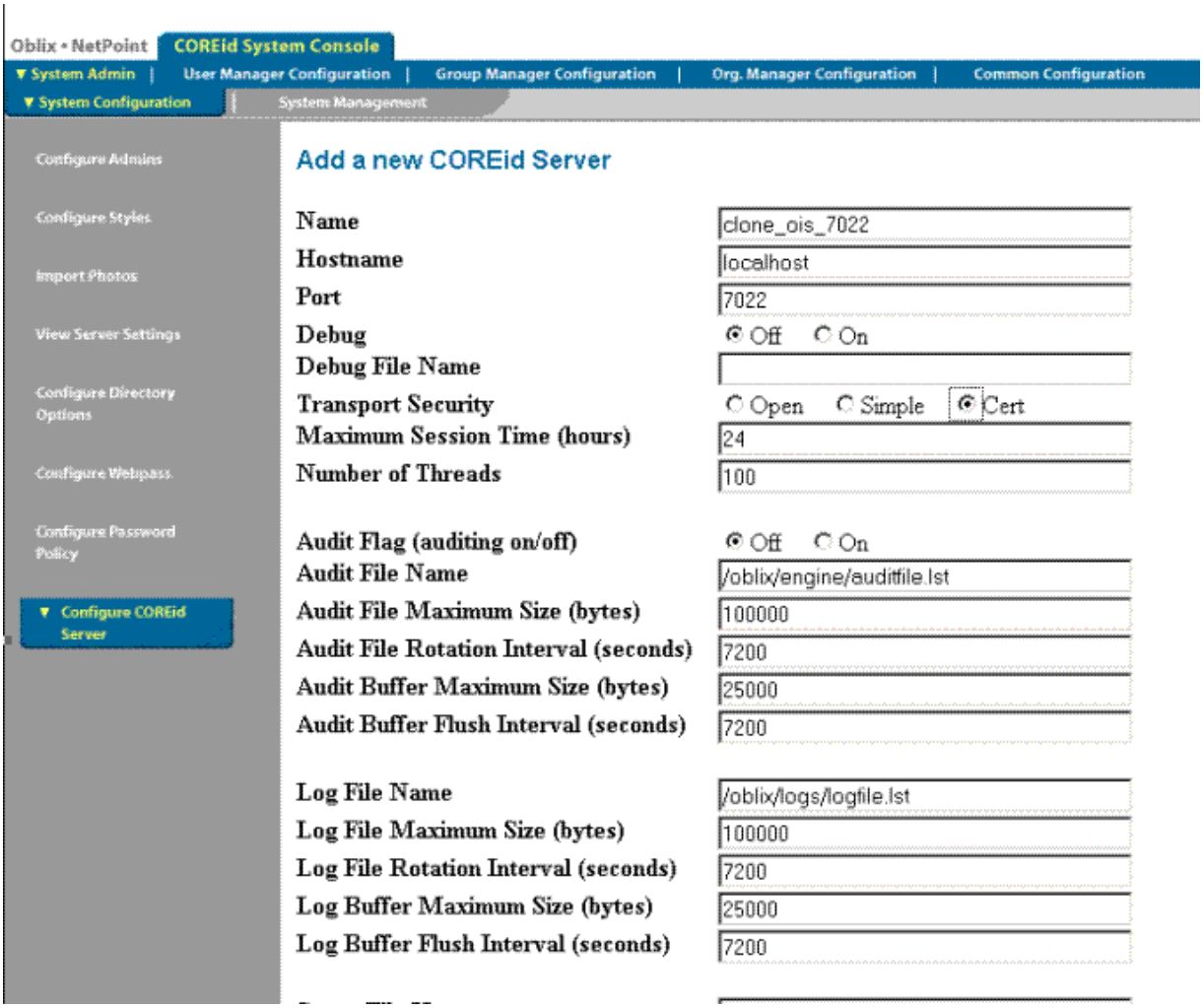
2. Click COREid System Console, and log in as a user who is authorized as a Master Administrator or Master Identity Administrator.
3. In the System Console, click System Admin and then click System Configuration.
4. Select Configure COREid Server in the left navigation pane.
5. When the List all COREid Servers page appears, double click the name of an existing COREid Server to display its specifications and then print these to use as a reference.

   Note: You can find Directory Server Details, including the transport security mode used between this instance and the LDAP directory server, on the Configure LDAP directory server page. For example: click Configure Directory Options, and then look for the Directory Server Security Mode beneath Directory Server Details on the Configure Directory Server page. For additional information, click the name of the LDAP Directory Server Profile.

6. Click System Admin, click System Configuration, select Configure COREid Server, and then click the Add button.
7. On the Add a New COREid Server page fill in details for this clone as follows:
   - **Name**: The unique name of the clone instance, which can include the port number for this clone. For example: `clone_ois_7022`.
   - **Hostname**: The name of the computer on which the cloned COREid Server will be running, which can be a different host from the original.
   - **Port**: A new port number for the cloned COREid Server. For example: `7022`.
   - All remaining information should be the same for the clone as it is for the original COREid Server instance.

   Figure 16–1 provides a sample page with values filled in.

Figure 16–1 Sample Release 6.1.1 Add a new COREid Server Page with Clone Details



8. Click Save to finish and keep the new information (or Cancel to exit without saving).
9. Repeat the steps in this procedure to define a new instance for each cloned COREid Server that will be added and upgraded.
10. Proceed as follows:
    a. Successful: Continue with "Adding Profiles for Planned WebPass Clones in the System Console".
    b. Not Successful: If there is a problem with an entry in the System Console, see "Recovering From Issues With Information Entered in the System Console" on page 16-21.

Adding Profiles for Planned WebPass Clones in the System Console

Before you clone an existing WebPass instance you must add an entry in the original COREid System Console that mirrors the specifications for the existing WebPass. Only Master Administrators and Master Identity (or Master Access) Administrators can access the COREid System Console.

The Windows registry is not updated when you clone components. This can cause issues because the IIS Web server requires the entries for Web components in the registry. If the original Web component uses an IIS Web server, you should store the clone on a different Windows host with a fresh IIS Web server installation. In this case, the host name of the computer will differ for the clone.

Differences between the details for the original instance and details for the clone instance include the clone instance name and the Web server port number for the clone.

- A different instance name for the clone is recommended. If you use the same instance name, Oracle recommends that you move the clone to a different host.
- A different port number is needed for the clone instance to communicate with other clone instances.
- The name of the host computer might differ.

To add entries for WebPass clones, you need either NetPoint Administrator or Master Identity Administrator login credentials and privileges. The following procedure provides the steps you must perform and is based upon a release 6.1.1 installation. For more information, see your *Oracle COREid Administration Guide*.

To add WebPass Profiles for clones in the System Console

1. From the COREid System Console click the System Admin tab, then click the System Configuration tab, and then click WebPass in the left column.

   The List all WebPasses page appears.

2. Click the name of a WebPass instance to display its specifications, and then print these to use as a reference.

3. From the List all WebPasses page, click Add.

   The Add a new WebPass page appears.

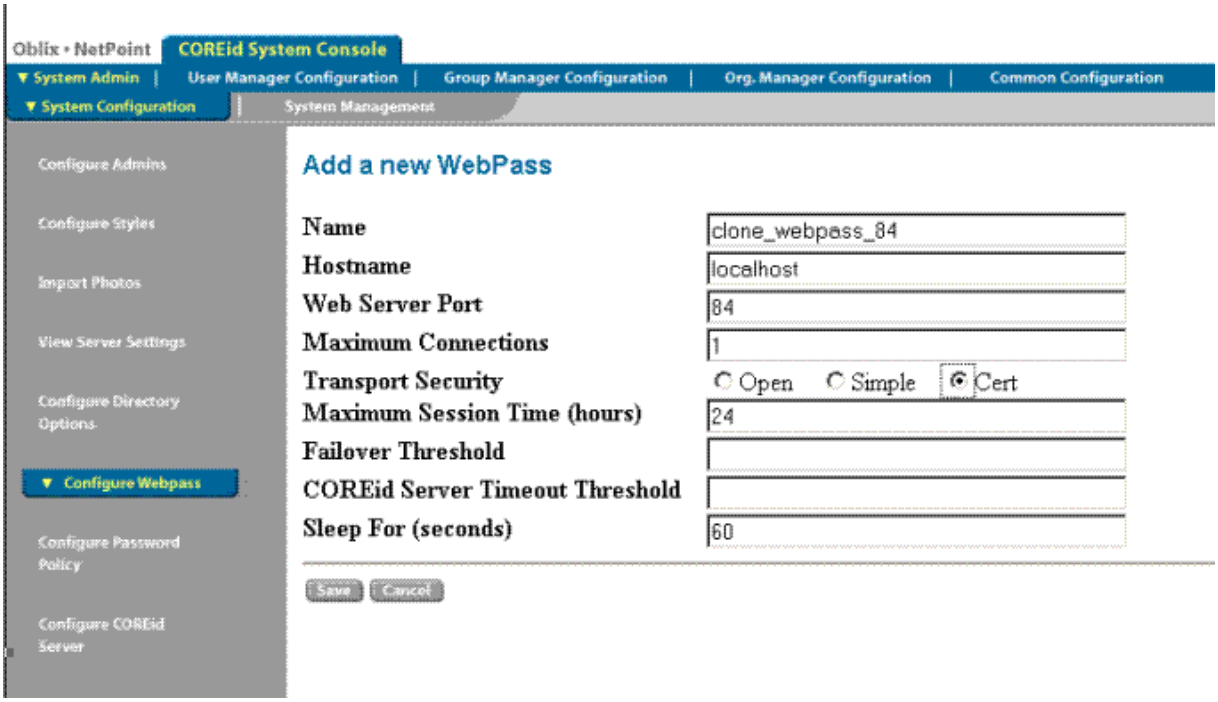
4. On the Add a new WebPass page, enter information for the clone as follows:

   - Name: The name of the WebPass instance clone, which can include the port number for this clone. For example: `clone_webpass_84`.

     Note: You cannot change the name you save with this instance. To change the name, delete this instance and reconfigure it with a different name.

   - Hostname: The name of the computer on which the cloned WebPass instance will run; it might differ from the host of the original instance.
   - Port: A new port number for the cloned WebPass and new Web server. For example: `84`.
   - All remaining information should be the same for the clone as it is for the original WebPass instance.

Figure 16–2 Sample Release 6.1.1 Add a new WebPass Page with Clone Details



5. Click Save to finish defining details for the cloned WebPass (or Cancel to exit without saving).
6. Repeat the steps in this procedure to define a clone instance for each WebPass in your original installation.
7. Proceed as follows:
   a. **Successful**: Continue with "Associating WebPass Clone Profiles with COREid Server Clone Profiles".
   b. **Not Successful**: If there is a problem with an entry in the System Console, see "Recovering From Issues With Information Entered in the System Console" on page 16-21.

Associating WebPass Clone Profiles with COREid Server Clone Profiles

You must now associate COREid Server clones with WebPass clones using the System Console. The associations for clones must mirror original COREid Server and WebPass associations. As a result, you must perform two procedures.

The following task overview provides the steps you must perform and is based upon a release 6.1.1 installation. For more information, see your *Oracle COREid Administration Guide*.

Task overview: Associating COREid Server clones with WebPass clones includes

1. Viewing Details for Existing COREid Servers Associated with a WebPass
2. Associating a COREid Server Clone with a WebPass Clone

Viewing Details for Existing COREid Servers Associated with a WebPass

The following procedure explains how to view details for existing COREid Servers that are associated with a specific WebPass instance. This information will come into play in two ways:

- **Cloned Environment**: You can ensure that your cloned environment includes the same associations that you find in the original installation.
- **Original Environment**: You will upgrade original COREid Servers that are associated with a WebPass, and then you will upgrade the associated WebPass before upgrading other COREid Server instances.

To view existing COREid Server and WebPass associations

1. From the COREid System Console, click the System Admin tab, the System Configuration tab, and then click Configure WebPass in the left navigation pane.

   The List all WebPasses page appears. From this page you can add, modify, or delete a WebPass.

2. In the List all WebPasses page, click the name of an original WebPass (not a clone).

   The Details for WebPass page appears.

3. Click the List Identity Servers button.

   A page appears that lists the primary and secondary servers configured for the existing WebPass.

4. Print the page to use as a reference and, if needed, click the name for a COREid Server to view details for it.

   The Details for Identity Server page appears.

Associating a COREid Server Clone with a WebPass Clone

You perform activities in the following procedure to associate COREid Server clones with appropriate WebPass clones. You will base your association decisions on information that you collected in the previous procedure, "Viewing Details for Existing COREid Servers Associated with a WebPass" on page 16-10.

To associate a COREid Server clone with a WebPass clone

1. From the COREid System Console, click the System Admin tab, the System Configuration tab, and then click Configure WebPass in the left navigation pane.
2. In the List all WebPasses page, click the name of a WebPass clone.
3. In the Details for WebPass page, click List COREid Servers to display a page listing the Primary and Secondary servers associated with the WebPass (which might be empty).
4. Click Add.
5. In the Select Server drop-down list, select a COREid Server clone that is to be associated with the WebPass clone.
6. Based on information for the original association, indicate whether this clone COREid Server is a Primary or Secondary server and ensure that this and other information for this association mirror the original association.

   This information is required for COREid-related load balancing and fail over.

7. Click Add to associate this COREid Server clone with the WebPass clone (or click Cancel to terminate this operation and start over).

8. Repeat the steps in this procedure to associate all COREid Server clones with WebPass clones to be used during the zero downtime upgrade.

Adding New Directory Server Profiles for Cloned COREid Servers

You must perform this task to add new directory server profiles for planned clones only when the original directory server profiles are separate for each COREid Server (Access Manager, and Access Server). If original directory server profiles are in use by all existing COREid Servers and Access Servers, you can skip this task.

Only Master Administrators and Master Identity Administrators can access the COREid System Console. You must add as many directory profiles for clone instances as you have existing directory profiles for original instances. The profile will serve only the clone instances and will be named differently than the original profile.

The new branch is created in the same LDAP directory server where the original `oblix` configuration and policy branches are present. There is no change in the LDAP directory server computer name or port number for the new branch.

If you have Database Instance Profiles configured in your original installation, any new LDAP directory server profile that you create for Identity Servers and Access Servers will use the same DB instances. However, the Database Instance Profiles will use the namespace (also known as the searchbase for user data) of the new branch.

If you have multiple searchbases (known as a disjoint searchbase), the new profile will use the same disjoint searchbase as the original profile used. Disjoint searchbases must be set up manually.

The following procedure uses a release 6.1.1 System Console. Your environment might vary and your details will be different. For information, see your earlier *NetPoint or Oracle COREid Administration Guide.*

To enter a new LDAP directory server profile for Identity System clones

1. Ensure that the directory server is ready, as described in "Preparing Directory Server Instances and Data" on page 16-3.
2. From the COREid System Console click the System Admin tab, then click the System Configuration tab, then click Configure Directory Options in the left column.
3. Click Configure Directory Options in the left column.
4. On the Configure Server profiles page, click the name of an existing directory profile to display its specifications, and then print these to use as a reference.
5. On the Configure Directory Server profiles page, click the Add button under the label Configure LDAP Directory Server Profiles to display the Create Directory Server Profile page.
6. On the Create Directory Server Profile page add a name for this profile, the original searchbase, the clone servers that will use this profile, and use the original profile as a guide to fill in details about the LDAP directory server.
   - **Name**: The name of this profile, which will be used by clones (for example, it will be used by a cloned COREid Server instance).

     This name is for informational purposes only. The Identity System uses the naming convention default <*Identity Server id*> for all default LDAP directory server profiles that are automatically created during COREid System installation. However, this profile will be used only by cloned components.

- **Name Space**: The original searchbase specified for the original LDAP directory server profile, which is used by both the new branch and the original branch.

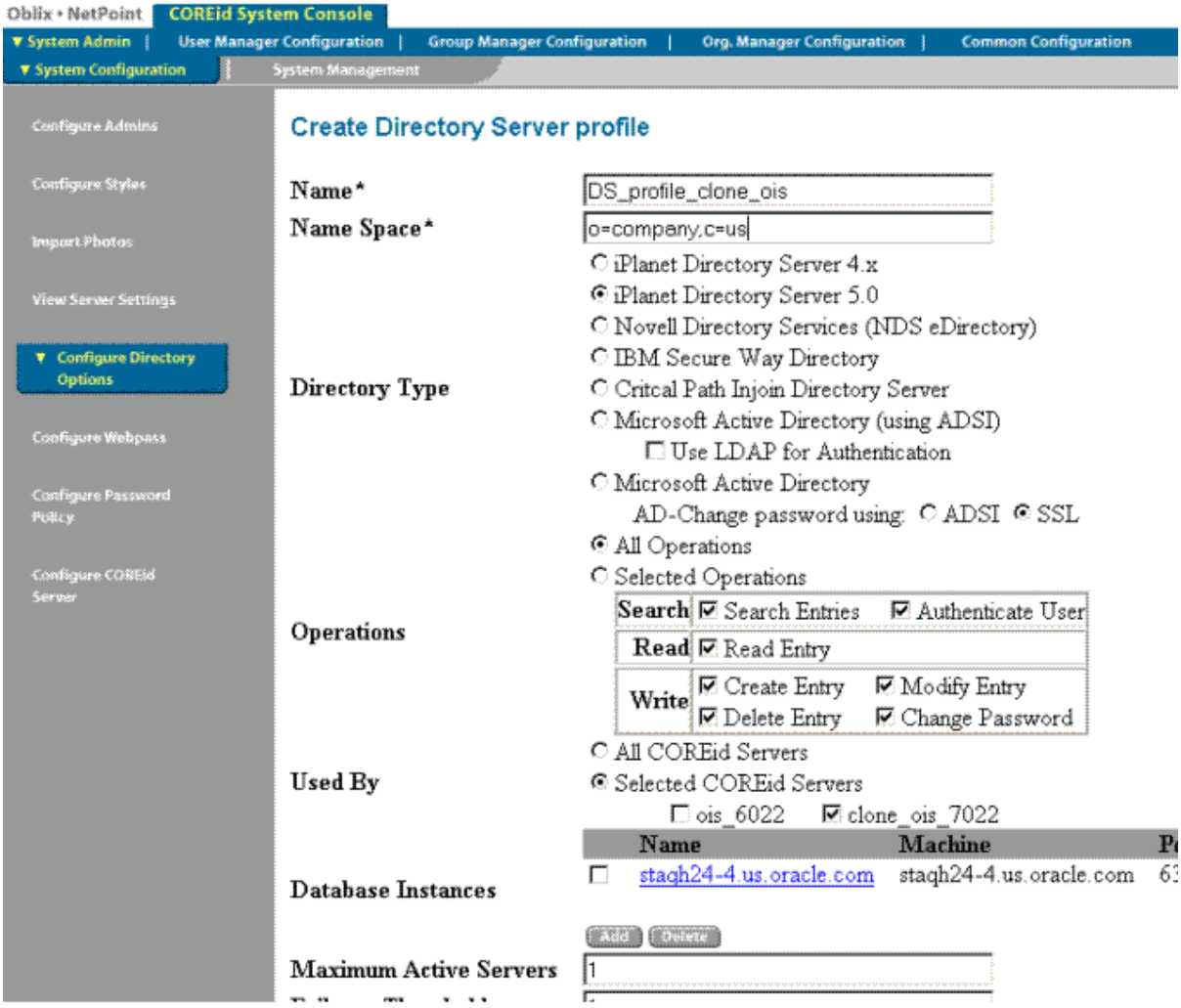
  Note: Use caution that this namespace does not overlap with other LDAP directory server profile namespaces. Overlapping name spaces result in duplicate entries. Exceptions to overlapping name spaces include a LDAP directory server profile for a Microsoft Active Directory sub-domain, and the LDAP directory server profile containing the `oblix` configuration base (also known as the configuration DN).

- In the **Used by** area of the page, select the **clone** servers (not the original servers) that will use this profile.
- All remaining details should be the same for this clone profile as for the original profile.

7. Click the option beside Enable Profile.

   Your profile for the clone might look something like Figure 16–3.

Figure 16–3 Sample Release 6.1.1 Create Directory Server Profile Page for the Clone



8. Select Save, Cancel, or Reset as needed.
9. Click OK to confirm your addition.

> **Note:** You will not restart Identity Servers or Access Servers to enable the new profile until the clones are ready to use.

10. Proceed as follows:
    a. **Successful, Identity System Only**: Repeat this entire procedure as needed to create a new directory server profile to serve clone instances for each existing directory server profile. Then see "About Destination Creation and Obtaining Tools for a Zero Downtime Upgrade" on page 16-28.
    b. **Successful, Joint Identity and Access System**: Proceed with "Adding a Profile for Access Server Clones" on page 16-14.
    c. **Not Successful**: Proceed to "Recovering From Issues With Information Entered in the System Console" on page 16-21.

For information, see your earlier *NetPoint or Oracle COREid Administration Guide.*

About Entries for Access Manager Clones

There are no entries in the System Console for Access Managers and none are needed for their clones. The only System Console entries relating to the Access Manager pertain to directory profiles that are used by the Access Manager. Continue as follows:

- **Identity System Only**: Proceed to "Cloning Earlier Components for a Zero Downtime Upgrade" on page 16-21.
- **Joint Identity and Access System**: Proceed to the next topic, "Adding a Profile for Access Server Clones".

Adding a Profile for Access Server Clones

You perform the following task only if your original installation is a joint Identity and Access System deployment. Otherwise, skip to "Cloning Earlier Components for a Zero Downtime Upgrade" on page 16-21.

Before creating Access Server clones, you must add a new instance for each clone in the Access System Console. Most clone specifications should mirror those of the original Access Server that the clone will temporarily replace.

- A different instance name for the clone is recommended. If you use the same instance name, Oracle recommends that you move the clone to a different host.
- A different port number is needed for the clone instance to communicate with other clone instances.
- The name of the host computer might differ.

To add entries for Access Server clones, you need either NetPoint Administrator or Master Access Administrator login credentials and privileges.

The following procedure uses a release 6.1.1 installation. Your release and details will vary. For more information, see earlier *NetPoint or Oracle COREid Administration Guide*.

To add a profile for each planned Access Server clone

1. Go to the original Access System Console from your browser. For example:

   ```
   http://hostname:port/access/oblix
   ```

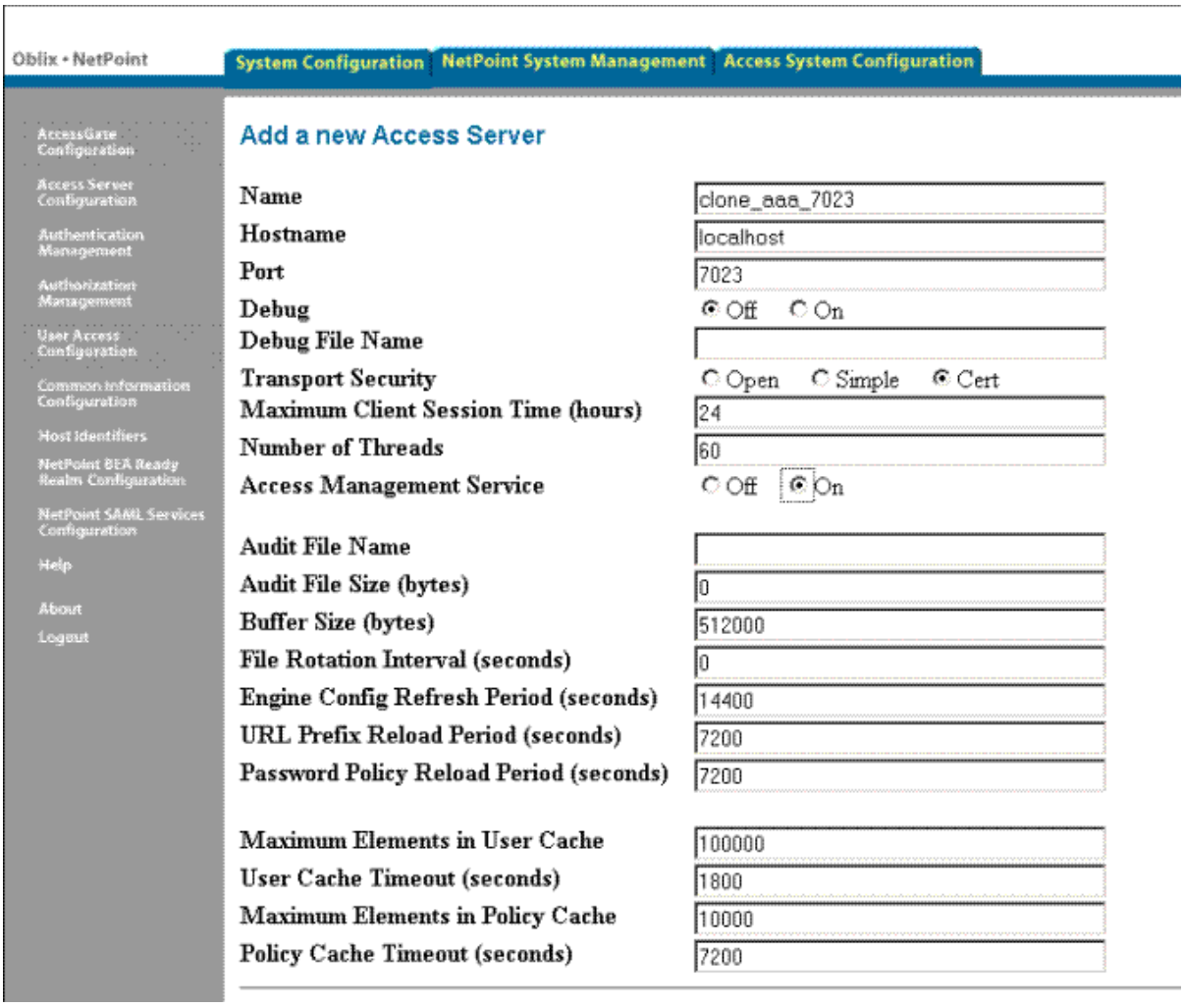
   In the sample URL, *hostname* refers to computer that hosts the Web server; *port* refers to the HTTP port number of the WebPass Web server instance; `/access/oblix` connects to the Access System Console.

2. Click the Access System Console link.
3. From the Access System Console, Click the Access System Configuration tab, then click Access Server Configuration when the side navigation bar appears.
4. Click the name of an existing Access Server instance to display its specifications, and then print these to use as a reference.
5. Click Access Server Configuration in the side navigation bar, then click Add.
6. On the Add a New Access Server page, fill in details for this clone as follows:
   - **Name**: The name of the clone Access Server instance, which can include a port number for the clone if desired. For example: *`clone_aaa_7023`*
   - **Hostname**: The name of the computer on which the cloned Access Server will run, which might differ from the existing Access Server host.
   - **Port**: A new port number for the cloned Access Server. For example: *`7023`*

- All remaining information should be the same for the clone as it is for the original Access Server instance.

  Figure 16–4 shows a completed page for this example. Your details will vary.

Figure 16–4 Sample Release 6.1.1 Add a new Access Server Page for a Clone



7. Click Save to finish defining details for the cloned Access Server (or Cancel to exit without saving).
8. Repeat the steps in this procedure to define a new instance for each cloned Access Server to be upgraded using the zero downtime method.
9. Proceed as follows:
   a. **Successful**: Continue with "Creating New Directory Server Profiles for Access System Clones" on page 16-16.
   b. **Not Successful**: If there is a problem with an entry in the System Console, see "Recovering From Issues With Information Entered in the System Console" on page 16-21.

Creating New Directory Server Profiles for Access System Clones

In joint Identity and Access System deployments, you might need to create new directory profile instances for planned clones for Access Server instances. You perform this task only when the original directory profiles are separate for each COREid Server (Access Manager, and Access Server). If original directory profiles are in use by all existing COREid Servers and Access Servers, you can skip this task.

Only Master Administrators and Master Access Administrators can access the Access System Console. You must add as many directory server profiles for clone instances as you have existing directory server profiles for original instances. The profile will server only the clone instances and will be named differently than the original profile.

A default directory profile is created for the Access Server during Access Server installation. LDAP directory server details and directory server profiles that are available in the Access System Console include those for configuration data and policy data.

If you install more than one Access Server instance, each server uses the same default LDAP directory server profile. If you modify a shared LDAP directory server profile for a particular Access Server instance, all of the other Access Server instances are affected. If you do not also change the profiles for these servers, you will receive a warning whenever you:

- View the server configuration
- Restart the server
- Reconfigure the server

Each directory server profile contains connection information that includes the profile name, a domain or namespace to which it applies, a directory type, and a set of operational requirements for Read, Write, Search, and so on. Before you add a new directory server profile for use by clones, Oracle recommends that you ensure that the namespace is unique on the directory server.

The following procedure describes how to add directory server profiles for Access System clones using the original Access System Console. In this example, a release 6.1.1 Access System is presented. Your Access System release and details might vary.

To add a directory profile for cloned Access System components

1. Ensure that the directory server is ready, as described in "Preparing Directory Server Instances and Data" on page 16-3.
2. From the original Access System Console, click System Configuration, then click View Server Settings.

   The View Server Settings page appears.
3. Beneath the Configure LDAP Directory Server Profiles label, click the name of a directory profile for the Access Manager to display the original specifications, and then print these to use as a reference.
4. Click View Server Settings in the left column, and then click Add under the Configure LDAP Directory Server Profiles label to display the Create Directory Server Profile page.
5. On the Create Directory Server Profile page, fill in the name and namespace for this clone profile, select the clone servers that will use this profile, and then use the original profile as a guide to fill in LDAP directory server details.

- **Name**: The name for this profile to be used by the cloned Access System components.
- **Name space**: The original searchbase for user data.
- In the **Used by** area of the page, select the clone servers (not the original servers) that will use this profile.
- All remaining details should be the same for this profile as for the original profile.

6. Select Enable Profile.
7. Select Save, Cancel, or Reset as needed.
8. Click OK to confirm your addition.

Note: You will not restart the Access Manager Web servers or Access Server service to enable the new profile until the clones are ready to use.

---

9. Repeat all steps in this procedure to create a new profile instance for each original profile used by the Access Manager.
10. Repeat the steps in this procedure to create as many new directory server profiles for Access Server clones as you have existing directory server profiles used by original Access Servers.
11. Proceed as follows:

    a. **Successful**: Continue with "Associating Original WebGates with Access Server Clones".

    Note: There are no entries in the System Console for Access Managers and none needed for their clones. The only System Console entries relating to the Access Manager pertain to directory profiles that are used by the Access Manager.

    ---

    b. **Not Successful**: If there is a problem with an entry in the System Console, see "Recovering From Issues With Information Entered in the System Console" on page 16-21.

Associating Original WebGates with Access Server Clones

Do not create a clone of any WebGate instance. Instead, Oracle recommends that you configure original WebGates to operate with cloned Access Server.

Each original WebGate must be reconfigured to operate with a cloned Access Server as a secondary server. This is accomplished manually by adding the clone Access Server as a secondary Access Server for each original WebGate.

In general, earlier Access Servers are not compatible with later WebGates. For example, if you have a release 6.1.1 Access Server it will not be compatible with a release 6.5 or later WebGate. However, when you upgrade an earlier Access Server, backward compatibility with earlier custom plug-ins and earlier WebGates is enabled automatically. As a result, you can delay original WebGate upgrades. For more information about backward compatibility, see Chapter 4.

You will not create a clone of any original WebGate. Instead, you will configure original WebGates to work with cloned Access Servers. Should you decide to uncouple the original and clone environments at some point, see "About Isolating the Original and Cloned Environments" on page 15-22.

> **Note:** Having only one WebGate will result in downtime when upgrading that WebGate (or when rolling back). Oracle recommends that you have more than one WebGate to avoid downtime.

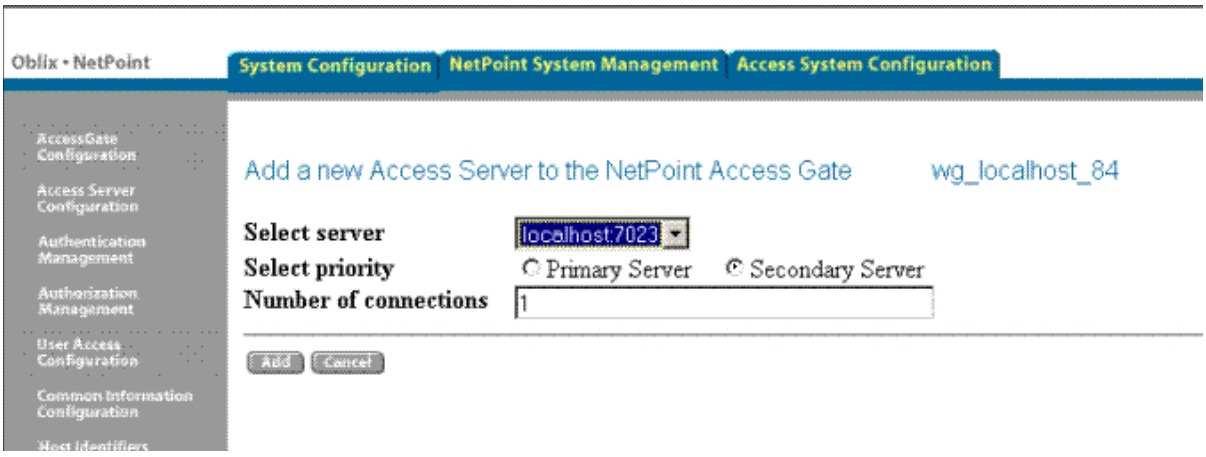
The procedure here uses a release 6.1.1 System Console. Your system and your details will vary. For information, see your earlier *NetPoint or Oracle COREid Administration Guide*. For an alternative procedure, see "Alternative Procedure to Associate Original WebGates and Clone Access Servers" on page 16-19.

To associate an Access Server clone with an original WebGate

1. From the Access System Console, click Access System Configuration and then click AccessGate Configuration.
2. Click an original WebGate name on the List all NetPoint AccessGates page.
3. Click Add to configure an Access Server clone to communicate with this original WebGate.
4. Select an Access Server clone from the Select Server list.
5. From the Select priority options, choose Secondary.
6. In the Number of connections field, type the maximum number of connections this WebGate clone can establish to this Access Server clone.

   The default is 1. Your page might look like the sample in Figure 16–5.

Figure 16–5 Sample Release 6.1.1 Page When Associating a WebGate Original with an Access Server Clone



7. Click Add to complete the configuration of this server, or click Back to return to the previous screen.
8. Click the link to display a summary and print this page for use later.

9. Repeat Step 3 through Step 7 to associate another original WebGate with an Access Server clone, if needed.
10. Proceed as follows:
    a. **Successful**: Continue with "Cloning Earlier Components for a Zero Downtime Upgrade" on page 16-21.
    b. **Not Successful**: If there is a problem with an entry in the System Console, see "Recovering From Issues With Information Entered in the System Console" on page 16-21.

Alternative Procedure to Associate Original WebGates and Clone Access Servers

If you have a significant number of WebGates, you might find it quicker to use this alternative method to associate original WebGates with Access Server clones. This alternative method involves modifying the following ldif template and then importing it.

> **Note:** This template will configure only one WebGate at a time. To configure multiple WebGates you must create and concatenate individual WebGate templates.

Example 16–1 WebGate Reconfiguration LDIF Template

```
Entry 1
dn: obname=%UniqueIdentifier%,obapp=PSC,o=Oblix,%OblixBase%
obname: %UniqueIdentifier%
obMaxAAAServerConnections: %NoOfConnections%
obServerID: obname=%AAASeverId%,obapp=PSC,o=Oblix,%OblixBase%
objectClass: top
objectClass: oblixAAAServerIDNode
obver: %OAMVer%

Entry 2
dn: obname=%WebGateId%,obapp=PSC,o=Oblix,%OblixBase%
changetype: modify
replace: %ServerType%
%ServerType%: %ExistingAAAS%:%UniqueIdentifier%
```

The following procedure guides you as you edit the WebGate template to associate Access Servers and WebGates.

> **Note:** When editing Entry 2, you can use the `%AAASeverId%` and `%WebGateId%` together as a unique identifier.If the WebGate has no existing Access Servers configured to work with it, then you must replace "`replace: %ServerType%`: " in Entry 2 with "`add: %ServerType%`".

To edit the template for your environment

1. Edit Entry 1 as follows:
    - Replace the %UniqueIdentifier% with a unique timestamp of your choosing, for example:

      `20070101T44444444444`

    - Replace `%OblixBase%` with the original Oblix Base for example:

```
o=company,c=us
```

- Replace `%AAASeverId%` with the clone Access Server's identifier, for example:

  ```
  AAA_new
  ```

- Replace `%NoOfConnections%` with the maximum number of connections to named Access Server, for example:

  ```
  1
  ```

- Replace `%OAMVer%` with your current WebGate release, for example:

  ```
  6.1.0
  ```

  For more information about release numbering see details about the -f option in Table 15–2, " MigrateOAM Argument and Specifications Summary" on page 15-24.

2. Edit Entry 2 as follows:

   - Replace `%OblixBase%` with the original Oblix Base for example, for example:

     ```
     o=company,c=us
     ```

   - Replace `%WebGateId%` with the WebGate name that was entered into the System Console when the WebGate was set up, for example:

     ```
     WebGate_one
     ```

   - Replace `%ServerType%` with "`obAAAPrimaryServerID`" if this is a primary server connection (or with "`obAAASecondaryServerID`" if this is a secondary server connection to the WebGate.

   - Replace the %ExistingAAAS% with the value of the %ServerType% attribute, for example:

     ```
     obAAAPrimaryServerID
     ```

     For more information about specifying release numbers, see details about the -f option in Table 15–2, " MigrateOAM Argument and Specifications Summary" on page 15-24.

   - Replace `%UniqueIdentifier%` with the Timestamp that you specified in entry 1, for example:

     ```
     20070101T44444444444
     ```

3. Compare your edited file to the one shown in Example 16–2.
4. Import this LDIF file to the LDAP directory server.
5. Verify that the association appears in the Access System Console.
6. Repeat this entire sequence for the next WebGate that you want to reconfigure.

Example 16–2 Sample Edited WebGate Template

```
Entry 1
dn: obname=20070101T44444444445,obapp=PSC,o=Oblix,o=company,c=us
obname: 20070101T44444444445
obMaxAAAServerConnections: 1
obServerID: obname=Reconf_AAA2,obapp=PSC,o=Oblix,o=company,c=us
objectClass: top
objectClass: oblixAAAServerIDNode
```

```
obver: 6.1.0

Entry 2
dn: obname=Reconf_WG,obapp=PSC,o=Oblix,o=company,c=us
changetype: modify
replace: obAAAPrimaryServerID
obAAAPrimaryServerID: 20070228T21065545822:20070101T44444444445
```

Recovering From Issues With Information Entered in the System Console

If you discover a problem with an entry for a clone instance, you can click the Cancel button during profile entry and start the profile anew.

If you see a problem after entering information, you can either modify the profile in the System Console or you can delete the profile altogether and start a new one for the clone.

To recover from issues when entering clone details

1. Using the System Console, perform the following activities as appropriate and as described in your earlier *NetPoint or Oracle COREid Administration Guide*.
   - Re-select or re-enter the information, or click the Cancel button.
   - Select the profile and click the Modify button to modify a saved profile.
   - Select the profile and click the Delete button to remove the profile.
2. Re-enter the information for the clone in the System Console, if needed.

Rolling Back to the Starting Point After Entering Clone Details

Rolling back returns you to the starting point, where you have only the original setup in its original configuration. All clone entries will be removed, and any other changes that you have made for the cloned environment will also be removed.

To roll back at this stage, you can remove the clones and the Web Server instance that was created for clones. You also need to remove entries added in your original System Console for clone components.

To roll back to the starting point after entering clone details

1. In the original System Console, remove entries added for all clones.
2. Undo any other changes that you have made to support the cloned environment.
3. Continue to use your original installation, or begin the upgrade anew.

Cloning Earlier Components for a Zero Downtime Upgrade

This section describes how to clone original component instances when performing a zero downtime upgrade. You must create a clone of each original component instance in the deployment that you are upgrading. Your original instances remain intact and continue to provide services to users while you perform operations on the clones.

You will need a new Web server instance for cloned Web components. If you have additional applications protected by Oracle Access Manager using the original Web server instance, you should also clone these applications. These cloned applications will use the Web server instance that you create for the cloned Web components. For more information, see "Web Server Requirements for Zero Downtime Upgrades" on page 15-7.

For more information, see the following topics:

- About Creating Clones
- Setting Up the File System and Creating Clone Instances
- Creating A New Web Server Instance for Cloned Web Components

About Creating Clones

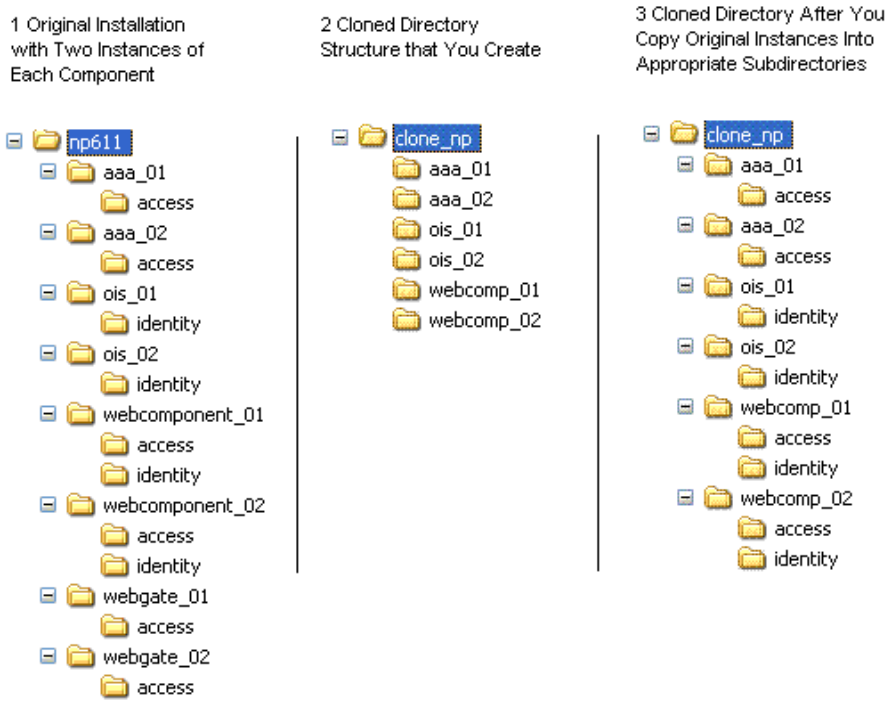
Oracle recommends that you keep cloned instances on the same computer that is hosting the original component. However, this is not a requirement. If you want to add a new computer and install another earlier instance, Oracle recommends that you do so before you create any clones. For more information, see "Adding New Hardware or Earlier Instances to Your Deployment" on page 16-4.

After adding entries to the System Console for each planned Oracle Access Manager clone, you are ready to clone the original components. You will start by creating a clone file system directory structure. You will then copy each original-component's file system directory into the clone file system. Each clone instance will provide source information during the instance upgrade.

Note: Cloning components is a manual task that you perform as described in this topic. Do not use np_sync to clone directories for a zero downtime upgrade. Do not clone WebGate instances.

Figure 16–6 shows a sample installation on the left (the original). In this example, the original top-level file system path is named *np611*. It is expanded to show component directories and subdirectories in a tree structure. This example includes two instances of each component (labeled with _01 and _02). Your environment will be different. In the center of Figure 16–6, is the clone folders that were created as containers. On the right, the clone structure is shown as it will look after populating it by copying original component subdirectories into the appropriate clone folder.

Figure 16–6 Original and Clone Directory Hierarchies in the File System



Guidelines for Creating a Clone

Oracle recommends that you follow these guidelines when creating a clone:

- The clone can reside on the same disk partition or on a different partition on the computer hosting the original component instance. For more information, see "Hardware Requirements for Zero Downtime Upgrades" on page 15-6.
- The clone file system name must have at least one difference when compared with the original directory name in the file system. For example, name the clone directory differently at the top level: *clone_np*, for example.
- The clone file system directory can use the same structure as the original instance, which is a good practice. However, maintaining the original structure in the clone file system is not required. During later zero downtime upgrade tasks, you will be instructed to extract 10*g* (10.1.4.0.1) libraries and files to the clone setup and then apply the Release 10.1.4 Patch Set 1 (10.1.4.2.0).

> **Note:** You will not create a clone of earlier WebGates. As a result, the clone directory in the file system does not include WebGate directories.

- Including a release number in the clone directory path might cause confusion after upgrading the clones. You can eliminate release numbers in cloned path names.
- If your original installation includes an independently installed Software Developer Kit (SDK) for custom AccessGates, you must also clone the SDK.

Note: However, on Windows systems, you can choose to use only the 10*g* (10.1.4.3) .NET 2 SDK after upgrading and patching to 10*g* (10.1.4.3). In this case, you might not need to upgrade the earlier SDK. For more information, see "Platform and SDK .NET Support" on page 4-1.

Setting Up the File System and Creating Clone Instances

The procedure in this section provides step-by-step instructions to help you clone your original components (except WebGates).

Table 16–1 outlines the sample path names that are used in this procedure. In this example, the original directory structure is set up to contain two instances of each component (labeled _01 and _02 in this example) to provide load balancing. The sample clone file system structure matches the original structure. Your environment will be different.

Table 16–1 Sample Original and Clone Path Names for Zero Downtime Upgrades

Original File System Directory Structure	Clone File System Directory Structure
Note: This sample original file system includes two instances of each component stored independently.	Create a clone file system that mirrors the original so that you can populate it. For example:
np611	clone_np
aaa_01	aaa_01
aaa_02	aaa_02
ois_01	ois_01
ois_02	ois_02
webcomponent_01	*webcomponent_01*
webcomponent_02	*webcomponent_02*
webgate_01	webgate_01
webgate_02	webgate_02
SDK	asdk_01\
Note: If your original installation includes a separately installed Software Developer Kit (SDK), you must also clone the SDK. However, on Windows systems, you can choose to use the 10*g* (10.1.4.3) .NET 2 SDK after upgrading and patching to 10*g* (10.1.4.3). In this case, you might not need to upgrade the earlier SDK. For more information, see "Platform and SDK .NET Support" on page 4-1.	**Note**: Only the top-level clone file system directory must have a different name from the original. Clone subdirectories can be named after the originals.

Back Up Copy: After populating the clone file system with a copy of each original instance on the host, the clone instance provides a back up copy of the original. In later tasks, you will rename each clone subdirectory to create a source for the clone upgrade. The source becomes a back up copy and remains intact while the destination that contains the 10.1.4.2.0 tools, libraries, and files, is upgraded based on information from the source. The original file system is untouched during clone upgrades.

The sample path names that are used for the zero downtime upgrade method illustrate an environment that includes multiple instances of each component. The sample that illustrates multiple instances was selected to help reinforce the actions that are needed

for each and every instance. The sample path names are not intended to recommend a particular distribution of components in your installation.

Added Components: You can install another instance of an earlier release Oracle Access Manager component to use as a clone. For example, if you have original instances operating with an IIS Web server on a Windows platform you must place the clone on a different computer host. After you install the earlier instance on the new host you remove the installer and then copy any customizations and configuration changes from the original instance to the newly installed clone. If the instance uses either Simple or Cert mode to communicate with existing components, you must copy the \config subdirectory from the original instance to the newly installed instance to ensure that all certificates are in order.

In the following procedure, you will replace sample path names with appropriate names from your deployment. Your environment will be different and might not include multiple instances of one component on a single host, nor all components on a single host.

To clone earlier component instances for a zero downtime upgrade

1. Create a new top-level file system directory to act as a container for clones. For example:

   a. Create a container for clones. For example:

      Original top-level directory: *np611*

      Create clone: *clone_np*

   b. Create a clone COREid Server file system directory for each instance in your original file system. For example:

Original COREid Server File System	Create Clone File System
np611\ois_01	*clone_np\ois_01*
np611\ois_02	*clone_np\ois_02*

   c. Create clone Web component file system directories, as needed, to provide a container for cloned subdirectories. For example:

Original Web Component File System	Create Clone File System
np611\webcomponent_01	*clone_np\webcomponent_01*
np611\webcomponent_02	*clone_np\webcomponent_02*

   d. Create clone Access Server directories, as needed, to provide a container for cloned subdirectories. For example:

Original Access Server File System	Create Clone File System
np611\aaa_01	*clone_np\aaa_01*
np611\aaa_02	*clone_np\aaa_02*

   e. Do not create a clone WebGate directory.

   f. SDK: Create clone SDK directories if your original installation includes this. For example:

Original SDK File System	Create Clone File System
*np611**asdk_01*\AccessServerSDK	*clone_np**asdk_01*\AccessServerSDK
*np611**asdk_02*\AccessServerSDK	*clone_np**asdk_02*\AccessServerSDK

2. Populate the clone file system directory by copying original component instances into the clone structure. For example:

   a. Copy each original COREid Server subdirectory into the clone structure. For example:

Copy Original COREid Server Directory	To the Clone File System
*np611**ois_01*\identity	*clone_np**ois_01*\identity
*np611**ois_02*\identity	*clone_np**ois_02*\identity

   b. Copy each original WebPass directory into the clone structure. For example:

Copy Original WebPass Directory	To the Clone File System
*np611**webcomponent_01*\identity	*clone_np**webcomponent_01*\identity
*np611**webcomponent_02*\identity	*clone_np**webcomponent_02*\identity

   c. Copy each original Access Manager structure into the clone structure. For example:

Copy Original Access Manager Directory	To the Clone File System
*np611**webcomponent_01*\access	*clone_np**webcomponent_01*\access
*np611**webcomponent_02*\access	*clone_np**webcomponent_02*\access

   d. Copy each original Access Server instance into the clone structure. For example:

Copy Original Access Server Directory	To the Clone File System
*np611**aaa_01*\access	*clone_np**aaa_01*\access
*np611**aaa_02*\access	*clone_np**aaa_02*\access

   e. Do not copy an original WebGate directory into a clone directory.

   f. SDK: Copy the original SDK directory into the clone directory. For example:

Copy Original SDK Directory	To the Clone File System
*np611**asdk_01*\AccessServerSDK	*clone_np**asdk_01*\AccessServerSDK
*np611**asdk_02*\AccessServerSDK	*clone_np**asdk_02*\AccessServerSDK

3. Repeat Steps 1 and 2 on every host in your original deployment to create a clone each original component instance.
4. After cloning, proceed to "Creating A New Web Server Instance for Cloned Web Components".

Creating A New Web Server Instance for Cloned Web Components

A new Web server instance is required for cloned Web components. This new Web server instance will be used by upgraded clones while the original installation is upgraded. For more information, see "Hardware Requirements for Zero Downtime Upgrades" on page 15-6.

If you have additional applications protected by Oracle Access Manager, be sure to clone these applications and configure them to use the Web server instance that is configured for clones.

When you have one Web server instance serving multiple Web components, the Web server must be shut down before you upgrade the first Web component (WebPass, for example) and must remain shut down until you upgrade the last serviced Web component. You will be instructed to shut down the Web server in future procedures. For all Web server requirements, see "Web Server Requirements for Zero Downtime Upgrades" on page 15-7.

To create a new Web server instance for cloned Web components

1. Go to Oracle Technology Network and confirm that the new Web server is supported for Oracle Access Manager Release 10.1.4 Patch Set 1 (10.1.4.2.0):
   a. Go to Oracle Technology Network:

      `http://www.oracle.com/technology/software/products/ias/files/fusion_certification.html`

   b. Locate and click the link for Oracle Access Manager Certification.

      System Requirements and Supported Platforms for Oracle Access Manager 10gR3 (**xls**)
2. Use your Web server vendor documentation as a guide as you install the new Web server instance. Installing the Web server is outside the scope of this manual.
3. Create clones of any additional applications that are protected by the original Oracle Access Manager installation and this Web server, and configure the application clones to use the Web server instance for Oracle Access Manager clones.

Rolling Back Changes After Cloning Components

If you find a problem with a cloned instance, you can use Step 1 in the following procedure to recover and start anew. Otherwise, use all steps to roll back all changes and return to your original installation.

If you perform all steps, every trace of cloned components will be removed. In this case, you can either restart the zero downtime upgrade from the beginning, or use the in-place method described elsewhere in this manual, or continue using your original environment.

To recover or roll back after cloning a component instance

1. Shut down clone services and Web servers, and delete the cloned file system directory from the host computer.

> **Note:** To continue cloning, return to the procedure "To clone earlier component instances for a zero downtime upgrade" on page 16-25.

2. Remove the Web server instance for the cloned Web component.
3. Remove any cloned applications that operate with this Web server instance.
4. Repeat all steps for each clone on each computer host.
5. From the original System Console, delete entries for clones using instructions in your earlier *NetPoint or Oracle COREid Administration Guide.*
6. Confirm that your original setup is operating properly.

About Destination Creation and Obtaining Tools for a Zero Downtime Upgrade

This task must be performed for each and every instance in the deployment that you are upgrading, whether it is a small sandbox-type deployment or a full production deployment.

The tools that support the zero downtime upgrade method are provided with Oracle Access Manager Release 10.1.4 Patch Set 1 (10.1.4.2.0). You obtain the zero downtime upgrade tools by extracting 10*g* (10.1.4.0.1) component libraries and files (also known as an instance) and then applying Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the instance. Additional information is provided in the following topics:

- Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files
- Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)

You can review the information in the previous topics. However, do not perform these tasks now. Instead, wait until you are referred to these tasks as you make a new branch in the directory server, or as you upgrade the schema, or as you upgrade clone instances, or as you upgrade original instance. To avoid repeating information, the following topics will direct you to this section.

Topic overview: Creating a destination and obtaining tools is needed as described in

- This chapter
  - Copying Configuration and Policy Data to a New Branch in the LDAP Directory Server
  - Upgrading the Schema During a Zero Downtime Upgrade
  - Upgrading the Cloned Identity System
  - Upgrading the Cloned Access System
- Chapter 17
  - Upgrading Your Original Identity System
  - Upgrading Your Original Access System

Destination Creation: Extracting 10*g* (10.1.4.0.1) Libraries and Files

Before you can perform any zero downtime upgrade activities, you must create a destination file system path and extract the appropriate Oracle Access Manager 10*g* (10.1.4.0.1) libraries and files for the component that will be involved. After creating the destination, you can apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the instance.

You will perform this task before you make a new branch in the LDAP directory server or upgrade the schema, and before you can upgrade each clone or original instance.

Destination Path Names: You must create a source before you start extracting 10.1.4 libraries and files for clone and original instance upgrades. The destination path that you assign must exactly match the initial clone or original path (before you renamed it to create a source). During library and file extraction, a default file system directory path is provided:

Windows Platforms: \Program Files\NetPoint\

UNIX Platforms: /opt/netpoint/ (all lowercase)

You can change default path name to suit any requirements for your enterprise. If you change the default name to something else, Oracle recommends that you use consistent naming conventions for all platforms. For instance, the Windows Operating System allows spaces in a path name while UNIX-based systems do not. For consistency, you might use an underscore rather than a space in path names on all platforms.

The following path name designations help you identify individual components:

- \identity is appended automatically to all Identity System path names, including Web component path names, regardless of any changes you might make. For example, a COREid Server might be installed as *clone_np*\identity.
- \access is appended automatically to all Access System path names, including Web component path names, regardless of any changes you might make. For example, an Access Server might be installed as *clone_np*\access.
- \webcomponent is part of the default path for WebPass and Policy Manager. However, \identity or \access are automatically appended. If you remove \webcomponent it is not automatically appended.
  - A WebPass might be installed as *clone_np**webcomponent*\identity.
  - A Policy Manager (formerly known as the Access Manager) might be installed as *clone_np**webcomponent*\access.
- WebGate default path names vary depending on your platform and Web server type. Following are several examples that you might see if your original deployment is installed as *np611*.
  - Win32 ISAPI WebGate: *np611*\webgate
  - Win32 OHS2 WebGate: *np611*\WebComponent\access
  - Win32 NSAPI WebGate: *np611*\WebGate\access
  - Linux Apache2 WebGate: /home/*np611*/webgate
  - Linux OHS2 WebGates: /home/*np611*/webgate
  - and so on.

Using the zero downtime method, WebGate upgrades are deferred until you upgrade the original Access System. You can install the latest WebGate even though you will not use it until the very end of the zero downtime upgrade tasks. For more information about source and destination creation, see "Preparation Tasks for the Zero Downtime Method" on page 15-12.

The following information should be taken into account before you begin extracting and patching 10*g* (10.1.4.0.1) components:

Locations and Details: You cannot copy libraries and files from one location and reuse these in another location. Libraries and files are extracted with specific location and configuration details. Certain details are not transferable. For example, on a Windows platform, the registry entry points to the original location.

> **Note:** You cannot copy libraries and files from one location and reuse these in another location because certain location and configuration details are not transferable.

To obtain the 10*g* (10.1.4.2.0) tools that are required to perform a zero downtime upgrade, you must extract 10*g* (10.1.4.0.1) component libraries and files for each installed instance and then apply Release 10.1.4 Patch Set 1 (10.1.4.2.0). After applying the patch, you will have the 10*g* (10.1.4.2.0) files and tools needed for the upgrade (whether it is for a clone instance or for an original instance). The 10*g* (10.1.4.2.0) file system directory becomes the destination that is used during the earlier instance upgrade. For example:

- **For Each Clone Instance Upgrade**: You must first rename the existing clone file system to create a source for the upgrade (for example, from *clone_np/ois_01/identity* to *clone_np/ois_01/identity_source*). You then extract 10*g* (10.1.4.0.1) component libraries and files into the initial file system directory (for example, *clone_np/ois_01/identity*). Next, you apply the 10*g* (10.1.4.2.0) patch to the 10.1.4 destination. For example, if you are upgrading a COREid Server clone, the file system directories might look like the following:

  Original Instance: *np/ois_01/identity*

  Clone Instance: *clone_np/ois_01/identity*

  Source Name: *clone_np/ois_01/identity_source*

  10.1.4 Destination Name: *clone_np/ois_01/identity*

- **For Each Original Instance Upgrade**: You first rename the existing original file system to create a source for the upgrade. You will extract 10*g* (10.1.4.0.1) component libraries into the original file system directory, and then apply the 10*g* (10.1.4.2.0) patch.

  Original Instance: *np/ois_01/identity*

  Source Name: *np/ois_01/identity_source*

  10.1.4 Destination Name: *np/ois_01/identity*

- **For Creating and Populating the New oblix Branch**: In this case, you use the clone directory as the source and assign a new name for the destination directory. You then extract 10*g* (10.1.4.0.1) component libraries into the new path and apply the 10*g* (10.1.4.2.0) patch. For example:

  Original COREid Server: *np/ois_01/identity*

  Clone COREid Server: *clone_np/ois_01/identity*

  Destination Name: *1014/identity*

  Original Access Manager: *np/webcomponent_01/access*

  Clone Access Manager: *clone_np/webcomponent_01/access*

  Destination Name: *1014/webcomponent/access*

- **For Schema Upgrades**: You use the same destination as you did when creating and populating the new branch. There is no need to create a new destination nor obtain the tools for this procedure.

Languages: When your earlier installation includes languages other than English, the 10*g* (10.1.4.0.1) libraries and files that you extract should include the same Language Packs as the original instance. Only after upgrading and before applying the 10*g*

(10.1.4.3) patch should you follow instructions in "Preparing Upgraded Environments for 10g (10.1.4.3) Language Packs" on page 14-3.

Set Up and Validation Caveats: After extracting 10*g* (10.1.4.0.1) component libraries and files and applying Release 10.1.4 Patch Set 1 (10.1.4.2.0), you will not have a fully configured instance. However, you will have everything needed to perform zero downtime upgrade activities, including a destination directory for the instance to be upgraded.

Cleaning Up the Obsolete Schema: After extracting the Identity Server and Policy Manager component libraries and files, the `kCleanupObsoleteSchema` parameter in the obmigratedsparams.lst file is set to `false`. This will ensure that the obsolete schema is not cleaned up. As a result, the original system can coexist with the cloned system. If you have only the Identity System, you perform steps only for the Identity Server.

WebGates: These upgrades can be deferred until all other components are upgraded. You extract 10*g* (10.1.4.0.1) WebGate libraries and files and patch these only when upgrading original WebGate instances. If you decide to uncouple your clone and original deployments, you will need to add new WebGates to the upgraded clone system to replace original WebGates. For more information, see "About Isolating the Original and Cloned Environments" on page 15-22.

The following task overview describes specific extraction requirements to support out-of-place zero downtime upgrades. You will not perform a full component installation. Instead, you will extract only the component libraries and files and then stop the installation process.

> **Note:** Do not extract any 10*g* (10.1.4.0.1) component libraries and files until you are instructed to do so during later zero downtime upgrade tasks. You will only extract component libraries and files; you will not perform a full installation.

Task overview: Destination creation

1. Ensure that the host computer meets all Oracle Access Manager 10*g* (10.1.4.0.1) requirements, as described in:
   - "Hardware Requirements for Zero Downtime Upgrades" on page 15-6
   - "Bringing Host Computers to Oracle Access Manager 10.1.4 Support Levels" on page 16-3
2. When directed to do so in later procedures, create the clone, source, and destination paths. For example, when upgrading a clone:

   Original Instance: *np/ois_01/identity*

   Clone Instance: *clone_np/ois_01/identity*

   Source Name: *clone_np/ois_01/identity_source*

   10.1.4 Destination Name: *clone_np/ois_01/identity*

   > **Note:** When creating and populating a new oblix branch, you do not need to create a source directory. Instead, create only a new destination for the 10.1.4 libraries and files. For details about creating a source and destination for original component upgrades, see "About Upgrading Original Identity System Instances" on page 17-4.

3. When directed to do so in later procedures, perform the following extraction tasks on the computer that is hosting the instance to be upgraded (whether a clone or an original instance).
   a. Perform any prerequisite tasks as described in the discussion that directed you here.
   b. Locate and launch the appropriate Oracle Access Manager 10*g* (10.1.4.0.1) component installer for the instance and platform. For more information, see the *Oracle Access Manager Installation Guide*.
   c. Respond to questions about the license, and about languages. For details about languages, see the *Oracle Access Manager Installation Guide*.
   d. When asked for the installation directory, specify the destination path for the instance (this typically must match the initial name of the clone or original instance before it was renamed to create the source). For example: */clone_np/ois_01/identity*.
   e. Write the destination path in your planning document if you have not already done so.

      You are notified that the component libraries and files are being installed (extracted), which can take several seconds.
   f. When all component libraries and files are extracted, click Cancel.

      Note: Do not continue the installation. You have all that is needed to apply the patch (Release 10.1.4 Patch Set 1 (10.1.4.2.0)).

   g. Proceed to "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)".

Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)

After extracting 10*g* (10.1.4.0.1) component libraries and files to create a destination path for the upgrade (whether clone or original), you must apply Release 10.1.4 Patch Set 1 (10.1.4.2.0). You apply the patchset to the destination path that you created in the previous procedure. This will enable you to obtain the script and utilities that are required for an out-of-place zero downtime upgrade. The file system path will not change when you apply the patch.

As you patch component libraries and files, a backup folder is created that contains the files that should be restored if you remove the patch. The backup files are stored in the identity|access folder, at the same level as the \oblix directory. For example, when you patch the Identity Server, the back up directory is located in: a path like the following

IdentityServer_install_dir\identity\backup-Oracle-101401RC*n*-binary_parameter
IdentityServer_install_dir\identity\backup-Oracle-101401RC*n*-message_en-us

Release 10.1.4 Patch Set 1 (10.1.4.2.0) Application and Removal Conditions

Before you can apply Oracle Access Manager Release 10.1.4 Patch Set 1 (10.1.4.2.0), you must ensure that the host computer meets 10*g* (10.1.4.2.0) support requirements. In addition, the following conditions apply:

- Before you upgrade using the zero downtime method you will extract Oracle Access Manager 10*g* (10.1.4.0.1) component libraries and files, and then apply Release 10.1.4 Patch Set 1 (10.1.4.2.0).

- When upgrading using the zero downtime method, you will use the 10*g* (10.1.4.2.0) MigrateOAM script to create a new directory branch and to upgrade the earlier component instance.
- **Configuration or Policy DNs Containing a Space**: In this case only, before you create a new directory server branch using Oracle Access Manager tools, you must apply Bundle Patch 10.1.4.2.0-BP04 (or the latest 10*g* (10.1.4.2.0) bundle patch).

  When the latest 10*g* (10.1.4.2.0) bundle patch is applied to the 10*g* (10.1.4.2.0) clone of the first installed Identity Server (and the 10*g* (10.1.4.2.0) clone of the first installed Access Manager), the Mkbranch tool can replace the old configuration or policy DN with the new one even if the old one includes a space.

The following procedure provides steps to obtain the patch set and steps to help you verify that the patch set was properly applied. Detailed patch set application instructions are located in the *Oracle Access Manager Patch Set Notes Release 10.1.4 Patchset 1 (10.1.4.2.0) For All Supported Operating Systems*.

To obtain and apply Release 10.1.4 Patch Set 1 (10.1.4.2.0)

1. Locate Patch **5957301** on My Oracle Support (formerly MetaLink) to obtain Release 10.1.4 Patch Set 1 (10.1.4.2.0), as follows:
   a. Go to the My Oracle Support site and log in as usual:

      `http://metalink.oracle.com`

   b. From the **Quick Find** list, choose **Patch Number**, in the empty field to the right, enter **5957301**, and then click **Go**.
   c. On the Patch 5957301 page, click the **Download** button beside each zip file name.
   d. **Readme**: Click the **View Readme** button to display the Release Notes, which you can print to review the list of bugs fixed, enhancements, and more.
2. Use instructions in the *Oracle Access Manager Patch Set Notes Release 10.1.4 Patchset 1 (10.1.4.2.0) For All Supported Operating Systems* to apply the 10*g* (10.1.4.2.0) patch to your 10*g* (10.1.4.0.1) component libraries and files in the destination:
   - Identity Server
   - WebPass
   - Policy Manager
   - Access Server
   - WebGate
3. Confirm that the version file in the destination path is updated to 10*g* (10.1.4.2.0) (np*version_component*.txt). For example:

   IdentityServer_install_dir\identity\oblix\config\np1014_is.txt

   *WebPass_install_dir**webcomponent*\identity\oblix\config\np1014_wp.txt

   *PolicyManager_install_dir**webcomponent*\access\oblix\config\np1014_am.txt

   AccessServer_install_dir\access\oblix\config\np1014_aaa.txt

   *WebGate_install_dir**webgate*\identity\oblix\config\np1014_wg.txt
4. Verify that the history of the files in Install_Log was updated automatically, by looking for: *Component_install_dir*\identity or *Component_install_dir*\access.

5. Look for the back up files that were created during the patch operation. For example:

   IdentityServer_install_dir\identity\backup-Oracle-101401RC*n*-binary_parameter
   IdentityServer_install_dir\identity\backup-Oracle-101401RC*n*-message_en-us

6. **Making a New Branch**: If you have configuration or policy DN with a space, you must apply Bundle Patch 10.1.4.2.0-BP04 before you create a new branch in the directory server. For details, see "Creating and Populating a New `oblix` Branch" on page 16-37.
7. Back up the Web server configuration file using instructions from your vendor and details in "Backing Up the Existing Web Server Configuration File" on page 8-8.
8. **Windows**: Back up the updated registry data for the patched component as described in "Backing Up Windows Registry Data" on page 8-9.

Copying Configuration and Policy Data to a New Branch in the LDAP Directory Server

After creating clones, you need to create a new branch in the LDAP directory server and then copy the configuration and policy data from the original `oblix` branch into the new branch. Copied information includes details such as workflow specifications and configuration data that govern the appearance and functionality of the Identity System and Access System.

After populating the new branch with a copy of the data, you will reconfigure cloned components to use the new branch. Your original installation will continue to use the original branch. Only during the final zero downtime upgrade tasks, will you upgrade and reconfigure original components to use the new branch.

For complete instructions, see the following topics:

- About Creating and Populating a New Branch in the LDAP Directory Server
- Creating and Populating a New `oblix` Branch

You might also need the topic, "Rolling Back Changes Made for the New `oblix` Branch" on page 16-41.

About Creating and Populating a New Branch in the LDAP Directory Server

Oracle Access Manager supports storing user data, Oracle Access Manager configuration data, and policy data on a single directory server.Alternatively, you can store user data separately on one directory server type and Oracle Access Manager configuration and policy data on a different type of directory server. For example, you might store user data in Active Directory and Oracle Access Manager configuration and policy data on ADAM (or Oracle Internet Directory).

When storing user data on a separate directory server *type* from configuration and policy data, Oracle recommends that you observe the following guidelines:

- Ensure that all user data is stored on the same directory server type.
- Ensure that configuration and policy data are stored on the same type of directory server.

You must manually create the new branch node to contain the copy of the configuration and policy data. Generally this is created as a child node of original

configuration base (also known as the configuration DN) and policy base (also known as the policy DN). When data is stored separately you can create parallel nodes.

Identity System Only: When you have only the Identity System, there is no policy data. In this case, you perform this procedure for only the clone of the first COREid Server that was installed and set up. In this case, the configuration data is copied.

Joint Identity and Access System: When you have a joint Identity and Access System with configuration and policy data stored together in the same LDAP directory server node, both are copied at one time. However, if policy data is stored in a different branch or on a different directory instance, you must repeat this operation with the clone of the first installed Access Manager to copy policy data into the new branch.

Suspend Operations, All Environments: Oracle recommends that you start this procedure by notifying all administrators to suspend operations that would result in the alteration, addition, or removal of information in the LDAP directory server. This suspension should last from the time you copy the data until you finish all zero downtime upgrade activities. Here is a partial list of operations that should be suspended:

- Processing workflow tickets
- Applet-based modifications such as workflow creation, change, or removal
- Modifying user profiles
- Modifications to "Challenge" and "Response" attributes
- Creating, changing, or deleting new policies
- Creating, changing, or deleting authentication schemes
- Creation of host identifiers
- Creating of deleting directory server profiles
- Updating object classes
- Updating the access attribute control, delegated administrators, or setting the searchbase
- Any other operations that result in the alteration, addition, or removal of information in the LDAP directory server

After suspending operations, you will create the new node for configuration and policy data. Oracle recommends that you back up the directory server instance and your earlier Oracle Access Manager data in the original branch in the LDAP directory server.

Note: There are no tools to automatically enforce the suspension of operations that affect your data. There is an alternative that you can use if data in your original environment is changed after you upgrade the clone system and before you upgrade the original system. For more information, see "About Retrieving Changes to the Original Branch Before Upgrading Original Instances" on page 15-23.

Obtaining the Tools: Before you populate the new branch, you need to extract 10*g* (10.1.4.0.1) Identity Server component libraries and files, and apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) as described in "About Destination Creation and Obtaining Tools for a Zero Downtime Upgrade" on page 16-28. You will then run the

MigrateOAM script in Mkbranch mode from the 10*g* (10.1.4.2.0) Identity Server directory.

If you have a joint Identity and Access System, you must also extract 10*g* (10.1.4.0.1) Policy Manager component libraries and files, and apply Release 10.1.4 Patch Set 1 (10.1.4.2.0). You will run the MigrateOAM script in Mkbranch mode from the 10*g* (10.1.4.2.0) Policy Manager file system directory.

Note: If the old configuration or policy DN includes a space, you must apply Bundle Patch 10.1.4.2.0-BP04 to avoid a potential problem when creating the new branch. For details, see "Creating and Populating a New `oblix` Branch" on page 16-37.

Destination Path: When you extract the libraries and files, you can specify any installation path that you like. After extracting the libraries and files, the 10*g* (10.1.4.2.0) MigrateOAM script might be located in a path similar to the following sample:

Windows:

1014\identity\oblix\tools\migration_tools\MigrateOAM.bat
*1014**webcomponent*\access\oblix\tools\migration_tools\MigrateOAM.bat

Linux:

/*home/1014*/identity/oblix/tools/migration_tools/MigrateOAM.sh
/*home/1014/webcomponent*/access/oblix/tools/migration_tools/MigrateOAM.sh

In this situation, you do not need to create a source and you do not need to name the destination after an existing instance. In the sample path names:

- *1014*\identity refers to the file system directory where the 10*g* (10.1.4.2.0) Identity Server component libraries and files reside.
- *1014**webcomponent*\access refers to the file system directory where the 10*g* (10.1.4.2.0) Policy Manager (formerly known as the Access Manager component) component libraries and files reside.

Using MigrateOAM: Table 16–2 shows the arguments that you must supply to copy configuration and policy data from the original branch in the LDAP directory server into the new branch. The new branch node must exist in the LDAP directory server before you use the script. The MigrateOAM script will call utilities that prompt you for the new configuration DN and policy DN and then automatically copy configuration and policy data from the original branch in the LDAP directory server into the new branch. Sample file system path names are provided to help illustrate the task. Your details will be different.

Table 16–2 MigrateOAM Mkbranch Command Summary

MigrateOAM Mkbranch Parameters	Values and Operations
-M Mkbranch	Specify Mkbranch as the mode. The Mkbranch mode is required to copy the schema and configuration and policy data from the original branch to the new branch in the LDAP directory server.
-C *component*	Specify OIS (Identity Server) to copy configuration data and policy data. Specify AM (Access Manager) to copy policy data that is stored separately from configuration data.
-F *nnn*	Specify the number that identifies your earlier release. For example: 610 (for 6.1 or 6.1.1), 650 (for 6.5.x), or 700 (for 7.x)
-T 1014	Specify1014 as the release to which this data will eventually be upgraded.
-S *"source directory"*	Specify the full path to the directory that contains the cloned Identity Server or Access Manager (in quotation marks). For example: ■ Identity Server: -S *"C:\clone_np\ois_*01\identity" ■ Access Manager: -S *"C:\clone_np\webcomponent_*01\access"
-D "*destination directory"*	Specify the full path to the directory that contains the latest MigrateOAM script for the component you have specified (in quotation marks). For example: ■ Identity Server: -D *"C:\1014*\identity" ■ Access Manager: -D "C:*1014\webcomponent*\access"
-I *"installation directory*"	The installation directory should be the same as the specified destination. For example: ■ Identity Server: -D *"C:\1014*\identity" ■ Access Manager: -D "C:*1014\webcomponent*\access"

The full command and options for configuration data must be entered as one contiguous line.

During execution, messages keep you informed about the process and you are asked to specify the location of the new `ConfigDN`. In this case, the configuration DN defines the new node in the directory tree under which the copied information is to be stored.

If configuration data and policy data are stored separately, you are asked for the new `Policy base` when you run the Mkbranch command with the clone of the first installed Access Manager. In this case, the policy base defines the new node in the directory tree under which the copied information is to be stored.

If you have configuration or policy DN with spaces, you must apply Bundle Patch 10.1.4.2.0-BP04 before you create a new branch in the directory server. However, do not use these patches when performing any other upgrade task. For details, see "Creating and Populating a New `oblix` Branch".

For more information about the storage of user data, configuration data, and policy data, as well as details about searchbases and configuration and policy DNs, see the *Oracle Access Manager Installation Guide*.

Creating and Populating a New `oblix` Branch

You use the procedure in this topic to create a new branch in the LDAP directory server, and then populate it with a copy of the configuration and policy data from the original branch.

Caution: Oracle recommends that you review all information in "About Creating and Populating a New Branch in the LDAP Directory Server" before you perform activities here.

The following procedure includes sample configuration and policy DNs for both an original branch and a new branch. Also included, are sample path names for the libraries and files that you extract and patch as well as sample paths names for a clone of the first installed COREid Server and the clone of the first installed Access Manager. Your environment and specifications will be different. Some steps are conditional and should only be performed if your deployment includes that condition. Step 3 in the following procedure is one example of a conditional step.

To copy existing configuration and policy data to a new branch

1. Ensure that the directory server is ready, as described in "Preparing Directory Server Instances and Data" on page 16-3.
2. Notify administrators to suspend any operations that will add, change, or remove configuration or policy data from the LDAP directory server until all components are upgraded and configured to use the new branch (including clones and original instances). For more information, see the list of operations earlier in this topic.
3. **Configuration and Policy Data are Stored Together**: Create a new node in the LDAP directory server to contain copied configuration data. For example:

   Original Configuration DN: *o=company,c=us*
   New Configuration DN: *o=Newbranch,o=company,c=us*

4. **Configuration and Policy Data are Stored Separately**: Perform Step 3 for configuration data, and then create a new node in the LDAP directory server (as a child node of your original policy base) to contain copied policy data. For example:

   Original Policy Base: *o=Policy_base,o=company,c=us*
   New Policy Base: *o=NewPolicyBase,o=Policy_base,o=company,c=us*

5. Back up the original branch in the LDAP directory server and perform the following tasks as described in Chapter 5 topics:
   - Backing up Oracle Access Manager Configuration and Policy Data
   - Backing Up User and Group Data
   - Backing Up Workflow Data
   - Archiving Processed Workflow Instances
6. **First Installed COREid Server Clone**: On the computer hosting the clone of the first COREid Server that was installed and set up:
   a. Create a **Destination**: Extract 10*g* (10.1.4.0.1) Identity Server component libraries and files into a new destination path. For more information, see "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28. For example:

      1014\identity

   b. **Obtain 10*g* (10.1.4.2.0) Tools**: Apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the Identity Server component libraries and files that you just extracted, as

described in "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32.

c. **Configuration DN with Spaces**: In this situation only, perform the following steps to apply Bundle Patch 10.1.4.2.0-BP04 (or a later 10*g* (10.1.4.2.0) bundle patch) to the 10*g* (10.1.4.2.0) Identity Server component libraries and files that you extracted when obtaining the tools in Step b.

   a. Go to the My Oracle Support site and log in as usual:

      `http://metalink.oracle.com`

   b. From the **Quick Find** list, choose **Patch Number**, in the empty field to the right, enter **7113405**, and then click **Go**.

   c. On the Patch 7113405 page, choose your platform from those listed, and then click the **Download** button beside each zip file name.

   d. Unzip the files and locate the *Oracle Access Manager Bundle Patch Notes 04 for Release 10g (10.1.4.2.0) for Linux, Microsoft, and Solaris Operating Systems*.

   e. Apply the bundle patch to the clone of the first installed COREid Server using steps in the bundle patch notes.

Note: You can include Bundle Patch 10.1.4.2.0-BP04 when creating a new branch only. Do not apply Bundle Patch 10.1.4.2.0-BP04 for any other upgrade task.

---

7. Change to the file system path that contains the MigrateOAM script for the Identity Server instance. For example:

```
cd 1014\identity\oblix\tools\migration_tools
```

8. Enter the following command on one line, without breaks, to run MigrateOAM in Mkbranch mode and then specify the new configuration DN when it is requested. For example:

```
1014\identity\oblix\tools\migration_tools>MigrateOAM.bat -M Mkbranch
-C OIS -F 610 -T 1014 -S "C:\clone_np\ois_01\identity" -D "C:\1014\
\identity" -I "C:\1014\identity"

...
Enter new ConfigDN : o=Newbranch,o=company,c=us
The tool ran successfully
Press enter key to continue ... ENTER
...
Importing data to directory server.....
The tool ran successfully
Press enter key to continue ... ENTER
```

9. Proceed as follows:

   - **Copy Successful, Data Stored Together (for Identity System Only)**: A message tells you that data was imported to the LDAP directory server and that the tool ran successfully. Proceed to "Validating Successful Operations in Your Environment" on page 16-69 before you configure cloned components to use the new branch.

Note: Do not repeat these steps with any other COREid Server instance. Making a new branch is a one time activity with a single COREid Server. If you have a joint Identity and Access System with configuration and policy data stored separately, you will perform Step 10.

- **Copy Successful, Separate Data**: When you have configuration and policy data stored separately in a joint Identity and Access System, proceed to Step 9.
- **Copy Not Successful**: Perform activities in "Recovering from Problems With Populating the New Branch" on page 16-41. Also, see the MakeBranch.log file in *destination_dir*/oblix/tools/MakeBranch.log.

10. **First Installed Access Manager Clone**: On the computer hosting the clone of the first Access Manager that was installed and set up:

    a. **Create a Destination**: Extract 10*g* (10.1.4.0.1) Policy Manager component libraries and files in a new destination path. For more information, see "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28. For example:

    1014\webcomponent

    b. **Obtain the Tools**: Apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the Policy Manager component libraries and files that you just extracted, as described in "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32.

    c. **Policy DN with Spaces**: In this situation only, perform the following steps to apply Bundle Patch 10.1.4.2.0-BP04 (or a later 10*g* (10.1.4.2.0) bundle patch) to the 10*g* (10.1.4.2.0) Policy Manager component libraries and files that you extracted when obtaining the tools in Step b.

        a. Go to the My Oracle Support site and log in as usual:

        http://metalink.oracle.com

        b. From the **Quick Find** list, choose **Patch Number**, in the empty field to the right, enter **7113405**, and then click **Go**.

        c. On the Patch 7113405 page, choose your platform from those listed, and then click the **Download** button beside each zip file name.

        d. Unzip the files and locate the *Oracle Access Manager Bundle Patch Notes 04 for Release 10g (10.1.4.2.0) for Linux, Microsoft, and Solaris Operating Systems*.

        e. Apply the bundle patch to the clone of the first installed Access Manager using steps in the bundle patch notes.

    Note: You can include Bundle Patch 10.1.4.2.0-BP04 (or a later 10*g* (10.1.4.2.0) bundle patch) only when creating a new branch. Bundle Patch 10.1.4.2.0-BP04 has no impact on any other upgrade task.

    ---

11. Copy the policy data if it is stored separately, as follows.

    a. Change to the file system path containing the 10*g* (10.1.4.2.0) MigrateOAM script for the Policy Manager instance. For example:

    ```
    cd 1014\webcomponent\access\oblix\tools\migration_tools
    ```

b. Run MigrateOAM in Mkbranch mode for the Policy Manager to copy policy data that is stored separately to the new branch, and respond to prompts appropriately for your environment. For example:

```
1014\webcomponent\access\oblix\tools\migration_tools>MigrateOAM.bat -M
Mkbranch -C AM -F 610 -T 1014 -S "C:\clone_np\webcomponent_01\access" -D
"C:\1014\webcomponent\access" -I "C:\1014\webcomponent\access"

...
Enter new Policy Base : o=NewPolicyBase,o=Policy_base,o=company,c=us
The tool ran successfully
Press enter key to continue ... ENTER
...
Importing data to directory server.....
The tool ran successfully
Press enter key to continue ... ENTER
....
```

c. **Copy Successful**: A message tells you that data was imported to the LDAP directory server and that the tool ran successfully. Proceed to "Validating Successful Operations in Your Environment" on page 16-69 before you configure cloned components to use the new branch.

Note: Do not repeat these steps with any other Access Manager instance. Making a new branch is a one time activity with a single Access Manager.

---

d. **Copy Not Successful**: Perform activities in "Recovering from Problems With Populating the New Branch". Also see the MakeBranch.log file in *destination_dir*/oblix/tools/MakeBranch.log.

Recovering from Problems With Populating the New Branch

If the directory connection failed during the Mkbranch operation, ensure that the LDAP directory server is live and online.

You can check the MakeBranch.log file in *destination_dir*/oblix/tools/MakeBranch.log to locate the point of failure. For example, the setup.xml file might not have been read

If the old configuration or policy DN includes a space, and you did not apply Bundle Patch 10.1.4.2.0-BP04 (or later), the Mkbranch tool might not be able to replace the old configuration or policy DN with a new one.

You can remove the new configuration and policy node that you added to the LDAP directory server so that you can retry the procedure "Copying Configuration and Policy Data to a New Branch in the LDAP Directory Server" anew.

If you do not want to continue upgrading and you want to return to the earlier release, see "Rolling Back Changes Made for the New `oblix` Branch".

Rolling Back Changes Made for the New `oblix` Branch

If you have a problem after populating the new branch, you might need to roll back changes.

You can perform Step 1 to remove the new nodes that you added to the LDAP directory server, and then create and populate the branch anew. You can perform all

steps in the following procedure to undo all changes to the environment for the zero downtime upgrade and return to the original setup and release.

After rolling back all changes, you will have only the original installation and release available for use. In this case you can use the original installation, or start an in-place upgrade, or restart the zero downtime upgrade from the beginning.

To roll back changes made for the new `oblix` branch

1. Remove the branches in the LDAP directory server that were added for the new configuration and policy DNs.
2. Remove the following from host computers:
   - Clone file system directories
   - 10*g* (10.1.4.0.1) component libraries and files to which you applied Release 10.1.4 Patch Set 1 (10.1.4.2.0)
   - Any file system directories that you have added or that were added automatically as part of any upgrade process
   - The Web server instance for the clones, and any cloned applications that are protected by Oracle Access Manager and that operate with this Web server
3. From the original System Console, remove all clone profiles.
4. Confirm that your original setup is operating properly.

Configuring Cloned Components and Services

You perform activities in this section only after creating the new branch (or branches) in the LDAP directory server that were contain a copy of the configuration and policy data.

To ensure that all cloned components are configured properly and that the Identity System and Access System are configured to operate with the data in the new branch, you perform tasks in this section with every cloned component instance. Individual topics in the following task overview provide step-by-step instructions that you can follow when you are ready to do so.

Task overview: Reconfiguring cloned components to use the new branch includes

1. Configuring Cloned COREid Server Services and Details
2. Configuring Cloned WebPass Instances to Operate with Cloned COREid Servers
3. Setting Up the Cloned COREid System to Use the New Branch
4. Setting Up Cloned Access Managers to Use the New Branch
5. Configuring Cloned Access Servers

   Note: You should not have a cloned WebGate. There is no need to reconfigure the SDK.

6. Rolling Back Changes for Reconfigured Clones

Removing Setup Files: At the start of some tasks outlined in the previous overview, you will be instructed to remove several items:

- setup.*
- configInfo.*
- \ldap subdirectory (if there is one)

New versions of these files will be generated during reconfiguration and set up. At the conclusion of the browser-based set up procedures that you perform in tasks 3 and 4, these files will contain the new configuration DN and policy DN. Removing these files when instructed will help ensure that the Identity Server service will start up after set up.

Configuring Cloned COREid Server Services and Details

You perform the following procedure using command-line tools that are available within each cloned COREid Server file system directory. On a Windows system, you first need to configure the clone COREid Server service. On all systems, you need to configure the cloned component based on the information for the clone in the System Console.

> **Note:** In tool names, the abbreviation "ois" refers to the Oracle Identity Server

Windows: To add the cloned COREid Server service entry to the Windows registry, you first run config_ois.exe. The config_ois.exe tool is stored in the file system directory of the clone: \identity\oblix\apps\common\bin. The sample path shown next contains two COREid Server clones, which are used for load balancing. Your environment will be different. For example:

*clone_np**ois_01*\identity\oblix\apps\common\bin\config_ois.exe
*clone_np**ois_02*\identity\oblix\apps\common\bin\config_ois.exe
and so on.

Table 16–3 lists the options and parameters that you will use with the config_ois tool. When you have multiple COREid Server clones, you must perform this task for each instance individually.

Table 16–3 Options for config_ois (Windows Only)

Command Options	Operation
-i *"clone_dir"*	Specifies the full directory path (in quotation marks) to the cloned COREid Server. For example: **Windows**: -i "C:*clone_np**ois_01*\identity" **UNIX**: -i "*/home/clone_np/ois_01*/identity"
-v *clone_COREidServer_service*	Specifies the unique name of this cloned COREid Server Service.
-a *install*	Specifies the action to be performed. In this case, use install as the action.

The command must be entered as one line without breaks. As the command runs, messages keep you informed.

> **Note:** Be sure to specify the information for each clone instance based on what is entered in the System Console for that instance.

All Platforms: You run the setup_ois (Windows) and start_setup_ois (non-Windows) tool to configure the host name, port, and other details for the cloned instance. When you run this tool, you will use only the -i option and specify the cloned instance file system path, as shown in Table 16–4.

Table 16–4 setup_ois and start_setup_ois parameters

Command Options	Operation
-i *"clone_dir*"	Specifies the full file system path (in quotation marks) to the cloned COREid Server. For example: **Windows**: -i "C:*clone_np**ois_01*\identity" **UNIX**: -i "*/home/clone_np/ois_01*/identity"

Be sure to enter the command and parameters on a single line. You will be prompted to provide details for the cloned instance, including:

- The unique clone COREid Identifier
- The clone COREid Server Hostname
- The port on which the clone COREid Server listens.
- The security mode for the clone.
- Whether this is the first installed COREid Server: Answer No

Be sure to specify information for each clone instance based on the information for the instance in the System Console. Answer "No" when asked if this is the first COREid Server in the installation. When you have multiple COREid Server clones, you must perform this task for each instance individually.

When the command finishes, the clone is reconfigured based on the information that you supplied. The ois_server_config.xml file in *clone_dir*\identity\oblix\config file system directory will reflect the details that you supplied. For more information about these tools, see your *Oblix NetPoint or Oracle COREid Administration Guide*.

Browser-Based Setup: After reconfiguring the cloned COREid Server, you need to reconfigure the cloned WebPass. After reconfiguring WebPass, you will also need to perform a browser-based setup for the cloned Identity System. Details are provided in later topics as you need them.

Audit Policy Data for a Joint Identity and Access System: During COREid Server reconfiguration in a joint Identity and Access System, audit policy values might be returned to original default values as shown in Table 16–5. Step 1 of the following reconfiguration procedure directs you to export your audit policy data to a Lightweight Directory Interchange Format (LDIF) file using an external tool. After reconfiguring the clone, you then import this data. LDIF files are ASCII format files that you can use to exchange and synchronize data between Lightweight Directory Access Protocol (LDAP) servers using an external tool. Details about using external tools is outside the scope of this manual.

Table 16–5 Example of Audit Policies Before and After Reconfiguring COREid Server Clones

	Event Name	Application Auditing Enabled	Audit Success	Audit Failure
Before Reconfiguring	Search	Yes	Yes	Yes
After Reconfiguring	Search	Yes	No	Yes

Specific file system paths and other details in the following procedure are shown only as an example. Your details will be different.

To reconfigure the cloned COREid Server service

1. **Audit Policy Correction for a Joint Identity and Access System**: On a computer hosting the cloned COREid Server, export the following nodes to a backup LDIF file (you perform this step one time only):

   ```
   obname=common,obpolicyContainerId=WebResrcDB, obcontainerId=Policies, o=oblix,
   your_new_configuration_DN

   obname=corpdir,obpolicyContainerId=WebResrcDB, obcontainerId=Policies,
   o=oblix,your_new_configuration_DN

   obname=objservcenter,obpolicyContainerId=WebResrcDB, obcontainerId=Policies,
   o=oblix,your_new_configuration_DN

   obname=userservcenter,obpolicyContainerId=WebResrcDB, obcontainerId=Policies,
   o=oblix, your_new_configuration_DN

   obname=groupservcenter,obpolicyContainerId=WebResrcDB, obcontainerId=Policies,
   o=oblix, your_new_configuration_DN
   ```

2. On a computer hosting the cloned COREid Server instance, delete the following files from the file system path \identity\oblix\config directory. For example:

   *clone_np**ois_01*\identity\oblix\config

   - setup.xml*
   - configInfo.xml*
   - \ldap subdirectory (if there is one)

3. **Windows, config_ois**: Perform the following steps to set up the registry entry for this clone:

   a. Change to the file system path that contains the config_ois tool for this clone. For example:

      ```
      cd \clone_np\ois_01\identity\oblix\apps\common\bin\config_ois.exe
      ```

   b. Run the config_ois.exe tool using the -i, -v, and-a parameters with specifications for this cloned instance. For example:

      ```
      config_ois.exe -i "C:\clone_np\ois_01\identity" -v clone_COREid_Service -a
      install
      ```

   c. Confirm that the COREid Server service entry was added to the Windows registry and that the component's messagedll.dll library was copied to the Windows/system32/messagedll.dll directory.

4. Change to the cloned file system path that contains the COREid Server set up tool:

   Windows: *clone_np**ois_01*\identity\oblix\tools/setup/setup_ois

   UNIX: */home/clone_np/ois_01*/identity/oblix/tools/setup/start_setup_ois

5. Run the tool using the following command parameters and provide specifications for your cloned COREid Server service and environment:

   Windows:

   ```
   setup_ois.exe -i "C:\clone_np\ois_01\identity"
   ```

UNIX:

```
./start_setup_ois -i "/home/clone_np/ois_01/identity"
```

6. Follow the on-screen prompts and respond with details for this cloned COREid Server instance and COREid Server service.
   a. Unique COREid Identifier: Enter the name of the clone COREid Service that you entered in the System Console.
   b. COREid Server Hostname: Enter the DNS host name where the clone COREid Server resides.
   c. COREid Server Port: Enter the port on which the clone COREid Server listens, as specified in the System Console.
   d. Security Mode [open\simple\cert]: Enter the mode that is specified in the System Console.
   e. Do you want to set up SSL between the COREid Server and the Directory Server [y/n]: Respond appropriately for your original connection.
   f. First COREid Server: Answer "No" when asked if this is the first COREid Server in the installation.
7. Check the ois_server_config.xml file in the clone file system path: \identity\oblix\config file system directory to ensure that it includes the details that you supplied during Step 6.
8. Proceed as follows:
   - **Successful**: If the information appears in the file mentioned in step 7, the operation was successful. Proceed to Step 9.
   - **Not Successful**: If the configuration DN does not appear in the files mentioned in step 7, the operation failed. In this case, see "Rolling Back Changes for Reconfigured Clones" on page 16-63.
9. Restart the cloned COREid Server service, and proceed as follows:
   - **Successful**: Proceed to Step 10 if you have a joint Identity and Access System. Otherwise, skip to step 11.
   - **Not Successful**: Confirm that the cloned COREid Server service is running.
10. Repeat steps 2 through 7 to configure and check every cloned COREid Server instance.

    Continue with Step 11 only after configuring every cloned COREid Server instance.
11. **Audit Policy Correction for a Joint Identity and Access System**: Perform the following steps (one time only) to replace default audit policy data with your original audit policy data:
    a. Delete the following nodes from the new branch in the directory (your new configuration DN):

```
obname=common,obpolicyContainerId=WebResrcDB, obcontainerId=Policies,
o=oblix, your_new_configuration_DN

obname=corpdir,obpolicyContainerId=WebResrcDB, obcontainerId=Policies,
o=oblix,your_new_configuration_DN

obname=objservcenter,obpolicyContainerId=WebResrcDB,
```

```
obcontainerId=Policies, o=oblix,your_new_configuration_DN

obname=userservcenter,obpolicyContainerId=WebResrcDB,
obcontainerId=Policies, o=oblix, your_new_configuration_DN

obname=groupservcenter,obpolicyContainerId=WebResrcDB,
obcontainerId=Policies, o=oblix, your_new_configuration_DN
```

b. Import the LDIF file that you created for audit policy data correction in Step 1.

12. Proceed to "Configuring Cloned WebPass Instances to Operate with Cloned COREid Servers".

Configuring Cloned WebPass Instances to Operate with Cloned COREid Servers

You use the procedure in this topic using command-line tools that are stored in the cloned WebPass file system directory. The tools enable you to reconfigure your cloned WebPass to communicate with cloned COREid Servers. This task is divided into the following phases:

- Web server configuration
- WebPass set up

Web Server Configuration: The tool that you use to configure a new Web server instance to operate with this WebPass clone is included in the file system path of the cloned WebPass. For example:

> **Windows**: *clone_np**webcomponent*_01\identity\oblix\apps\common\bin*toolname*
>
> **UNIX-based Systems**: */home/clone_np/webcomponent_01/*identity/oblix/tools/setup/InstallTools/*toolname*

In the example, the term UNIX-based systems refers to supported platforms such as Linux and Solaris. In the sample path *clone_np**webcomponent_01*\identity refers to one of two cloned WebPass instances on this host. The Web server configuration tool name depends upon the type of Web server you are using. For example:

- EditObjConf is used for Sun (formerly Netscape/iPlanet) Web servers
- EditHttpConf is used for Apache, Oracle HTTP Server, and IBM HTTP (IHS) Web servers
- configureIIS4webpass.bat is used for Microsoft Internet Information Server (IIS Web server for Windows environments)

The Web server configuration tool is interactive. You must provide all requested details for the WebPass clone.

During the update, the Web server configuration file is backed up automatically. The backup files are stored in the same directory as the original configuration file. For example, if your Web server instance is Apache the backup files are http.conf.ORIG, http.conf.ORIG1, http.conf.ORIG2. If you are using an iPlanet/SunOne Web server, configuration files are magnus.conf and obj.conf, which are stored as:

iPlanet/SunOne: *WebServer_install_dir*/https-*instanceName*/config

You need to restart the Web server instance each time you update the Web server configuration file. Changes will not take effect until you restart the Web server.

WebPass Set Up: After configuring the Web server to operate with the WebPass clone, you use the WebPass set up tool to enable the cloned WebPass to communicate with the cloned COREid Server. The tool is included in each cloned WebPass file system path but is named differently depending on the platform. For example:

Windows: *clone_np**webcomponent_01*\identity\oblix\tools\setup\setup_webpass

UNIX: */home/clone_np/webcomponent_01/*identity/oblix/tools/setup/start_setup_webpass

In the example, UNIX refers to supported UNIX-based platforms such as Linux and Solaris. Options for tool are shown in Table 16–6. When running this tool, you can specify only the -i option and all other information will be requested automatically. If you have multiple WebPass clone instances, you must repeat this operation with each clone instance.

Table 16–6 Options for setup_webpass and start_setup_webpass

Command Options	Operation
-i *"WebPass_clone_dir*"	Specifies the full directory path to (in quotation marks) your cloned WebPass is stored. For example: **Windows**: -i "C:*clone_np**webcomponent_01*\identity" **UNIX**: -i "*/home/clone_np/webcomponent_01*/identity"
-q -n *WebPass _name*	Specifies the unique name of this WebPass clone.
-h *clone_COREidServer_Hostname*	Specifies the computer name where the cloned COREid Server resides.
-p *clone_COREidServer_port_#*	Specifies the port number of the computer where the cloned COREid Server resides.
-s *mode*	Specifies the transport security mode for the cloned COREid Server and cloned WebPass: open or simple or cert.
-P simple | cert mode password	Specifies the password for either the Simple or Cert transport security mode.
-c request | install	Specifies a certificate request or installation

The command should be entered as one line, without breaks. As the command is performed, messages keep you informed and you might be asked to supply information for this WebPass clone. Be sure to specify information for the specific instance and environment.

The following procedure provides the steps that you need to perform. Steps 1 through 4 are related to Web server reconfiguration. In this example, the EditObjConf is used as an example. Steps 5 through 8 describe WebPass reconfiguration. After reconfiguring all WebPass clone instances, you perform step 9. Path and host names in following steps are presented as an example. Your details will be different.

To modify a cloned WebPass to operate with the cloned COREid Server

1. Change to the file system path that contains the Web server configuration update tool for the cloned WebPass. For example:

   ```
   cd
   ```

   Windows: *clone_np**webcomponent_01*\identity\oblix\apps\common\bin*toolname*

UNIX: */home/clone_np/webcomponent_ 01/*identity/oblix/tools/setup/InstallTools/*toolname*

In this sample path, *clone_np**webcomponent_01*\identity is the file system where the cloned WebPass resides and EditObjConf is the name of the Web server configuration update tool for this (Sun) Web server.

2. Run the update tool using the -f, -d, and -i options with specifications for the cloned WebPass, and then respond to prompts with details for your environment. For example:

   Windows:

   ```
   EditObjConf.exe -f "C:\clone_Webserver_config_dir" -d "C:\clone_np\
   webcomponent_01\identity" -i
   ```

   UNIX:

   ```
   ./EditObjConf -f "/home/clone_Webserver_config_dir" -d "/home/clone_np/
   webcomponent_01/identity" -i
   ```

3. Note the location of the backed up Web server configuration file that is created automatically during this operation.
4. Restart the Web server.
5. Proceed as follows:
   - **Successful**: Status messages tell you that this operation was successful. Afterward, you can compare the back up copy of the Web server configuration file with the updated version. Proceed to Step 5.
   - **Not Successful**: Proceed to "Rolling Back Changes for Reconfigured Clones" on page 16-63.
6. Change to the file system path that contains the set up utility for the cloned WebPass instance. For example:

   ```
   cd
   ```

   Windows: *clone_np**webcomponent_01*\identity\oblix\tools\setup\setup_webpass

   UNIX: */home/clone_np/webcomponent_01/*identity/oblix/tools/setup/start_setup_webpass

7. Run the tool using the following options (see also Table 16–6) and specifications for your cloned environment. For example:

   ```
   setup_webpass -i "C:\clone_np\webcomponent_01\identity"
   ```

8. Follow the on-screen prompts and respond with details for this cloned WebPass and the associated COREid Server clone.
   a. Unique WebPass Identifier: Enter the name of the clone WebPass that appears in the System Console.
   b. COREid Server Hostname: Enter the DNS host name where the associated clone COREid Server resides.
   c. COREid Server Port: Enter the port on which the associated cloned COREid Server listens, as specified in the System Console.

d. Security Mode [open\simple\cert]: Enter the mode that is specified in the System Console.

9. Proceed as follows:
   - **Successful**: Proceed to Step 9.
   - **Not Successful**: Proceed to "Rolling Back Changes for Reconfigured Clones" on page 16-63.
10. Repeat this entire procedure to reconfigure every cloned WebPass.
11. When all cloned WebPass instances are reconfigured, proceed to "Setting Up the Cloned COREid System to Use the New Branch".

Setting Up the Cloned COREid System to Use the New Branch

After configuring all cloned COREid Servers and WebPass instances, you perform tasks in this topic to set up the cloned COREid System to use the new configuration DN.

During this browser-based set up, you will need to provide some details from the original installation: for example, the LDAP directory server type, the location of user data, and the searchbase that was defined when you set up the original COREid System. You can locate these details in the setup.xml file within the original file system path of the first COREid Server to be installed. In this example, the file will be stored within *np611\ois_01*\identity\oblix\config\setup.xml. For more information about setting up the COREid System, see your earlier *NetPoint or Oracle COREid Installation Guide.*

Extra Directory Profiles for Split Directory Configurations: When you have data stored separately, extra directory server profiles containing the old configuration DN might be created during the COREid Server reconfiguration. For example, you might have user data stored in Active Directory and policy and configuration data stored in ADAM.

All the directory server profiles are stored in the directory server under `obcontainerId=DBAgents,o=Oblix,<Config DN>`. When a profile is created during system setup, the name in the System Console is same in the backend directory server under the mentioned node. However, when profiles are manually created, the nodes in the backend directory server are created with a timestamp as their name. Example 16–3, illustrates a directory profile created in a typical 10.1.4 installation.

Example 16–3 LDAP Directory Profile for Oracle Access Manager

```
obcontainerId=DBAgents,o=Oblix,dc=us,dc=oracle,dc=com
-obname=default-IDSERVER,obcontainerId=DBAgents, o=Oblix,dc=us,dc=oracle,dc=com
-obname=AccessManager_setup_user_profile,obcontainerId=DBAgents, o=Oblix,dc=us,
dc=oracle,dc=com
-obname=AccessServer_default_user_profile,obcontainerId=DBAgents, o=Oblix,dc=us,
dc=oracle,dc=com
```

After setting up the clone COREid Server and WebPass, you need to check for and then delete the "Oblix Base" profile for the original COREid Server because this profile does not include the new configuration DN. Before you set up the Access Manager clone, you will also need to delete the "Policy Base" profile for the original Access Manager because it does not include the new policy DN.

Note: Removing "Oblix Base" and "Policy Base" profiles for the original COREid Server and the original Access Server is required only when data is stored in a split directory server configuration.

Tools to Remove Extra Directory Server Profiles: When the profiles are in a consistent state, you can delete them from the System Console. However, if you cannot delete the older profiles using the System Console, you will have to use external tools to perform the removal.

Note: While using external tools is outside the scope of this manual, you can view an example of steps to remove an extra profile using the LDP Console program in "Alternative: Using the External LDP Console to remove a profile" on page 16-53. These are only an example.

The following procedure provides the steps that you must perform to set up the clone COREid System for the new branch. Path and host names are provided as an example only. Your details will be different. For more information about setting up the COREid System, see your *Oblix NetPoint or Oracle COREid Installation Guide*.

To set up the cloned COREid System with the new branch

1. Locate original details for the installation in the setup.xml in the original COREid Server installation directory. For example:

   Original: *np611*\identity_01\oblix\config\setup.xml

2. Ensure that the Web server that is serving the clone WebPass is running and go to the cloned COREid System Console, as usual. For example:

   Clone:

   ```
   http://hostname:port/identity/oblix/
   ```

   In the sample URL, *hostname* refers to computer that hosts the cloned WebPass Web server; *port* refers to the HTTP port number of the new Web server instance for the WebPass clone; and /identity/oblix connects to the cloned COREid home page that includes the COREid System Console link.

   The cloned WebPass will connect to the cloned COREid Server and launch the setup page.

3. Click the COREid (or Identity) System Console link.

   The clone System Console setup page appears.

4. Click the Setup button.

5. Follow the on-screen instructions and those here to set up the cloned Identity System:

   a. Confirm LDAP directory server details for the new directory branch.

   b. Enter the root bind DN for user data.

   c. Enter the new configuration DN and the original user data searchbase. For example:

      Configuration DN—*o=Newbranch,o=company,c=us*

Searchbase—Supply the original searchbase

d. Finish this setup procedure leaving all other details as they are.

e. Restart the clone COREid Server service when instructed to do so by an on-screen message.

6. Go to the \identity\oblix\config file system directory and confirm that the new information you supplied appears in the following files:
   - setup.xml
   - configInfo.xml
   - \ldap directory
7. Go to the clone COREid System Console and verify that the Directory Server profile for the cloned COREid Server has the new configuration DN, as follows:
   a. Go to your clone COREid System Console, as usual.

      ```
      http://hostname:port/identity/oblix/
      ```

   b. From the COREid System Console click the System Admin tab, then click the System Configuration tab.
   c. Click Configure Directory Options in the left column to display the Configure Profiles page.
   d. Click the name of an existing directory profile to display its specifications.
   e. Confirm that the new configuration DN appears in the profile.
8. **Extra Directory Profiles in a Split Directory Server Configuration**: When you have data stored in different directory servers, perform the following steps to remove any directory profiles that contain original (older) configuration or policy DNs in a split directory server situation:
   a. From your clone COREid System Console, click the System Admin tab, then click the System Configuration tab.
   b. Click Configure Directory Options in the left column of the System Configuration tab.
   c. On the Configure Directory Server profiles page, check the box beside the name of any old directory profile that is present with the old configuration DN.

      Note: Do not select or delete the original LDAP directory server profile, or any profile that you or the team added for the cloned set up.

   d. Click the Delete button to remove the extraneous LDAP directory server profile.
   e. When prompted, click OK to confirm your decision.

      Note: If you cannot delete the profile using the System Console you need to use external tools to remove the older profiles as described in "Alternative: Using the External LDP Console to remove a profile" on page 16-53.

9. Restart cloned COREid Server services (and Access Manager Web servers).
10. Proceed as follows:
    - **Configuration Successful, Identity System Only**: Proceed to "Upgrading the Schema During a Zero Downtime Upgrade" on page 16-63.
    - **Configuration Successful, Joint Identity and Access System**: Proceed to "Setting Up Cloned Access Managers to Use the New Branch" on page 16-54.
    - **Configuration Not Successful**: Remove the files named in Step 6 and re-run setup_ois (Windows) or start_setup_ois (non-Windows) as described in "Configuring Cloned COREid Server Services and Details" on page 16-43. Otherwise, see "Rolling Back Changes for Reconfigured Clones" on page 16-63.

If you need to remove an extra profile using an external tool, the following sample procedure might be helpful. Using external tools is outside the scope of this manual.

Alternative: Using the External LDP Console to remove a profile

1. Open the Console using ldp.exe.
2. From the Connection tab, select Connect.
3. Enter the LDAP directory server computer name and port, and then click OK.
4. Select the Bind from the Connection tab.
5. In the User text box, enter the bind DN for your LDAP directory server; enter the password; ensure that the domain is unchecked; click OK.

   Success is indicated by an message saying "Authenticated....". Otherwise, an error message appears.
6. Proceed as follows:
   - **Successful**: Proceed with Step 7.
   - **Not Successful**: Retry the bind operation again and ensure that you enter the exact bind DN and password.
7. Select Tree from the View tab.
8. Enter the configuration DN (Identity Server or policy DN for the Access Manager) for the LDAP directory server, then click OK.
9. Select the new node that was created during the make branch operation (Mkbranch).
10. Within the new node, locate the node that starts with the following:

    ```
    obcontainerId=DBAgents,OU=Oblix,OU=NewNode.....
    ```

11. Within the node you located, check for extra profiles by looking for attribute values (mostly identified by profile name).
12. After confirming the extra profile is to be deleted, right-click the profile and then select Delete.
13. Verify the node in the DN field; if it is the correct one, check all boxes (extended, synchronous and recursive), and then click OK.
14. Ensure that you receive a message confirming the removal. For example "deleted 1 entries."

Setting Up Cloned Access Managers to Use the New Branch

You perform this task only if you have a joint Identity and Access System. Otherwise, skip to "Upgrading the Cloned Identity System" on page 16-73.

This task is divided into two parts.

Task overview: Configuring cloned Access Managers to use the new branch

1. Updating Cloned Access Manager Web Server Configuration Files
2. Setting Up the Cloned Access Manager to use the New Branch

Updating Cloned Access Manager Web Server Configuration Files

The steps that you perform to configure cloned Access Managers to operate with the new branch in the LDAP directory server are similar to the steps that you have already performed for the cloned COREid System. In this case, you update the Web server configuration file using the tools provided in your cloned Access Manager file system directory.

Web Server Configuration: The tool that you use to update the Web server configuration to operate with the cloned Access Manager resides in the cloned Access Manager file system path. For example:

Windows: *clone_np**webcomponent_01*\access\oblix\apps\common\bin*toolname*

UNIX: */home/clone_np/webcomponent_01*/access/oblix/tools/setup/InstallTools/*toolname*

In the sample path, *clone_np**webcomponent_01*\access refers to one of two cloned Access Manager instances. The name of the Web server configuration tool depends upon the type of Web server that you are using. For example:

- EditObjConf is used for Sun (formerly Netscape/iPlanet) Web servers
- EditHttpConf is used for Apache, Oracle HTTP Server, and IBM HTTP (IHS) Web servers
- configureIIS4accesssystem.bat is used for Microsoft Internet Information Server (IIS Web server for Windows environments)

The command must be entered on one line with no breaks. During the update, the Web server configuration file is backed up automatically. The backup files are stored in the same directory as the original configuration file. For example, if your Web server instance is Apache the backup files are http.conf.ORIG, http.conf.ORIG1, http.conf.ORIG2. If you are using an iPlanet/SunOne Web server, configuration files are magnus.conf and obj.conf, which are stored as:

iPlanet/SunOne: *WebServer_install_dir*/https-*instanceName*/config

You need to restart the Web server instance each time you update the Web server configuration file. Changes will not take effect until you restart the Web server.

The following procedure provides the steps that you need to perform. Path and host names are presented as an example only. Your details will vary.

To modify a cloned Access Manager Web server

1. Change to the file system path that contains the appropriate update tool for the Web server serving the clone Access Manager. For example:

   ```
   cd
   ```

Windows: *clone_np**webcomponent_01*\access\oblix\apps\common\bin*toolname*

UNIX: */home/clone_np/webcomponent_01*/access/oblix/tools/setup/InstallTools/*toolname*

2. Run the tool using the `-f`, `-d`, and `-i` options, and specifications for your cloned Access Manager; respond to any prompts with details for your environment. For example:

   Windows:

   ```
   EditObjConf.exe -f "C:\clone_Webserver_config_dir" -d "C:\clone_np\
   webcomponent_01\access" -i
   ```

   UNIX:

   ```
   ./EditObjConf -f "/home/clone_Webserver_config_dir" -d "/home/clone_np/
   webcomponent_01\access" -i
   ```

   In the sample path name, *clone_Webserver_config_dir* is the directory for the Web server configuration file that will be used with the cloned Access Manager.

3. Note the location of the backed up Web server configuration file that is created automatically during this operation.

4. Restart the Web server instance and confirm that the Access Manager Web server configuration update was successful and proceed as follows:

   - **Successful**: Proceed to "Setting Up the Cloned Access Manager to use the New Branch".
   - **Not Successful**: Proceed to "Rolling Back Changes for Reconfigured Clones" on page 16-63.

Setting Up the Cloned Access Manager to use the New Branch

After updating the configuration file of the Web server for the clone Access Manager, you need to set up the cloned Access Manager. You perform this task to use the cloned Access Manager is using the new configuration DN and policy DN.

During this browser-based setup you will need to provide details from the original installation. For example, you need to provide the LDAP directory server type, the location of user data, the searchbase, and the Person Object Class that was defined when you set up the original COREid System. You can locate the Person Object Class and other details in the setup.xml file within the original COREid Server file system. For example, *np611**ois_01*\identity\oblix\config\ setup.xml.

Note: If your starting release is 6.1.1, you will have files named setup.lst and configInfo.lst rather than setup.xml and configInfo.xml.

You will also need to supply new information, including the new branch in the directory where configuration and policy data are stored.

The following procedure provides the steps that you need to perform. Path and host names are presented as an example only. Your details will be different. For more information about setting up the Access Manager, see also your *NetPoint or Oracle COREid Installation Guide*.

To set up a cloned Access Manager to operate with the new branch

1. Locate details for the original installation in the setup.xml file of the original COREid Server. For example:

   Original Installation: *np611*\identity_01\oblix\config\setup.xml

2. Delete the following files in the file system path for the cloned Access Manager instance. For example:

   *clone_np**webcomponent_01*\access\oblix\config

   - setup.*
   - setup_am.*
   - configInfo
   - \ldap subdirectory (if there is one)

3. Ensure that the Access Manager Web server is running.

4. Go to the clone Access System Console.

   ```
   http://hostname:port/access/oblix/
   ```

   In the sample URL, *hostname* refers to computer that hosts the clone WebPass; *port* refers to the HTTP port number of the new Web server instance for the WebPass clone; /access/oblix connects to the clone Access System Console.

   The WebPass will connect to the cloned Access System Console.

5. Click the clone Access System Console link to display the Setup page, and then click the Setup button.

6. Set up the Access Manager to use the new configuration DN and policy base, as follows:

   a. Enter and confirm LDAP directory server details, including the LDAP directory server type and the location and details for user data and configuration data.

   b. Enter information for user data (the original search base), and the new configuration DN and new policy DN (base). For example:

      Search Base—Enter the original searchbase.

      Configuration DN—*o=Newbranch,o=company,c=us*

      Policy Base——*o=NewPolicyBase,o=Policy_base,o=company,c=us*

   c. Proceed through remaining Access Manager setup pages and leave all other details as they are.

   d. Enter the original Person Object Class that was selected during the original COREid System setup.

   e. Restart the Web server and Identity Server service when instructed to do so.

   f. After the Web server restarts, click Next and accept the default Policy Domain Root (or specify the root for your original installation).

   g. Continue, but do not configure authentication schemes or policies to protect NetPoint URLs.

   h. Click done when set up is complete.

7. Verify that the Directory Server profile has the new configuration DN and policy base, as follows:

a. Go to the clone Access System Console, as usual.

   `http://hostname:port/access/oblix/`

b. Click Access System Console, click System Configuration, then click Server Settings.

c. Click the Directory Server link to display the Directory Server Configuration page.

d. Confirm that the configuration DN and the policy base are correct for the new branch in the directory, and then click Cancel.

e. **Extra Directory Profiles in a Split Directory Server Configuration**: Check for and remove any extra directory server profiles containing the old configuration DN that might have been added for the Access Manager and Access Server. For more information, refer to the discussion about extra profiles in "Setting Up the Cloned COREid System to Use the New Branch" on page 16-50 and see *Oracle Access Manager Identity and Common Administration Guide*.

Note: Do not select or delete the original LDAP directory server profile, or any profile that you or the team added for the cloned set up.

---

8. Proceed as follows:
   - **Successful**: Proceed with Step 9.
   - **Not Successful**: Remove the files named in Step 2 and re-run browser-based setup as described in this procedure. Otherwise, perform to "Rolling Back Changes for Reconfigured Clones" on page 16-63.
9. In the configuration files for this clone instance, confirm that the new configuration DN appears. For example:

   *clone_np**webcomponent_01*\access\oblix\config
   - setup.* (setup.xml is the name on the COREid Server but setup.lst was used for Access Manager 7.0 and earlier)
   - setup_am*
   - configInfo
10. Proceed as follows:
   - **Successful**: If the new configuration DN and policy base appear in the files mentioned in step 9, the operation was successful. Proceed to Step 11.
   - **Not Successful**: If the new configuration DN and policy base do not appear in the files mentioned in step 9, the operation failed. In this case, perform this entire procedure again. Otherwise, see "Rolling Back Changes for Reconfigured Clones" on page 16-63.
11. Repeat the following procedures to reconfigure every cloned Access Manager instance:
   - Updating Cloned Access Manager Web Server Configuration Files
   - Setting Up the Cloned Access Manager to use the New Branch

12. When all cloned Access Manager instances are reconfigured, proceed to "Configuring Cloned Access Servers".

Configuring Cloned Access Servers

You perform this task only if you have a joint Identity and Access System deployed. Otherwise, skip to "Upgrading the Cloned Identity System" on page 16-73.

You will use the configureAAAserver.exe tool (Windows) to perform this procedure. On UNIX-based platforms this tool is called start_configureAAAServer. The tool is stored in the file system path for the instance. The name of the file differs between platforms. For example:

Windows: *clone_np**aaa_01*\access\oblix\tools\configureAAAServer\configureAAAServer.exe

UNIX: */home/clone_np/aaa_01*/access/oblix/tools/configureAAAServer/start_configureAAAServer

These are interactive tools. After starting the tool, you will be asked to provide details for the cloned Access Server, including:

- The transport security mode for the cloned Access Server
- The security mode in which the user directory is running
- The host computer on which the user directory resides
- The port number on which the user directory listens
- The bind DN of the user directory
- The password of the user directory
- The directory type for user data
- The location where copied oblix (configuration) data is stored
- The new configuration DN
- The new policy base
- The cloned Access Server ID
- Start the Access Server service
- Specify failover information if you want to

The information that you enter for each clone must match the information for the clone that appears in the System Console.

Extra directory profiles containing the old configuration DN might be created for cloned Access Servers during this reconfiguration. You will be instructed to remove any extra directory profiles when you verify the reconfigured Access System.

Path and host names in the following procedure are samples only. Your details will be different. For more information, see the *NetPoint or Oracle COREid Administration Guide* for information on the configureAAAserver tool and LDAP directory server configurations.

To reconfigure a cloned Access Server to use the new branch

1. Change to the file system path that contains the configureAAAserver tool for the clone Access Server. For example:

`cd`

Windows: *clone_np**aaa_01*\access\oblix\tools\configureAAAServer\configureAAAServer.exe

UNIX: */home/clone_np/aaa_01*/access/oblix/tools/configureAAAServer/start_configureAAAServer

2. Run the tool using the `install` option. For example:

   Windows:

   ```
   configureAAAServer.exe install "C:\clone_np\aaa_01\access"
   ```

   UNIX:

   ```
   ./start_configureAAAServer install "/home/clone_np/aaa_01/access"
   ```

3. Read the on-screen prompts and specify details for your clone when prompted.
   - The transport security mode for the cloned Access Server
   - The security mode in which the user directory is running
   - The host computer on which the user directory resides
   - The port number on which the user directory listens
   - The bind DN of the user directory
   - The password of the user directory
   - The directory type for user data
   - The location where copied oblix (configuration) data is stored
   - The new configuration DN
   - The new policy base
   - The cloned Access Server ID
   - Start the Access Server service
   - Specify failover information if you want to
4. Write the name of the cloned Access Server service, then restart the service (do not specify or update the failover information).
5. Confirm that the information you entered is included in the aaa_server_config.xml file (in the *clone_np**aaa_01*\access\oblix\config\aaa_server_config.xml).
6. Proceed as follows:
   - **Successful**: If the new policy base appears in the files mentioned in step 6, the operation was successful. Proceed to Step 7.
   - **Not Successful**: If the new policy base does not appear in the files mentioned in step 5, the operation failed. In this case:
     - Check migration log files for any errors reported during the upgrade, as described in "Accessing Log Files" on page G-2.
     - Check your event and Access Server log output files. For more information about logging and log output files, see the *Oracle Access Manager Identity and Common Administration Guide*.
     - See "Rolling Back Changes for Reconfigured Clones" on page 16-63.

7. Verify that the LDAP directory server profile for the cloned Access Server has the new configuration DN and policy base, as follows:

   a. Go to the clone Access System Console, as usual.

      `http://hostname:port/acces/oblix/`

   b. Click Access System Console, click System Configuration, then click Server Settings.

   c. Click the Directory Server link to display the Directory Server Configuration page.

   d. Confirm that the new configuration DN and the policy base are correct for the copied directory, and then click Cancel.

   e. **Extra Directory Profiles in a Split Directory Server Configuration**: Check for and remove any extra directory server profiles containing the old configuration DN that might have been added for the Access Manager and Access Server. For more information, refer to the discussion about extra profiles in "Setting Up the Cloned COREid System to Use the New Branch" on page 16-50 and see the *Oracle Access Manager Identity and Common Administration Guide*.

      Note: Do not select or delete the original LDAP directory server profile, or any profile that you or the team added for the cloned set up.

8. Proceed as follows:

   - **Successful**: Perform this entire procedure to configure each Access Server clone and then proceed to step 10.
   - **Not Successful**: Proceed to "Rolling Back Changes for Reconfigured Clones" on page 16-63.

9. When all Access Server clones are configured for the new policy base, proceed to "Upgrading the Schema During a Zero Downtime Upgrade" on page 16-63.

Isolating Environments

This task is optional. This is helpful when you plan to have an extended testing and familiarization period with the upgraded cloned environment. The clone environment and the original environment are upgraded and operate independently whether you perform this optional task or not. The two environments will share the upgraded schema, whether you perform this optional task or not.

You can perform this optional task at any time after you reconfigure clones to use the new branch in the LDAP directory. You can add new WebGates to the cloned environment. However, adding new WebGates can only be done after upgrading the entire clone setup. Until then, retain original WebGates that are associated with cloned Access Servers.

You can choose to isolate either the clone environment, the original environment, or both environments:

- Immediately after reconfiguring clones

Caution: Retain original WebGates that are associated with cloned Access Servers until you have upgraded the entire clone system.

- Immediately after upgrading clones
- Not at all

As discussed in "About Isolating the Original and Cloned Environments" on page 15-22, if the clone profiles are removed from the original System Console and you decide to perform a roll back and restart the clone upgrade, you must re-enter the clone profiles. Also, if you decide to retrieve new information that was added to the original branch you will need to reconfigure and upgrade clone instances again. In this case, you will need clone profiles in the original System Console.

For more information about isolating environments, see the following topics:

- Isolating the Clone Setup and Providing WebGate Coverage
- About Isolating the Original Setup

Isolating the Clone Setup and Providing WebGate Coverage

This task is optional. This procedure explains how you can isolate the upgraded clone setup.

To isolate the clone setup, you remove original instance profiles from the clone System Console. Within the clone setup, you will need to replace original WebGates with new WebGates. However, you can add new WebGates to the cloned environment only after upgrading the entire clone setup.

In an Identity System only environment, you disable or remove original COREid Server and WebPass profiles from the clone System Console. In a joint Identity and Access System, you also disable or remove original Access Server from the clone System Console.

Before you disable or remove original WebGate profiles that are associated with Access Server clones, you must add new WebGate instances to replace the functionality of the originals. You can add new WebGates to the cloned environment only after upgrading the entire clone setup. Until then, retain original WebGates that are associated with cloned Access Servers.

Oracle recommends that you have more than one WebGate to avoid downtime. Alternatively, you can keep the older WebGate and not upgrade it because it will work with the upgraded Access Server. Having only one WebGate will result in downtime when upgrading that WebGate (or when rolling back).

To isolate the clone setup and provide WebGate coverage

1. In the clone System Console:
   - Disable or remove profiles for original COREid Servers
   - Disable or remove profiles for original WebPass instances
   - Disable or remove original Directory Profiles
   - Disable or remove profiles for original Access Server
   - Do not disable or remove the profiles of original WebGates that are associated with clone Access Servers until you have upgraded the entire clone system.

2. **Add New WebGates After Upgrading and Validating the Upgraded Clone System**:
   a. In the clone Access System Console, add specifications for a new WebGate that match those of an original WebGate that is associated with a clone Access Server.

      Note: The WebGate name and port should be unique. For more information, see the *Oracle Access Manager Installation Guide*.

   b. In the clone Access System Console, associate the new WebGate with an Access Server clone.
   c. Install a 10*g* (10.1.4.0.1) WebGate and assign the WebGate identifier that you just added in the clone Access System Console, as described in the *Oracle Access Manager Installation Guide*.
   d. Apply the Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the new WebGate, as described in the *Oracle Access Manager Patch Set Notes Release 10.1.4 Patchset 1 (10.1.4.2.0) For All Supported Operating Systems.*
   e. Add as many new WebGates to the upgraded clone setup as you need by repeating Steps a through d.
3. Test the cloned system to ensure that it is operating properly with the new WebGates.
4. In the clone Access System Console, disable profiles for all original WebGates that are associated with Access Server clones.

About Isolating the Original Setup

This task is optional.

To isolate the original setup, you can disable or remove all clone profiles from the original System Console. In the System Console, there are no profiles for Access Managers. There are no clone WebGate instances or profiles.

To isolate the original setup

1. In the original System Console:
   - Disable or remove clone COREid Server profiles from the original System Console
   - Disable or remove clone WebPass profiles from the original System Console
   - Disable or remove clone Directory Profiles from the original System Console
   - Disable or remove clone Access Server profiles from the original System Console

     Caution: You can add new WebGates to the cloned environment only after upgrading the entire clone setup. Until then, retain cloned Access Server profiles that are associated with original WebGates.

2. Test the original system to ensure that it is operating properly.
3. Before you upgrade original instances, Oracle recommends that you:

- Determine whether you need to reconcile changes that might have been made in the original system or not. For details, see "About Retrieving Changes to the Original Branch Before Upgrading Original Instances" on page 15-23.
- Ensure that the clone setup is providing service to your customers. For details, see "Reconfiguring Domain Name Systems (DNS) to Use Upgraded Clones" on page 17-3.

Rolling Back Changes for Reconfigured Clones

To recover from a single issue and continue with a zero downtime upgrade, you can perform Step 1 and then re-create the clone and reconfigure it. Performing all steps in the following procedure will removes all traces of the cloned configuration from host computers and the System Console.

If you want to use the original release (or switch to using the in-place method described elsewhere in this manual), perform all steps in the following procedure.

To roll back changes for reconfigured clone components

1. Shut down clone services and Web servers and remove the clone file system directory.
2. Remove the following items from host computers:
   - Clone file system
   - 10*g* (10.1.4.0.1) component libraries and files to which you applied Release 10.1.4 Patch Set 1 (10.1.4.2.0)
   - Any file system directories that you have added or that were added automatically as part of any upgrade process
   - The Web server instance for the clones
   - The branches in the LDAP directory server that were added for the new configuration and policy DNs
3. From the original System Console, remove all clone profiles if they exist.
4. Confirm that your original setup is operating properly.

Upgrading the Schema During a Zero Downtime Upgrade

Oracle recommends that you upgrade the schema after configuring earlier cloned components to use the data in the new branch of the LDAP directory server. There is only one schema and it is used by both originals and clones.

Only the schema is upgraded during this operation. The Identity System schema includes objectclasses and their attributes. Depending on how your data is stored, you might need to upgrade the Access System schema. For more information, see the following topics:

- About Upgrading the Schema
- Upgrading the Identity System Schema
- Upgrading the Access System Schema

About Upgrading the Schema

This topic describes considerations and methods for upgrading the schema. The terms "first installed COREid Server" and "first installed Access Manager" refer to the first

instance of the respective component that was installed and set up in the original environment. These are the instances that were used when you added the schema to the directory server and initially set up the original Identity and Access Systems.

To upgrade the schema you will use the 10*g* (10.1.4.2.0) MigrateOAM script. It will be available in the destination file system path that is created when you extract 10*g* (10.1.4.0.1) Identity Server libraries and files and then apply Release 10.1.4 Patch Set 1 (10.1.4.2.0).

If you need to upgrade the Access System schema, you will also need the 10*g* (10.1.4.2.0) MigrateOAM script that is available in the destination file system path that is created when you extract the 10*g* (10.1.4.0.1) Policy Manager libraries and files and then apply Release 10.1.4 Patch Set 1 (10.1.4.2.0).

Guidelines for Upgrading the Schema with the Zero Downtime Upgrade Method

You might perform the schema upgrade more than once, depending on how data is stored in your environment. The following guidelines will help you determine how to approach the schema upgrade in your environment:

- **All Data Stored Together**: If you have user data, configuration data (sometimes referred to as oblix data), and policy data stored together in the same directory server (or when you have no Access System and no policy data), you execute MigrateOAM in Schema mode with the clone of the first installed COREid Server instance and provide the bind credentials for the single LDAP directory server.
- **User Data Stored Separately from Configuration and Policy Data**: If you have user data in one directory server and configuration and policy data in another, you must execute MigrateOAM in Schema mode, as follows:
  - One time with the clone of the first installed COREid Server instance using bind credentials for user data
  - Another time with the clone of the first installed COREid Server using credentials for the configuration and policy data.
- **All Data Stored Separately**: If you have user data in one directory server, configuration data in another, and policy data in a third, you must run MigrateOAM in Schema mode as indicated here:
  - One time with the clone of the first installed COREid Server instance and user data credentials
  - A second time with the clone of the first installed COREid Server instance and configuration data credentials
  - A third time with the clone of the first installed Access Manager instance and policy data credentials
- **User Data Stored in Multiple Directory Servers**: Each directory server can have different credentials. In this case, you need to run MigrateOAM in Schema mode once for each directory server where you have user data stored (and specify the credentials for the particular directory server each time you run the script).

  When you have user data divided across more than one directory server, before you upgrade the schema you must upload the appropriate *directoryserver*_user_schema_add.ldif for all but the first directory server instance. The first directory server instance is the one that was specified when you initially installed and set up the original COREid Server. This is when the initial directory server profile was created. Additional directory server profiles were added at a later time. As a result, the schema that was uploaded during installation is not automatically loaded for other directory server instances.

Each ldif file is prefixed with a specific directory server type. The *directoryserver_*user_schema_add.ldif file is located in the clone of the *COREidServer_install_dir* \identity\oblix\data\common file system directory. In most cases, you use the ldapmodify tool to perform the update. For example:

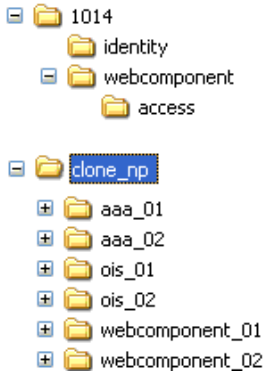
```
ldapmodify -h DS_hostname -p DS_port_number -D bind_dn -w password -a -c
-f iPlanet_user_schema_add.ldif
```

Note: With Oracle Internet Directory, Oracle recommends that you set the LDAP_PASSWORD_PROMPTONLY variable to TRUE or 1 to disable the less secure -w and -P *password* options whenever possible, and use the -q (or -Q) options, to prompt you for the user password (or wallet password).

For more information about manual schema update files, see the *Oracle Access Manager Installation Guide*.

The example in this chapter presumes that you have configuration data and policy data stored separately. In this case, you will need to upgrade the Identity System schema and the Access System schema independently. Figure 16–7 illustrates two file system directories that will be used for the sample schema upgrade.

Figure 16–7 New 1014 and Clone File System Directories



Based on the example depicted in Figure 16–7, the MigrateOAM script for the schema upgrade will be stored in the *destination_dir*. For example:

1014\identity\oblix\tools\migration_tools\MigrateOAM.bat
*1014**webcomponent*\access\oblix\tools\migration_tools\MigrateOAM.bat

In the sample path names, *1014*\identity is where the 10*g* (10.1.4.2.0) Identity Server is stored, and *1014**webcomponent*\access contains the 10*g* (10.1.4.2.0) Policy Manager.

Table 16–7 lists the arguments that you specify with the MigrateOAM script in Schema mode. You run the script in Schema mode only with the clone of the first installed COREid Server (and the clone of the first installed Access Manager, if policy data is stored separately).

Table 16–7 MigrateOAM Script, Schema Mode Syntax

MigrateOAM Schema Upgrade Syntax	Values and Operations
-M Schema	Specify Schema as the mode. Schema mode is required to upgrade the schema new branch in the directory as well as in the old branch. This occurs all at one time.
-C *component*	Specify OIS (Oracle Identity Server) to upgrade Identity System schema. Specify AM (Access Manager) to upgrade the Access System schema that is stored separately from configuration data.
-F *nnn*	Specify the number that identifies your earlier release. For example: 610 (for 6.1 or 6.1.1), 650 (for 6.5.x), or 700 (for 7.x)
-T 1014	Specify 1014 as the release to which the schema will be upgraded.
-S *"source directory"*	Specify the full path name (in quotation marks) to the directory that contains the cloned earlier Identity Server or Access Manager. For example: ■ Identity Server: If -C *OIS*, then -S *"C:\clone_np\ois*_01\identity" ■ Access Manager: If -C *AM*, then -S *"C:\clone_np\webcomponent*_01\access"
-D *"destination directory"*	Specify the full path name (in quotation marks) to the directory that contains the 10*g* (10.1.4.2.0) MigrateOAM script for the component you have specified. For example: ■ If -C *OIS*, then -D *"C:\1014*\identity" ■ If -C *AM*, then -D *"C:\1014\webcomponent*\access"
-I *"installation directory*"	The installation directory should be the same as the destination directory. For example: ■ -I *"C:\1014*\identity" ■ -I *"C:\1014\webcomponent*\access"
-B "bind DN"	Specify the distinguished name in quotation marks ("cn=Directory Manager", for example) that has full permissions for the user and configuration branches of the directory information tree (DIT). Oracle Access Manager will access the LDAP directory server as this account.
-W Bind password	Specify the password for the user specified as the bind DN.

The schema upgrade process and messages will be repeated for every release between your starting release (6.1.1 for example) and the latest release. As a result, you will see the same sequence of messages and prompts when the schema is upgraded. Oracle recommends that you use Automatic rather than Confirmed mode for the quickest upgrade. Oracle also recommends that you do not skip any processes. For more information, see "About Schema Mode Processing" on page 15-28.

For details and steps to upgrade the schema, see the following topics:

- Upgrading the Identity System Schema
- Upgrading the Access System Schema

Upgrading the Identity System Schema

You use the following procedure to upgrade the Identity System schema. Both clone and original component instances will use the upgraded schema.

The upgraded schema offers backward compatibility with the earlier schema. If you back up the earlier schema before upgrading, using a third-party utility, you should be able to reinstate the backup copy if you decide to roll back to the original release. Details about external utilities is outside the scope of this manual.

Depending on how your data is stored, you might have to perform the Identity System schema upgrade more than one time. For more information, see details in "Guidelines for Upgrading the Schema with the Zero Downtime Upgrade Method" on page 16-64.

Path names and the starting release in the following procedure are samples only, as shown in Table 16–7. Your path names and starting release might differ.

Caution: Oracle recommends that you review all information about upgrading the schema before you begin the following procedure. There is no automated way to roll back a schema upgrade.

To upgrade the Identity System schema

1. Perform activities to back up the schema before the upgrade, as described in "Backing up the Earlier Oracle Access Manager Schema" on page 5-17.
2. Ensure that the directory server is ready, as described in "Preparing Directory Server Instances and Data" on page 16-3.
3. Upload schema update files when you have user data stored on multiple directory servers, as described at the beginning of this topic. For example:

   *clone_np**ois_01*\identity\oblix\data\common\iPlanet_user_schema_add.ldif

   ```
   ldapmodify -h DS_hostname -p DS_port_number -D bind_dn -w password -a -c -f
   iPlanet_user_schema_add.ldif
   ```

   Note: With Oracle Internet Directory, Oracle recommends that you set the LDAP_PASSWORD_PROMPTONLY variable to TRUE or 1 to disable the less secure -w and -P *password* options whenever possible, and use the -q (or -Q) options, to prompt you for the user password (or wallet password).

   ---

4. Change to the file system path that contains the MigrateOAM script for the 10*g* (10.1.4.2.0) Identity Server. For example:

   1014\identity\oblix\tools\migration_tools\MigrateOAM.bat

5. Run MigrateOAM in Schema mode to start upgrading your Identity System schema. For example:

   ```
   MigrateOAM -M Schema -C OIS -F 610 -T 1014 -S "C:\clone_np\ois_01\
   identity" -D "C:\1014\identity" -I "C:\1014\identity" -b "cn=bindDN"
   -W password
   ```

6. Respond to prompts during each sequence as follows:
   a. Use Automatic mode for each sequence so that you do not need to confirm each process.
   b. Do not skip any processes.
7. Review the log files (obmigratenp.log and obmigrateschema.log in *destination_dir*\identity\oblix\tools\migration_tools\to see if any errors occurred. For more information, see Appendix C.
8. Verify that the upgrade was successful and proceed as follows.

- **Successful with Data Stored Together (or Identity System Only)**: Proceed to "Validating Identity System Operations" on page 16-70.
- **Successful with Policy Data Stored Separately**: Proceed to "Upgrading the Access System Schema" on page 16-68 before you validate operations as described in "Validating Successful Operations in Your Environment" on page 16-69.
- **Not Successful**: Proceed to "Rolling Back After the Schema Upgrade" on page 16-72.

Upgrading the Access System Schema

You perform this task only when the following conditions apply to your cloned and original environments:

- If you have a joint Identity and Access System deployed
- If configuration data is stored separately from policy data
- If you have upgraded the Identity System schema for the LDAP directory containing user data

For more information, see "Guidelines for Upgrading the Schema with the Zero Downtime Upgrade Method" on page 16-64.

When these conditions apply to your environment, you perform steps in the following procedure using the clone of the first Access Manager that was installed and set up. You will run the MigrateOAM script from the 10*g* (10.1.4.2.0) Policy Manager directory. This is the same script that was used to make the new policy branch. It should already be stored in a file system directory on the computer hosting the clone of the first installed Access Manager: *1014**webcomponent*\access, for example.

Running MigrateOAM in Schema mode to upgrade the Access System schema is similar to running MigrateOAM in schema mode to upgrade the Identity System schema. For example, as described in Table 16–7, you specify Access System details as follows:

- -M Schema
- -C AM
- -S ***"C:\clone_np\webcomponent_01\access***" is the source directory for the clone of one of two Access Manager instances on this host computer
- -D ***"C:\1014*\webcomponent\access"** is the destination for the Access System schema upgrade, which contains the 10*g* (10.1.4.2.0) Policy Manager libraries and files and the MigrateOAM script
- -I ***"C:\1014*\webcomponent\access"** is the same as the destination
- -B "bind DN" specifies the distinguished name of the user with full permissions for the directory information tree (DIT)
- -W bind password specifies the password for the user specified with -b parameter

The upgrade occurs for every release between your starting release and the latest release. Oracle recommends that you use Automatic rather than Confirmed mode for the quickest upgrade. Oracle also recommends that you do not skip any processes.

Path names and the starting release in the following procedure are samples only, as shown in Table 16–7. Your path names and starting release might differ.

Caution: Oracle recommends that you review all information about upgrading the schema before you begin the following procedure.

To upgrade the Access System schema

1. **IIS Web Server**: If the cloned Access Manager is operating with an IIS Web server, remove the 10*g* (10.1.4.2.0) Policy Manager installer before starting this procedure. For example:

   Oracle_Access_Manager10_1_4_0_1__sparc-s2_NSAPI_Access_Manager.exe

2. Change to the file system path that contains the MigrateOAM script for the 10*g* (10.1.4.2.0) Policy Manager. For example:

   *clone_np**1014**webcomponent*\access\oblix\tools\migration_tools\MigrateOAM.bat

3. Run MigrateOAM in Schema mode and specify arguments for the clone of the first installed Access Manager. For example:

   ```
   MigrateOAM -M Schema -C AM -F 610 -T 1014 -S "C:\clone_np\webcomponent_01\
   access" -D "C:\clone_np\1014\webcomponent\access" -I "C:\clone_np\1014\
   webcomponent\access" -b "cn=bindDN" -W password
   ```

4. Use Automatic mode for each sequence so that you do not need to confirm each process.

5. Review the log files (ogmigratenp.log and obmigrateschema.log) in the *destination_dir* to see if any errors occurred.

6. Verify that the Access System schema upgrade was successful and proceed as follows:

   - **Successful**: Proceed to "Validating Successful Operations in Your Environment" on page 16-69.
   - **Not Successful**: Proceed to "Rolling Back After the Schema Upgrade" on page 16-72.

Validating Successful Operations in Your Environment

The topics in this section describe how to validate successful operations in both your original and cloned environments at several critical points. The steps that you use are the same regardless of the environment you are validating (clone or original).

You will need to perform validation steps in both clone and original environments. Be sure to use the URL for the environment you are validating:

- **Clone Environment**: Use only URLs to your cloned System Console.
- **Original Environment**: Use only URLs to your original System Console.

Task overview: Validating successful operations

1. After the schema upgrade, validate operations in the cloned environment using URLs to your:

   - Cloned environment
   - Original environment

2. After clone upgrades, perform validation activities using URLs to your clone System Console.
3. After original upgrades, perform validation tasks using URLs to your original System Console.

The following list summarizes the environment in which you perform this validation:

- **Identity System**: Perform steps in "Validating Identity System Operations" on page 16-70.
- **Joint Identity and Access System**: Perform steps to validate the Identity System and then perform steps in "Validating Access System Operations" on page 16-71.

Validating Identity System Operations

To validate that the Identity System is working properly, you will perform tasks using the COREid System Console and applications that rely on the schema and data.

The following procedure provides steps and an outline of activities that you might perform to validate Identity System operations. Step 6 includes several suggestions about activities that you might want to perform. However, the actual tasks that you perform will depend on your environment. For example:

- If you are validating an original installation, be sure to use appropriate URLs to original components.
- If you are validating a cloned setup, use URLs to cloned components.

Caution: Oracle recommends that you do not make any changes to the data during the validation process. It is vital to learn whether the upgrade was successful by validating the system with the existing data only.

To validate a successfully operating Identity System

1. Identify the COREid System applications and functions that are affected by your upgrade and develop a plan to test these.
2. Ensure all COREid Server services and WebPass Web server instances are running.
3. Go to the COREid System Console from your browser by specifying the appropriate URL for your setup (clone versus original). For example:

   ```
   http://hostname:port/identity/oblix
   ```

   In the sample URL, *hostname* refers to computer that hosts the Web server; *port* refers to the HTTP port number of the WebPass Web server instance; /identity/oblix connects to the COREid System Console.

   The COREid landing page appears.

4. **Landing Page Does Not Appear**: Ensure that your COREid Server Service and WebPass Web server instance are running and confirm that you have entered the correct URL for the COREid System Console.
5. Log in as a Master Administrator.
6. Using the COREid System Console or applications, perform the following tasks, or others, to validate that the schema upgrade was successful:

- Review panels in the User Manager, Group Manager, or Organization Manager.
- Verify audit policies for the User Manager, Group Manager, or Organization Manager.
- Review attribute access control policies in the User Manager, Group Manager, or Organization Manager.
- Review the Master Auditing Policy and the Global Auditing Policy, if appropriate.
- Verify Password and Lost Password policies.
- Validate any workflow configuration details.
- Review object class definitions.
- Verify Identity Server and WebPass definitions; server settings; administrator information; and directory options.

7. Proceed as needed for your environment.
   - **Successful**: Proceed as needed for your environment and the next task you need to perform. For more information about the next task, see "Zero Downtime Upgrade Tasks and Sequencing" on page 15-16.
   - **Not Successful**: Proceed to "Rolling Back After the Schema Upgrade" on page 16-72.

Validating Access System Operations

You perform activities in this topic only if you have a joint Identity and Access System deployed. Otherwise, skip this topic.

To validate Access System operations, you perform tasks in the Access System Console and applications that rely on the schema and data.

- If you are validating an original setup, be sure to use URLs to original components.
- If you are validating a cloned setup, specify URLs to cloned components.

The following procedure provides steps and an outline of activities that you might perform to validate Access System operations. Step 6 includes several suggestions about activities that you might want to perform. However, the actual tasks that you perform will depend on your setup. For example:

Caution: Oracle recommends that you do not make any changes to the data during the validation process. It is vital to learn whether the upgrade was successful by validating the system with the existing data only.

To verify a successfully operating Access System

1. Identify the Access System applications and functions that might be affected and develop a plan to test these.
2. Ensure your Access Manager Web server and WebPass Web server instances are running.
3. Go to the Access System Console from your browser by specifying the appropriate URL for your environment (clone versus original). For example:

```
http://hostname:port/access/oblix
```

In the sample URL, *hostname* refers to computer that hosts the Web server; port refers to the HTTP port number of the WebPass Web server instance; /access/oblix connects to the Access System Console.

The Access System landing page appears.

4. **Landing Page Does Not Appear**: Ensure that your Identity Server Service and WebPass Web server instance are running and confirm that you have entered the correct URL for the Access System Console.
5. Log in to the Access System Console as a Master Administrator.
6. Perform any of the following tasks, or others, to validate the upgraded schema:
   - Review Access Server, Access Server Cluster, and Access Client details.
   - Validate authentication and authorization scheme details that are affected.
   - Examine reports data.
   - Review affected policy domains.
   - Review host identifiers
7. Proceed as follows:
   - **Successful**: Proceed as needed for your environment and the next task you need to perform. For more information about the next task, see "Zero Downtime Upgrade Tasks and Sequencing" on page 15-16.
   - **Not Successful**: Proceed to "Rolling Back After the Schema Upgrade" on page 16-72.

Rolling Back After the Schema Upgrade

Using this procedure will undo all changes, except the schema upgrade, so that you can return to your original setup. After performing this task you will have only the original setup and the upgraded schema.

The latest schema provides backward compatibility with your earlier schema. There are no automated tools to undo the schema upgrade. If you backed up the schema using external tools before the upgrade, you might be able to reinstate the original schema. Details about external tools are outside the scope of this manual.

To roll back after the schema upgrade

1. Shut down clone services and Web servers.
2. Remove the following from host computers:
   - Clone file system directories
   - 10*g* (10.1.4.0.1) component libraries and files to which you applied Release 10.1.4 Patch Set 1 (10.1.4.2.0)
   - Any file system directories that you have added or that were added automatically as part of any upgrade process
   - The Web server instance for the clones
   - The branches in the LDAP directory server that were added for the new configuration and policy DNs
3. From the original System Console, remove all clone profiles.

4. If you backed up the schema using external tools before the upgrade, you might be able to reinstate the original schema.
5. Confirm that your original setup is operating properly.

Upgrading the Cloned Identity System

After upgrading the schema and then validating successful operations, you are ready to upgrade cloned Identity System components.

When you upgrade the clone of the first installed COREid Server, configuration data that is stored in the new branch of the LDAP directory server is also upgraded. For more information about Identity System data, see "About Configuration and Policy Data Upgrades" on page 15-11.

The sequence of tasks that you must perform are outlined in the following topic and task overview. For more information, see individual topics for background details and step-by-step procedures that you can follow.

Note: When you have a single Web server instance serving more than one Oracle Access Manager Web component, the Web server must remain stopped until all serviced Web components on the host computer are upgraded.

Task overview: Upgrading the cloned Identity System

1. **Joint Identity and Access System**: Turning Off the Access Server Cache Flush
2. Preparing Cloned Identity System Components for the Upgrade, which includes backing up configuration data before you upgrade the clone of the first installed COREid Server instance
3. Upgrading Cloned COREid Servers
4. Upgrading Cloned WebPass Instances
5. Validating the Upgraded Cloned Identity System
6. Backing Up Upgraded Identity System Clones
7. Renaming Audit Files After Upgrading Identity System Clones
8. Upgrading Identity System Customizations

For information about recovering if there is a problem, see "Recovering From a Cloned Identity System Upgrade Failure" on page 16-86. For a look at what is next, see "Looking Ahead" on page 16-87.

Turning Off the Access Server Cache Flush

If you have a joint Identity and Access System deployment, before upgrading cloned components you must turn off the Access Server cache flush for each COREid Server (both clones and original COREid Servers). To do this, you locate the basedbparams.xml file in the following directory in both the original and cloned environment:

COREidServer_install_dir\identity\oblix\data\common\basedbparams.xml

and change the `doAccessServerFlush` parameter from `true` to `false`, as indicated in the following procedure.

To turn off the access server cache flush

1. Locate the basedbparams.xml file in the following file system path: \identity\oblix\data\common. For example:

   *clone_np**ois*_01\identity\oblix\data\common\basedbparams.xml

   *np611**ois*_01\identity\oblix\data\common\basedbparams.xml

2. Open the basedbparams.xml and edit the `doAccessServerFlush` parameter as follows:

   From:

   ```
   <SimpleList>
       <NameValPair ParamName="doAccessServerFlush" Value="true" />
   </SimpleList>
   ```

   To:

   ```
   <SimpleList>
       <NameValPair ParamName="doAccessServerFlush" Value="false" />
   </SimpleList>
   ```

3. Restart the COREid Server service (on the computer that is hosting the instance you just modified).
4. Repeat this procedure for each cloned (and original) COREid Server.

Preparing Cloned Identity System Components for the Upgrade

The procedures to prepare components for an upgrade are described in detail in Chapter 8 of this book. You must perform most of the same preparation tasks for cloned components before upgrading each clone, whether you perform a zero downtime upgrade or a in-place upgrade.

The following task overview outlines the tasks that you will be asked to perform for each clone before you upgrade it. The topics are located in Chapter 8.

Task overview: Preparing cloned Identity System components for the upgrade includes

1. Copying Custom Identity Event Plug-ins
2. Preparing Earlier Customizations
3. Preparing Host Computers, which includes the following topics:
   - Changing Read Permissions on Password Files
   - Confirming Free Disk Space
4. Preparing Release 6.x Environments
5. Preparing Multi-Language Installations
6. Backing Up File System Directories, Web Server Configurations, and Registry Details

   Note: With the zero downtime upgrade method, you do not need to create a backup of the file system directory. Instead, you will create a source that becomes a backup.

7. Stopping Servers and Services

8. Logging in with Appropriate Administrative Rights
9. **Clone of the First Installed COREid Server**: In addition to the activities in Steps 1-8, perform activities in Chapter 5, "Backing Up Existing Oracle Access Manager Data", which includes:
   - Backing up Oracle Access Manager Configuration and Policy Data
   - Backing Up User and Group Data
   - Backing Up Workflow Data
   - Archiving Processed Workflow Instances

Upgrading Cloned COREid Servers

This topic describes all activities that must be performed to upgrade individual COREid Server clones on each computer host. At the end of this topic you will find a step-by-step procedure that walks you through all activities in detail.

Caution: Oracle recommends that you review all information in this topic before proceeding with the activities.

Before you begin upgrading the clones, take the following considerations into account:

Clone of the First Installed COREid Server: When you upgrade the clone of the first COREid Server that you installed, the configuration data in the new branch of the LDAP directory server is upgraded in addition to component-specific data.Before you start this upgrade, Oracle recommends that you back up the configuration data in the new branch of the LDAP directory server.

Enabling multi-language capability occurs only when you are starting from a release 6.1.1 environment. In this case, it occurs only when you upgrade the clone of the first installed COREid Server and configuration data and only during the incremental upgrade from release 6.1.1 to release 6.5. During this phase, the \lang directory structure is added to your destination and the \en-us subdirectory is provided. Other language subdirectories are included for each additional language that you are upgrading. For more information, see Appendix A.

All COREid Server Clones: No configuration data upgrade occurs when upgrading other COREid Server clones. However, the component-specific configuration is upgraded with each COREid Server clone upgrade. This includes registry entries for Windows, plug-ins, and component configuration files.

Windows Registry Entries: When you upgrade from an earlier release to the later release, registry entries for the originally installed release are deleted and new entries are created for the latest release. After upgrading an instance, the registry entry for the earlier release is no longer available. Oracle recommends that you back up the registry for the source before the upgrade. For more information, see "Reinstating Original Windows Registry Entries During a Rollback Operation" on page 15-36.

Source, Destination, and Tools: You will start each upgrade by performing steps to ensure that for each cloned instance you have the 10*g* (10.1.4.2.0) MigrateOAM script in an appropriate location. These activities are introduced in "Preparation Tasks for the Zero Downtime Method" on page 15-12 and are summarized as follows:

- **Source Creation**: In the clone path, rename the subdirectory that contains the clone to create a source for the upgrade. The source also serves as a back up copy of the instance.

- **Destination Creation**: Extract 10*g* (10.1.4.0.1) Identity Server libraries and files and specify the same file system directory path that the clone had before you renamed it.
- **Obtaining the Tools**: Apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the 10*g* (10.1.4.0.1) instance to obtain the tools for the zero downtime upgrade.

To help illustrate the activities that you will be instructed to perform, Table 16–8 organizes sample file system path names in to columns that describe the progression of actions that you will take. Additional information follows Table 16–8. The sample path names are for Windows platforms. The paths in your environment might differ.

Table 16–8 Activities to Prepare for a Clone COREid Server Instance Upgrade

1 Clone Path	2 Source Creation	3 Destination Creation and Obtaining Tools
Identity Server Instances *clone_np**ois_01*\identity *clone_np**ois_02*\identity	Rename the subdirectory that contains each clone instance. For example: *clone_np**ois_01*\identity_source *clone_np**ois_02*\identity_source **Note**: You perform this step for each clone instance	After creating the source (see column 2): A. Extract 10*g* (10.1.4.0.1) Identity Server component libraries and files and specify the clone path as the installation (destination) directory. For example: *clone_np**ois_01*\identity **Note**: The destination path of the 10*g* (10.1.4.0.1) instance must exactly match the path of the clone before renaming (see column 1). See "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28. B. Apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the 10*g* (10.1.4.0.1) instance to obtain the tools for this upgrade. See "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32. C. Repeat steps A and B for each clone instance.

Table 16–8 organizes information to illustrate the steps that you will be instructed to perform before you start to upgrade individual clones:

- Column 1, Clone Path (left), identifies the file system path of individual cloned instances. In this example, two instances are used for load balancing purposes. This sample is on a Windows platform; your environment might be different.
- Column 2, Source Creation (center), provides an example of how you will rename the subdirectory of each clone instance to create a source (which is also a backup) for the clone upgrade.
- Column 3, Destination Creation and Obtaining Tools (right), outlines the steps that you must perform to create a destination for each instance upgrade and to obtain the 10*g* (10.1.4.2.0) MigrateOAM script.

After performing the activities outlined in Table 16–8, the 10*g* (10.1.4.2.0) MigrateOAM script and other files and utilities that are needed for the zero downtime upgrade will reside in the destination path of each COREid Server clone. For example:

*clone_np**ois_01*\identity\oblix\tools\migration_tools\MigrateOAM.bat
*clone_np**ois_02*\identity\oblix\tools\migration_tools\MigrateOAM.bat
and so on.

Zero Downtime Upgrade Tools: You launch the zero downtime upgrade for each clone instance using the MigrateOAM script in the destination path. Table 16–9 lists the arguments that you specify with the 10*g* (10.1.4.2.0) MigrateOAM script to execute the clone upgrade.

Table 16–9 MigrateOAM Script Arguments for COREid Server Clone Upgrade

MigrateOAM Clone Mode Syntax	Values and Operations
Change to the 10*g* (10.1.4.2.0) instance	Windows: *clone_np**ois_01*\identity\oblix\tools\migration_tools\MigrateOAM. bat UNIX: */home/clone_np/ois_01*/identity/oblix/tools/migration_tools/MigrateOAM.sh
-M Clone	Specify Clone as the mode. Clone mode is required to upgrade cloned components.
-C *component*	Specify OIS (Oracle Identity Server) to upgrade a cloned COREid Server. **Note**: Upgrade all COREid Server clones, on each computer, before upgrading any WebPass clones.
-F *nnn*	Specify the number that identifies your earlier release. For example: 610 (for 6.1 or 6.1.1), 650 (for 6.5.x), or 700 (for 7.x)
-T 1014	Specify1014 as the release to which this data will be upgraded.
-S "*source directory"*	Specify the full path (in quotation marks) to the renamed earlier COREid Server directory (see column 1 of Table 16–8). For example, on a Windows platform you specify: ■ -S *"C:\clone_np\ois*_01\identity_source" ■ -S *"C:\clone_np\ois*_02\identity_source" ■ and so on.
-D "*destination directory"*	Specify the full path (in quotation marks) to the cloned 10*g* (10.1.4.2.0) Identity Server directory that replaced the earlier instance directory (see columns 1 and 4 of Table 16–8). For example: ■ -D *"C:\clone_np\ois_01*\identity" ■ -D *"C:\clone_np\ois_02*\identity" ■ and so on.
-I *"installation directory"*	The installation directory should be same as the destination directory. For example: ■ -I *"C:\clone_np\ois_01*\identity" ■ -I *"C:\clone_np\ois_02*\identity" ■ and so on.
-L *"Languages"*	Specify all installed languages to be upgraded by the appropriate code, in quotations. For example, English, "en-us"; French, "fr-fr"; German, "de-de".

When upgrading a cloned component, Oracle recommends that you use Automatic rather than Confirmed mode and that you do not skip any processes. The upgrade process repeats for every release between your starting release (6.1.1 for example) and the latest release. As a result, you will see the same sequence of messages and prompts for each sequence from the starting point to the conclusion. For more information, see "About Clone Mode Processing" on page 15-30.

In the following procedure, directory path names, the starting release, and languages are provided as samples only. Your details might differ.

Caution: If you skip any preparation activity, you might not be able to recover from an upgrade issue or roll back to the original release.

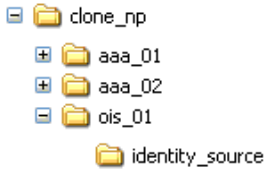
To upgrade each COREid Server clone instance

1. **Prepare All COREid Server Clones**: Perform **all** activities outlined here (this is a repeat of the list in "Preparing Cloned Identity System Components for the Upgrade" on page 16-74; details are in Chapter 8):

- Copying Custom Identity Event Plug-ins
- Preparing Earlier Customizations
- Preparing Host Computers, which includes the following topics:
  - Changing Read Permissions on Password Files
  - Confirming Free Disk Space
- Preparing Release 6.x Environments
- Preparing Multi-Language Installations
- Backing Up File System Directories, Web Server Configurations, and Registry Details
- Stopping Servers and Services
- Logging in with Appropriate Administrative Rights

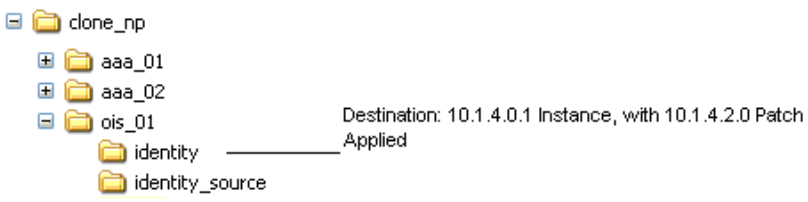
2. **Prepare the Clone of First Installed COREid Server**: In addition to tasks in Step 1, perform the following activities (details are in):
   - Backing up Oracle Access Manager Configuration and Policy Data
   - Backing Up User and Group Data
   - Backing Up Workflow Data
   - Archiving Processed Workflow Instances
3. **Source Creation**: Rename the subdirectory that contains the clone to create a source for the upgrade. For example:

   Rename: *clone_np**ois_01*\identity
   As: *clone_np**ois_01*\identity_source



4. **Destination Creation**: In the top-level clone file system, extract 10*g* (10.1.4.0.1) Identity Server libraries and files and specify a destination path that exactly matches the clone path before it was renamed. For example:

   Destination Path: *clone_np**ois_01*\identity



   For extraction details, see "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28.

5. **Obtaining Tools**: Apply the 10*g* (10.1.4.2.0) patch to the 10*g* (10.1.4.0.1) instance, as described "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32.

6. Change to the *destination_dir* that contains the 10*g* (10.1.4.2.0) Identity Server MigrateOAM script for this upgrade. For example:

```
cd clone_np\ois_01\identity\oblix\tools\migration_tools\MigrateOAM.bat
```

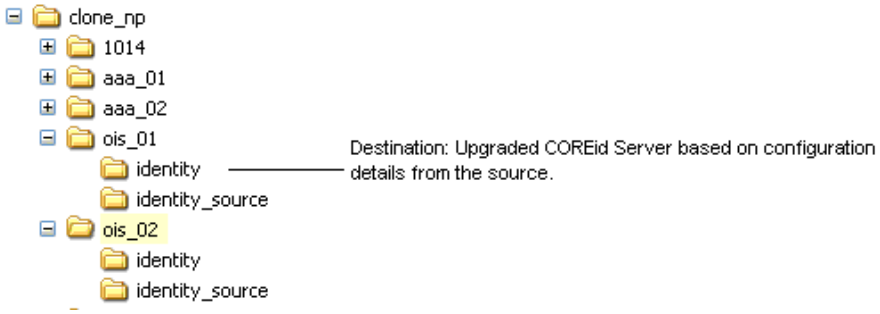
7. Run the MigrateOAM script in Clone mode and specify your starting release and path names for the instance to be upgraded. For example:

```
MigrateOAM -M Clone -C OIS -F 610 -T 1014 -S "C:\clone_np\ois_01\identity_
source" -D "C:\clone_np\ois_01\identity" -I "C:\clone_np\ois_01\identity"
 -L "en-us"
```

   a. Use Automatic mode for each sequence so that you do not need to confirm each process.

   b. Continue as requested through all processes; do not skip any processes.

   c. Finish according to on-screen messages.



8. Verify that the upgrade was successful as follows (do not restart the service):

   a. Confirm that the value of the MigrateUserDataTo1014 is false in the globalparams.xml file in the *destination_dir* that you specified for the upgrade. For example:

   *clone_np**ois_01*\identity\oblix\apps\common\bin\globalparams.xml

```
<NameValPair ParamName="MigrateUserDataTo1014" Value="False" />
```

   b. **Auditing and Access Reporting**: If your earlier installation included auditing and access reporting:

   b1) Go immediately to "Upgrading Auditing and Access Reporting for the Identity System" on page 12-2 before performing any other steps.

   b2) If this is a second or subsequent COREid Server upgrade, you must also perform activities in "Renaming Audit Files After Upgrading Identity System Clones" on page 16-88.

   c. Start the upgraded COREid Server service to confirm that it will start (notice that the name has not changed from the one originally assigned).

   d. **Identity Server Service Does Not Start**: Check your event and Identity Server log output files. For more information about logging and log output files, see the *Oracle Access Manager Identity and Common Administration Guide*.

   e. Check migration log files for any errors reported during the upgrade, as described in "Accessing Log Files" on page G-2.

f. **Windows**: Verify that the registry entry is updated by running the Registry editor (regedit) using one of the following methods:

   In the Registry Editor Window, click My Computer, HKEY_LOCAL_MACHINE, SYSTEM, CurrentControlSet, Services, and then look for ObOISServer-<Service Name>. Within this, check the Image path.

   View the registry entryHKEY_LOCAL_MACHINE, SOFTWARE,Oblix,Oblix Netpoint. Check for the respective installed version and, under that, check the entry for ObOISServer-<Service Name>.

g. Verify that the version file in the destination path is updated for 10.1.4 (np*version_component*.txt). For example:

   *clone_np**ois_01*\identity\oblix\config\np1014_is.txt

h. Confirm that the ois_server_config.xml has the correct information for the instance that you upgraded.

i. **Upgrade Not Successful**: Proceed to "Recovering From a Cloned Identity System Upgrade Failure" on page 16-86.

j. **Upgrade Successful**: Proceed to Step 9.

9. Repeat all steps in this procedure for other cloned COREid Server instances on this host.

10. When all cloned COREid Servers on a single host are upgraded, you can upgrade WebPass instances on the host. For more information, see "Upgrading Cloned WebPass Instances".

Upgrading Cloned WebPass Instances

This topic describes how to upgrade WebPass clones. The activities that you perform when upgrading WebPass clones are similar to those that were performed when upgrading COREid Server clones. You will create a source, a destination, and obtain the tools that you need for the upgrade. You run MigrateOAM in Clone mode.

Caution: Oracle recommends that you review all information about about upgrading clones before you begin activities here.

To help illustrate some of the activities that you will perform, Table 16–10 organizes sample path names in columns that describe the progression of actions that you will take. Additional information follows Table 16–10. The sample path names are for Windows platforms. The paths in your environment might differ.

Table 16–10 Activities to Prepare for a Clone WebPass Instance Upgrade

1 Clone Path	2 Source Creation	3 Destination Creation and Obtaining Tools:
WebPass Instances *clone_np**webcomponent_01*\identity *clone_np**webcomponent_02*\identity	Rename the subdirectory containing each clone instance. For example: *clone_np**webcomponent_01**identity_source* *clone_np**webcomponent_02**identity_source*	After creating the source (see column 2): A. Extract 10*g* (10.1.4.0.1) WebPass component libraries and files and specify the clone path as the installation (destination) directory. For example: *clone_np**webcomponent_01*\identity **Note**: The destination path of the 10*g* (10.1.4.0.1) instance must exactly match the path of the clone before it was renamed (see column 1). See "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28. B. Apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the 10*g* (10.1.4.0.1) instance to obtain the tools. See "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32. C. Repeat steps A and B for each clone instance.

For more information the source and destination creation described in Table 16–10, see "Preparation Tasks for the Zero Downtime Method" on page 15-12.After performing activities in Table 16–10, the latest MigrateOAM script will be stored in the *destination_dir*. For example:

*clone_np**webcomponent_01*\identity\oblix\tools\migration_tools\MigrateOAM.bat
*clone_np**webcomponent_02*\identity\oblix\tools\migration_tools\MigrateOAM.bat
and so on.

Table 16–11 lists the arguments that you specify with the 10*g* (10.1.4.2.0) MigrateOAM script to execute the clone upgrade for each individual WebPass.

Table 16–11 MigrateOAM Script for WebPass Clone Upgrades

MigrateOAM Clone Mode Syntax	Values and Operations
-M Clone	Specify Clone as the mode. The clone mode is required to upgrade cloned components.
-C *component*	Specify WP to upgrade a cloned WebPass. **Note**: Upgrade all WebPass clones, on each computer, before upgrading any Access System clones.
-F *nnn*	Specify the number that identifies your earlier release. For example: 610 (for 6.1 or 6.1.1), 650 (for 6.5.x), or 700 (for 7.x)
-T 1014	Specify1014 as the release to which this data will be upgraded.
-S *"source directory"*	Specify the full path (in quotation marks) to the renamed earlier WebPass directory (see column 2 of Table 16–10). For example, when you have multiple instances: ■ -S *"C:\clone_np\webcomponent*_01\identity_source" ■ -S *"C:\clone_np\webcomp*onent_02\identity_source" ■ and so on

Table 16–11 (Cont.) MigrateOAM Script for WebPass Clone Upgrades

MigrateOAM Clone Mode Syntax	Values and Operations
-D *"destination directory"*	Specify the full path (in quotation marks) to the cloned 10*g* (10.1.4.2.0) WebPass directory that replaced the earlier instance directory (see columns 1 and 4 of Table 16–10). For example: ■ -D *"C:\clone_np\webcomponent_01*\identity" ■ -D *"C:\clone_np\webcomponent_02*\identity" ■ and so on
-I *"installation directory"*	The installation directory should be same as the destination directory. For example: ■ -I *"C:\clone_np\webcomponent_01*\identity" ■ -I *"C:\clone_np\webcomponent_02*\identity" ■ and so on. **Note**: Refer to Table 16–10 for details about path names and directory content.
-L *"Languages"*	Specify all installed languages to be upgraded by the appropriate code, in quotations. For example, English, "en-us"; French, "fr-fr"; German, "de-de".
-W *"Web server type"*	Specify the appropriate code for the Web Server used by this clone, in quotations. For example, "nsapi", "apache2", "isapi", "apache", "ihs", "ohs", "ohs2", "domino".

WebPass clone upgrades do not affect the schema or data. Like other component upgrades, a WebPass upgrades includes component-specific configuration upgrades, parameter catalog, and message file upgrades. Like all Web compoent upgrades, WebPass upgrades includes Web server configuration changes.

You will see messages and prompts for each sequence from your starting release to the conclusion. Oracle recommends that you use Automatic rather than Confirmed mode for the quickest upgrade and to ensure that you do not skip any processes.

In the following procedure, file system paths, the starting release, and languages are provided as samples only.

Caution: When you have one Web server instance serving multiple Oracle Access Manager Web component clones, you must upgrade all serviced Web component clones before restarting the Web server.

To upgrade each cloned WebPass instance

1. **Prepare Each WebPass Clone**: Perform **all** activities outlined here (this is a repeat of the list in "Preparing Cloned Identity System Components for the Upgrade" on page 16-74; details are in Chapter 8):
   - Copying Custom Identity Event Plug-ins
   - Preparing Earlier Customizations
   - Preparing Host Computers, which includes the following topics:
     - Changing Read Permissions on Password Files
     - Confirming Free Disk Space
   - Preparing Release 6.x Environments
   - Preparing Multi-Language Installations

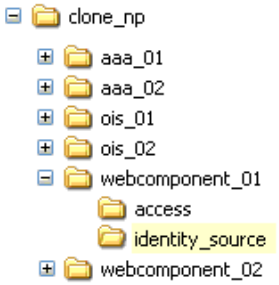
- Backing Up File System Directories, Web Server Configurations, and Registry Details
- Stopping Servers and Services
- Logging in with Appropriate Administrative Rights

Note: If you do not perform all preparation steps that are appropriate for this component, you might not be able to recover from a problem or to roll back after a failed upgrade.

---

2. **Source Creation**: Rename the subdirectory that contains the WebPass clone to create a source for the upgrade. For example:

   Rename: *clone_np*\webcomponent_01\identity
   As: *clone_np*\webcomponent_01\identity_source



3. **Destination Creation**: In the top-level clone file system, extract 10*g* (10.1.4.0.1) WebPass libraries and files and specify a destination path that exactly matches the clone before you renamed it. For example:

   Destination Path: *clone_np**webcomponent_01*\identity

   For a destination path example, see column 1 of Table 16–10. For more information, see "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28.

4. **Obtaining Tools**: Apply the 10*g* (10.1.4.2.0) patch to the 10*g* (10.1.4.0.1) instance, as described "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32.

5. Change to the *destination_dir* that contains the 10*g* (10.1.4.2.0) MigrateOAM script for this WebPass upgrade. For example:

   cd *clone_np**webcomponent_01*\identity\oblix\tools\migration_tools\
   MigrateOAM. bat

6. Run the MigrateOAM script in Clone mode and specify details for your starting release and path names for this instance. For example:

```
MigrateOAM -M Clone -C WP -F 610 -T 1014 -S "C:\clone_np\webcomponent_01\
identity_source" -D "C:\clone_np\webcomponent_01\identity" -I "C:\clone_np\
webcomponent_01\identity" -L "en-us" -W "nsapi"
```

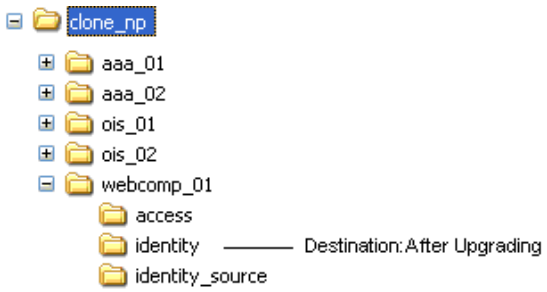
   a. Use Automatic mode for each sequence so that you do not need to confirm each process.

b. Accept Web server configuration changes by specifying the full directory path name to the Web server configuration file for which this clone is configured.

c. Continue as requested through all processes; do not skip any processes.

d. Finish according to on-screen messages.

The destination now contains upgraded information based on the source.



7. Verify that the WebPass clone upgrade was successful as follows:

a. Apply Web server changes, if needed.

b. Stop, then restart the associated Identity Server service.

Note: When you have one Web server instance servicing multiple Oracle Access Manager Web components, you must upgrade all serviced Web components before restarting the Web server. For more information, see "Web Server Support for Multiple Oracle Access Manager Releases" on page 15-7.

---

c. When all Web components on this host are upgraded, start the WebPass Web server instance.

d. **Web Server Does Not Start**: Perform the following activities:

Check event logs and the WebPass log output file. For more information about logging and log output files, see the *Oracle Access Manager Identity and Common Administration Guide*.

Check the Web server-specific configuration file. If you have IIS configured as the Web server for this instance, ensure that the transfilter with its green status in ISAPI filters. For more information, see the *Oracle Access Manager Installation Guide*.

e. Check the migration log files for any errors reported during the upgrade, as described in "Accessing Log Files" on page G-2.

f. **Windows**: Verify that the registry entry is updated by running the Registry editor (regedit) and:

View the registry entry HKEY_LOCAL_MACHINE, SOFTWARE,Oblix,Oblix Netpoint. Check for the respective installed version and, under that, check the entry for WebPass.

g. Verify that the version file in the destination path is updated for 10.1.4 (np*version_component*.txt). For example:

destination_dir\oblix\config\np1014_wp.txt

h. Check the webpass.xml file to ensure that it includes the details for this instance: *destination_dir*\identity\oblix\apps\webpass\bin\webpass.xml.

i. **Upgrade Not Successful**: Proceed to "Recovering From a Cloned Identity System Upgrade Failure" on page 16-86.

j. **Upgrade Successful**: Repeat this entire procedure to upgrade every cloned WebPass instance.

8. After upgrading *all* WebPass instances, proceed to "Validating the Upgraded Cloned Identity System" on page 16-85.

Validating the Upgraded Cloned Identity System

After upgrading the clone Identity System, Oracle recommends that you quickly validate the following items to ensure that the upgrade was successful. If you experience an issue, refer to the troubleshooting tips in Appendix G.

Oracle recommends that you perform this task after upgrading clones, and after upgrading SDKs and Identity System customizations. For more information, see "Upgrading Identity System Customizations" on page 16-89.

To validate your cloned Identity System upgrade

1. Delete all Web browser caches once the upgrade is complete.
2. Make sure all Identity Server services and WebPass Web server instances are running.
3. Check that your message and parameter catalog customizations have been preserved. For example, if you have changed any message in a particular message catalog file, then it needs to be retained. For example:

   destination_dir\identity\...

4. Perform the same activities that you performed after upgrading the Identity System schema. For details, see "Validating Successful Operations in Your Environment" on page 16-69.
5. Perform tasks in the following sections and then validate the upgraded environment again:
   - Renaming Audit Files After Upgrading Identity System Clones
   - Upgrading Identity System Customizations
6. Proceed to "Backing Up Upgraded Identity System Clones".
7. **Joint Identity and Access System**: Only after confirming that system is operating without problem, should you proceed to "Upgrading the Cloned Access System" on page 16-90.
8. **No Access System**: Finish all validation tests and tasks before you proceed to Chapter 17 and start upgrading original instances.

Backing Up Upgraded Identity System Clones

Oracle recommends that you back up the upgraded cloned Identity System after validating that it is operating properly. This will enable you to easily restore your environment to the newly upgraded state should that be needed.

To back up critical information after the upgrade

1. Back up the upgraded destination file system directory. This is similar to backing up an existing component installation directory. For details, see "Backing Up the Existing Component Installation Directory" on page 8-8.
2. **Web Server**: Back up the upgraded Web server configuration file using instructions from your vendor and details in "Backing Up the Existing Web Server Configuration File" on page 8-8.
3. **Windows**: Back up Windows Registry data for the destination as described in "Backing Up Windows Registry Data" on page 8-9.
4. Proceed to "Looking Ahead" on page 16-87.

Recovering From a Cloned Identity System Upgrade Failure

If a cloned Identity System component upgrade was not successful, you can perform the following steps to restore the earlier clone instance, and then try the component upgrade again. The source file system directory was not upgraded and remains intact.

If you do not want to continue with the zero downtime upgrade, see "Rolling Back After Upgrading Identity System Clones" on page 16-86.

To recover from an unsuccessful cloned Identity System upgrade

1. Back up the clone source. You will retain a backup copy when you restart the clone upgrade. For example:

   Copy the Clone Source: *clone_np**ois_01*\identity_source
   To: *backup_clone_np**ois_01*\identity_source

2. Remove the destination (the 10*g* (10.1.4.0.1) component libraries and files to which you have applied the Release 10.1.4 Patch Set 1 (10.1.4.2.0)).
3. **Web Server**: Restore the backed up Web server configuration file, if required for a cloned WebPass.
4. **Windows**: Restore (import) the backed up registry entry for the source instance.
5. Extract the 10*g* (10.1.4.0.1) component libraries and files for the instance to upgrade, and then apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) as described in "About Destination Creation and Obtaining Tools for a Zero Downtime Upgrade" on page 16-28.
6. Restart the instance upgrade.

Rolling Back After Upgrading Identity System Clones

You can use the following procedure to roll back all changes and return to your original installation. When you finish this operation, you will have no clones in your environment and no clone entries in your System Console.

You cannot roll back the schema upgrade unless you used an external utility to back up the schema before it was upgraded. Details about using external tools to back up and recover the schema is outside the scope of this manual.

To roll back after upgrading Identity System clones

1. Shut down clone services and Web servers.
2. Remove the following items from host computers:

- Clone file system directories
- 10*g* (10.1.4.0.1) component libraries and files to which you applied Release 10.1.4 Patch Set 1 (10.1.4.2.0)
- Any file system directories that you have added or that were added automatically as part of any upgrade process
- The Web server instance for the clones
- The branches in the LDAP directory server that were added for the new configuration and policy DNs

3. From the original System Console, remove all clone profiles.
4. If you have a back up copy of the schema before the upgrade, you might be able to reinstate the original schema.
5. Confirm that your original setup is operating properly.

Looking Ahead

Upgraded Identity System components send and receive information in UTF-8 encoding. Earlier components send and receive data in Latin-1 encoding. As a result, the 10*g* (10.1.4.0.1) Identity System does *not* work with earlier Access System components and might not work with earlier Identity System customizations. For more information about expected system behaviors and backward compatibility, see Chapter 4.

When all original Identity System components are successfully upgraded, proceed as needed based on the configuration for your earlier installation. For example:

- **Identity System Only**: When your earlier installation does *not* include the Access System, you must perform activities in the sequence described in "Task overview: Remaining Identity System only upgrade activities" on page 16-87.
- **Joint Identity and Access System**: When your earlier installation includes the Access System and Oracle Access Manager integration connectors for certain third-party products, you must upgrade integration connectors before upgrading the SDK. In this case, perform tasks as described in "Task overview: Remaining joint Identity and Access System activities" on page 16-88.

> **Note:** On Windows systems, you can choose to use only the 10*g* (10.1.4.3) .NET 2 SDK after upgrading and patching to 10*g* (10.1.4.3). In this case, you might not need to upgrade the earlier SDK. For more information, see "Platform and SDK .NET Support" on page 4-1.

Task overview: Remaining Identity System only upgrade activities

1. Perform tasks in "Renaming Audit Files After Upgrading Identity System Clones" on page 16-88 as needed.
2. Finish by performing tasks in "Upgrading Identity System Customizations" on page 16-89.
3. Perform as many tests and familiarization activities as your enterprise dictates before upgrading original instances.
4. After your validation period ends, proceed to Chapter 17 and upgrade original instances:

Caution: When your earlier installation includes the Access System, you must upgrade integration connectors before upgrading independently installed SDKs. However, on Windows systems, you can choose to use only the 10*g* (10.1.4.3) .NET 2 SDK and in this case, you might not need to upgrade the earlier SDK. For more information, see "Platform and SDK .NET Support" on page 4-1.

Task overview: Remaining joint Identity and Access System activities

1. **Finishing Cloned Identity System Upgrades**: Proceed to the following topics in this chapter and perform tasks as directed in:
   - Renaming Audit Files After Upgrading Identity System Clones
   - Upgrading Identity System Customizations
2. **Finishing Cloned Access System Upgrades**: Proceed to the following topics in this chapter and perform tasks as described in:
   a. Upgrading the Cloned Access System
   b. Upgrading SDKs, Integration Connectors, and Access System Customizations
3. Perform as many tests and familiarization activities as your enterprise dictates before upgrading original instances.
4. After your own validation period ends, proceed to Chapter 17 and upgrade original instances.

Renaming Audit Files After Upgrading Identity System Clones

After upgrading Identity System clones from releases earlier than 7.0, you must perform this task to correct the path name of audit files for original COREid Servers. If you have upgraded from release 7.x, you can skip this activity.

When upgrading from any release earlier than 700, the audit file name is changed by prefixing the path to the source COREid Server that was specified when using the MigrateOAM script in Clone mode. For example:

Clone Path: *clone_np**ois_01*\identity
Source Path: *clone_np**ois_01*\identity_source

If your environment includes multiple COREid Servers, the audit file name for each will be prefixed by the same file system path as the source COREid Server from which the clone upgrade is performed. As a result, your original configuration is lost during the upgrade. For example, suppose you have two original release 611 COREid Server instances with audit files stored as follows:

\oblix\engine\auditfile_1.lst
\oblix\engine\auditfile_2.lst

In the sample path names here, the audit files might be stored in different file system paths. However, after the clone upgrade, both audit files will be stored in the path of the COREid Server that was specified as the source during the clone upgrade. For example:

*clone_np**ois_01*\identity_source\oblix\engine\auditfile_1.lst
*clone_np**ois_01*\identity_source\oblix\engine\auditfile_2.lst

To recover your audit files after upgrading the clones, you must perform the following task to change audit file paths to reflect the appropriate path to specific original COREid Server instances.

Caution: You perform this task for all original COREid Servers only after the upgrading clones.

To recover your original audit file names after upgrading Identity System clones

1. After upgrading the clones, go to the clone COREid System Console and log in as usual.

   ```
   http://hostname:port/identity/oblix
   ```

   where *hostname* refers to computer that hosts the Web server for the cloned WebPass; *port* refers to the HTTP port number of the Web server instance; and /identity/oblix connects to the COREid System Console.

2. From the COREid System Console, click System Configuration, and then click Identity Servers.
3. Select the name of an original COREid Server to display the information for this instance.
4. Check the Audit File Name field, to see if the path name is correct.

   If the path name is correct, click Cancel and then repeat steps 3 and 4 to check the audit file path name of another instance. If the path name is not correct, proceed to Step 5.

5. Click the Modify button at the bottom of the page.
6. On the Modify page, change the path name in the Audit File Name field to the correct path for this instance and then click Save. For example:

   From: \oblix\engine\auditfile_2.lst
   To: C:\np611\ois_02\identity\oblix\engine\auditfile_2.lst

7. Restart the original COREid Server whose details you just updated if it is running.
8. Repeat all steps in this procedure for each clone and original COREid Server instance.
9. Proceed to "Upgrading Identity System Customizations".

Upgrading Identity System Customizations

Oracle recommends that you upgrade your Identity System customizations and any independently installed software developer kits (SDKs) and then validate that the entire upgraded cloned Identity System is operating properly.

The following overview describes where to locate the information for each task.

Task overview: Remaining Identity System upgrade activities

1. Upgrade your Identity System customizations as described in Chapter 12:
   - Upgrading Auditing and Access Reporting for the Identity System
   - Combining Challenge and Response Attributes on a Panel
   - Confirming Identity System Failover and Load Balancing

- Migrating Custom Identity Event Plug-Ins
- Ensuring Compatibility with Earlier Portal Inserts
- About Custom Items and Upgrades
- Incorporating Customizations from Release 6.5 and 7.x
- Incorporating Customizations from Releases Earlier than 6.5
- Validating Identity System Customization Upgrades

2. Proceed as follows:
   - **Identity System Only**: Perform tasks in "Validating Successful Operations in Your Environment" on page 16-69 before you start upgrading originals.
   - **Joint Identity and Access System**: Go to "Upgrading the Cloned Access System".

Upgrading the Cloned Access System

You perform tasks in this section only if you have a joint Identity and Access System and you have completed all tasks to upgrade and validate the cloned Identity System and rename audit files. Otherwise, skip this topic and see Looking Ahead on page 16-87 for details about how to proceed.

The tasks that you must perform are outlined in the following task overview. Individual topics are provided with background details and step-by-step procedures that you can follow.

Task overview: Upgrading the cloned Access System

1. Preparing Cloned Access System Components for the Upgrade
2. Upgrading Cloned Access Manager Instances
3. Upgrading Cloned Access Servers
4. Validating the Upgraded Cloned Access System
5. Backing Up Upgraded Access System Clones
6. Upgrading SDKs, Integration Connectors, and Access System Customizations

For information about recovering if there is a problem, see "Recovering from a Failed Cloned Access System Component Upgrade" on page 16-101. When you finish your preview of activities here, see "Looking Ahead" on page 16-103 to familiarize yourself with activities that Oracle recommends you perform before upgrading the original system.

Preparing Cloned Access System Components for the Upgrade

The procedures that you perform to prepare components for an upgrade are described in detail in Chapter 8. You must perform many of the same preparation tasks for cloned Access System components before upgrading each clone. Some of these tasks are similar to those that you performed when upgrading cloned Identity System components.

Upgraded Access Servers provide backward compatibility with earlier WebGates. As a result, you can delay WebGate upgrades until you upgrade the originals. You can also delay upgrading the Software Developer Kit (SDK). Items that must be handled manually can be migrated at any time. For more information about backward compatibility, see Chapter 4.

The preparation tasks that you must perform for Access System clones are outlined in the following overview. You will be instructed to perform these tasks as you upgrade each clone.

> **Note:** If you do not perform all preparation steps, you might not be able to recover from a problem or to roll back after a failed upgrade.

Task overview: Preparing cloned Access System instances for the upgrade includes

1. Preparing Earlier Customizations
2. Preparing the Default Logout in the Policy Manager
3. Preparing Host Computers, which includes the following topics:
   - Changing Read Permissions on Password Files
   - Confirming Free Disk Space
4. Preparing Release 6.x Environments
5. Preparing Multi-Language Installations
6. Backing Up File System Directories, Web Server Configurations, and Registry Details

> **Note:** With the zero downtime upgrade method, you do not need to create a backup copy of the clone file system directory. Instead, you will rename the file system path to use as a source during the upgrade. The source becomes a backup that remains intact during the upgrade.

7. Stopping Servers and Services
8. Logging in with Appropriate Administrative Rights
9. **Clone of the First Installed Access Manager**: In addition to the activities in Steps 1-8, perform activities in Chapter 5, "Backing up Oracle Access Manager Configuration and Policy Data".

Upgrading Cloned Access Manager Instances

Upgrading an Access Manager cline is similar to the upgrading WebPass clones.

> **Caution:** Oracle recommends that you review all information in this topic before proceeding with the activities.

You start by performing steps to ensure that for each cloned Access Manager instance you have the latest MigrateOAM script in an appropriate location. The following tasks are introduced in "Preparation Tasks for the Zero Downtime Method" on page 15-12 and are summarized next:

- **Source Creation**: Rename the subdirectory that contains the clone to create a source for the upgrade and a back up copy of the clone.

- **Destination Creation**: Extract 10*g* (10.1.4.0.1) Policy Manager libraries and files and specify the specify a destination path that exactly matches the clone before you renamed it.
- **Obtaining the Tools**: Apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the 10*g* (10.1.4.0.1) instance to obtain the tools needed for the upgrade.

To help illustrate these tasks, Table 16–12 organizes sample file system path names in columns that describe the progression of actions that you will take. Additional information follows Table 16–12. The sample path names are for Windows platforms. The paths in your environment might differ.

Table 16–12 Activities to Prepare for a Clone Access Manager Instance Upgrade

1 Clone Path	2 Source Creation	3 Destination Creation and Obtaining Tools
Access Manager Instances *clone_np* *webcomponent_01* \access *clone_np* *webcomponent_02* \access	Rename the subdirectory containing each clone in column 1. For example: *clone_np* *webcomponent_01* \access_source *clone_np* *webcomponent_02* \access_source	After creating the source (see column 2): A. Extract 10*g* (10.1.4.0.1) Policy Manager libraries and files and specify the clone path before you renamed it as the installation (destination) directory. For example: *clone_np**webcomponent_01*\access **Note**: The destination path of the 10*g* (10.1.4.0.1) instance must exactly match the path of the clone before it was renamed (see column 1). See "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28. B. Apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the 10*g* (10.1.4.0.1) instance to obtain the tools. See "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32. C. Repeat steps A and B for each clone instance.

After performing activities outlined in Table 16–12, the latest MigrateOAM script will be stored in the destination path. For example:

*clone_np**webcomponent_01*\access\oblix\tools\migration_tools\MigrateOAM.bat
*clone_np**webcomponent_02*\access\oblix\tools\migration_tools\MigrateOAM.bat
and so on.

Table 16–13 lists the arguments that you specify with the 10*g* (10.1.4.2.0) MigrateOAM script to execute the Clone mode for each Access Manager clone upgrade.

Table 16–13 MigrateOAM Script for Access Manager Clone Upgrades

MigrateOAM Clone Mode Syntax	Values and Operations
-M Clone	Specify Clone as the mode. Clone mode is required to upgrade cloned components.
-C *component*	Specify AM to upgrade a cloned Access Manager. **Note**: Upgrade all Access Manager clones, on each computer, before upgrading any Access Server clones.
-F *nnn*	Specify the number that identifies your earlier release. For example: 610 (for 6.1 or 6.1.1), 650 (for 6.5.x), or 700 (for 7.x)
-T 1014	Specify1014 as the release to which this data will be upgraded.

Table 16–13 (Cont.) MigrateOAM Script for Access Manager Clone Upgrades

MigrateOAM Clone Mode Syntax	Values and Operations
-S *"source directory"*	Specify the full path (in quotation marks) to the renamed earlier Access Manager directory (see column 2 of Table 16–12). For example, when you have multiple instances: ■ -S *"C:\clone_np\webcomponent*_01\access_source" ■ -S *"C:\clone_np\webcomp*onent_02\access_source" ■ and so on
-D *"destination directory"*	Specify the full path (in quotation marks) to the cloned 10*g* (10.1.4.2.0) Access Manager directory that replaced the earlier instance (see columns 1 and 4 of Table 16–12). For example: ■ -D *"C:\clone_np\webcomponent_01*\access" ■ -D *"C:\clone_np\webcomponent_02*\access" ■ and so on
-I *"installation directory"*	The installation directory should be same as the destination directory. For example: ■ -I *"C:\clone_np\webcomponent_01*\access" ■ -I *"C:\clone_np\webcomponent_02*\access" ■ and so on **Note**: Refer to Table 16–12 for details about path names and directory content.
-L *"Languages*"	Specify all installed languages to be upgraded by the appropriate code, in quotations. For example, English, "en-us"; French, "fr-fr"; German, "de-de".
-W *Web server type*	Specify the appropriate code for the Web Server used by this clone, in quotations. For example, "nsapi", "apache2", "isapi", "apache", "ihs", "ohs", "ohs2", "domino".

Clone of the First Installed Access Manager: When you upgrade the clone of the first Access Manager that you installed, the access policy data in the new branch of the LDAP directory server is upgraded in addition to component-specific data. Before you start this upgrade, Oracle recommends that you back up the policy data in the new branch of the LDAP directory server.

All Access Manager Clones: Upgrade processing for Access Manager clones includes Web server-related changes. Additionally, there are parameter catalogs and message files and compnent-specific changes.

When upgrading clones, you will see messages and prompts for each sequence from your starting release to the latest release.Oracle recommends that you use Automatic mode for the quickest upgrade and that you do not skip any processes.

Web Servers: When you have one Web server instance servicing multiple Oracle Access Manager Web components, you must upgrade all serviced Web components before restarting the Web server. For more information, see "Web Server Support for Multiple Oracle Access Manager Releases" on page 15-7

Windows Registry: Windows registry entries are updated when you upgrade the instance. Oracle recommends that you back up the registry entry for the source before you upgrade the instance. For more information, see "Reinstating Original Windows Registry Entries During a Rollback Operation" on page 15-36.

In the following procedure, the path names, starting release, and languages are samples only. Your details will be different.

Note: If you do not perform all preparation steps, you might not be able to recover from a problem or to roll back after a failed upgrade.

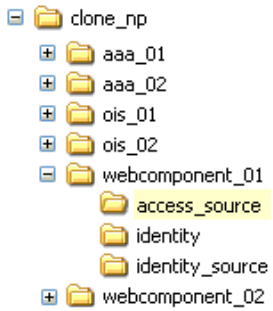
To upgrade cloned Access Manager instances

1. **All Access Manager Clones**: Perform all activities outlined in "Preparing Cloned Access System Components for the Upgrade" on page 16-90, which can be found in Chapter 8 and includes:
   - Preparing Earlier Customizations
   - Preparing the Default Logout in the Policy Manager
   - Preparing Host Computers, which includes:
     - Changing Read Permissions on Password Files
     - Confirming Free Disk Space
   - Preparing Release 6.x Environments
   - Preparing Multi-Language Installations
   - Backing Up File System Directories, Web Server Configurations, and Registry Details

     Note: You do not need to create a backup copy of the clone file system directory. Instead, you will rename the path to use as a source.

   - Stopping Servers and Services
   - Logging in with Appropriate Administrative Rights
2. **Clone of the First Access Manager**: In addition to activities in Step 1, back up policy data in the new branch as described in "Backing up Oracle Access Manager Configuration and Policy Data" on page 5-17.
3. **Source Creation**: Rename the subdirectory that contains the Access Manager clone to create a source for the upgrade. For example:

   Rename: *clone_np**webcomponent_01*\access
   As: *clone_np**webcomponent_01*\access_source

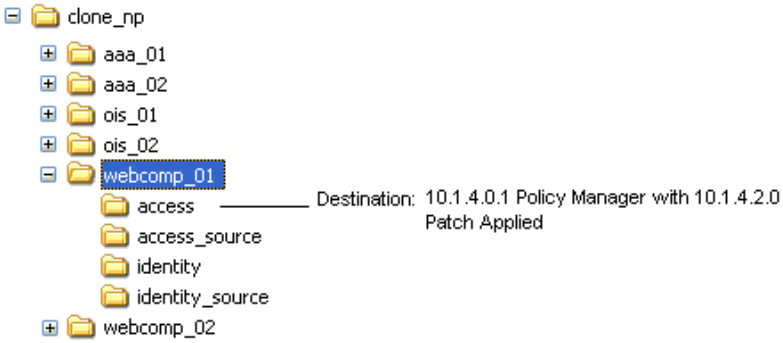


4. **Destination Creation**: Extract 10*g* (10.1.4.0.1) Policy Manager libraries and files and specify a destination path that exactly matches the clone path before it was renamed. For example:

Destination Path: *clone_np**webcomponent_01*\access

For a destination path example, see Table 16–12, column 1. For more information, see "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28.

5. **Obtaining Tools**: Apply the 10*g* (10.1.4.2.0) patch to the 10*g* (10.1.4.0.1) instance, as described "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32.



6. Change to the *destination_dir* that contains the 10*g* (10.1.4.2.0) MigrateOAM script for this Policy Manager instance. For example:

   *clone_np**webcomponent_01*\access\oblix\tools\migration_tools\MigrateOAM.bat

7. Run the MigrateOAM script in clone mode and specify your starting release and path names. For example:

```
MigrateOAM -M Clone -C AM -F 610 -T 1014 -S "C:\clone_np\webcomponent_01\
access_source" -D "C:\clone_np\webcomponent_01\access" -I "C:\clone_np\
webcomponent_01\access" -L "en-us" -W "nsapi"
```

   a. Use Automatic mode for each sequence so that you do not need to confirm each process.

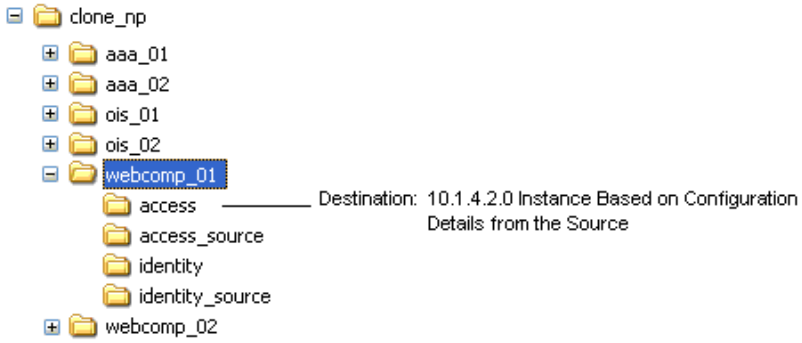
   b. Accept access policy data changes if you are asked.

   c. Accept Web server configuration changes by specifying the full directory path to the Web server configuration file for which this clone is configured.

   d. Continue as requested through all processes; do not skip any processes.

   e. Finish according to on-screen messages.

      When you finish, the destination directory contains the upgraded instance with configuration details based on the source.



8. Verify that the cloned Access Manager upgrade was successful as follows:
   a. Apply Web server changes, if needed.
   b. Check the migration log files for any errors reported during the upgrade, as described in "Accessing Log Files" on page G-2.
   c. **Windows**: Verify that the registry entry is updated by running the Registry editor (regedit) and:

      View the registry entry HKEY_LOCAL_MACHINE, SOFTWARE,Oblix,Oblix Netpoint. Check for the respective installed version and, under that, check the entry for Access Manager.
   d. Stop, then restart the associated Identity Server service.
   e. When all Web components on this host are upgraded, start the Web server instance for the cloned WebPass and Access Manager.

      Note: The Web server instance that is serving clone components must remain shut down until all serviced components are upgraded. For more information, see "Web Server Support for Multiple Oracle Access Manager Releases" on page 15-7.

      ---

   f. **Web Server Does Not Start**: Perform the following activities:

      Check event logs and the Access Manager log output file. For more information about logging and log output files, see the *Oracle Access Manager Identity and Common Administration Guide*.

      Check the Web server-specific configuration file. If you have IIS configured as the Web server for this instance, ensure that the transfilter with its green status in ISAPI filters. For more information, see the *Oracle Access Manager Installation Guide*.
   g. **Upgrade Not Successful**: Proceed to "Recovering from a Failed Cloned Access System Component Upgrade" on page 16-101.
   h. **Upgrade Successful**: Repeat this entire procedure to upgrade every cloned Access Manager instance on this host, and then proceed to "Upgrading Cloned Access Servers" on page 16-97.
9. Upgrade *all* cloned Access Manager instances on all host computers.

Upgrading Cloned Access Servers

You perform this task only if you are have a joint Identity and Access System and all earlier Access Manager clones have been upgraded.

> **Caution:** Oracle recommends that you review all information in this topic before proceeding with the activities. You will be instructed to rename and move directories and it is critical that you track instance directories and names.

Upgrading a clone Access Server is similar to the upgrading a cloned COREid Server. You start by performing steps to ensure that for each cloned Access Server instance you have the latest MigrateOAM script in an appropriate location. This involves source and destination creation and obtaining the 10*g* (10.1.4.2.0) tools, as sintroduced in "Preparation Tasks for the Zero Downtime Method" on page 15-12.

To help illustrate the activities that you will be instructed to perform for each Access Server clone, Table 16–14 organizes sample file system path names in columns that describe the progression of actions that you will take. Additional information follows Table 16–14. The sample path names are for Windows platforms. The paths in your environment might differ.

Table 16–14 Activities to Prepare for a Clone Access Server Instance Upgrade

1: Clone Path	2 Source Creation	3 Destination Creation and Obtaining Tools
Access Server Instances *clone_np**aaa_01*\access *clone_np**aaa_02*\access	Rename the subdirectory containing each clone instance. For example: *clone_np*\aaa_01 access_source *clone_np**aaa_02* access_source	After creating the source (see column 2): A. Extract 10*g* (10.1.4.0.1) Access Server libraries and files and specify the clone path as the installation (destination) directory. For example: *clone_np**aaa_01*\access **Note**: The path of the 10*g* (10.1.4.0.1) instance must exactly match the path of the clone before it was renamed (see column 1 for an example). See "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28. B. Apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the 10*g* (10.1.4.0.1) instance to obtain the tools. See "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32. C. Repeat steps A and B for each clone instance.

After performing activities outlined in Table 16–14, the latest MigrateOAM script will be stored in the *destination_dir*. For example:

*clone_np**aaa_01*\access\oblix\tools\migration_tools\MigrateOAM.bat
*clone_np**aaa_02*\access\oblix\tools\migration_tools\MigrateOAM.bat
and so on.

Table 16–15 lists the arguments that you specify with the 10*g* (10.1.4.2.0) MigrateOAM script to execute the Clone upgrade mode for Access Server instances.

Table 16–15 MigrateOAM Script for Access Server Clone Upgrades

MigrateOAM Clone Mode Syntax	Values and Operations
-M Clone	Specify clone as the mode. The clone mode is required to upgrade cloned components.
-C *component*	Specify AAA to upgrade a cloned Access Server. **Note**: Upgrade all Access Manager clones, on each computer, before upgrading any Access Server clones.
-F *nnn*	Specify the number that identifies your earlier release. For example: 610 (for 6.1 or 6.1.1), 650 (for 6.5.x), or 700 (for 7.x)
-T 1014	Specify1014 as the release to which this data will be upgraded.
-S *"source directory"*	Specify the full path (in quotation marks) to the renamed earlier Access Manager directory (see column 2 of Table 16–14). For example, when you have multiple instances: ■ -S *"C:\clone_np\aaa*_01\access_source" ■ -S *"C:\clone_np\aaa*_02\access_source" ■ and so on
-D *"destination directory"*	Specify the full path (in quotation marks) to the cloned 10*g* (10.1.4.2.0) Access Manager directory that replaced the earlier instance (see columns 1 and 4 of Table 16–14). For example: ■ -D *"C:\clone_np\aaa_01*\access" ■ -D *"C:\clone_np\aaa_02*\access" ■ and so on
-I *"installation directory*"	The installation directory should be same as the destination directory. For example: ■ -I *"C:\clone_np\aaa_01*\access" ■ -I *"C:\clone_np\aaa_02*\access" ■ and so on **Note**: Refer to Table 16–14 for details about path names and directory content.
-L *"Languages"*	Specify all installed languages to be upgraded by the appropriate code, in quotations. For example, English, "en-us"; French, "fr-fr"; German, "de-de".

In the following procedure, directory path names, the starting release, and languages are provided as samples only. Oracle recommends that you choose Automatic mode and that you do not skip any processes.

> **Caution:** Oracle recommends that you review all information about about upgrading clones before you begin any of the activities in the following procedure. You will be instructed to rename the source, extract 10*g* (10.1.4.0.1) libraries and files, and apply patch 10*g* (10.1.4.2.0). It is critical that you perform all steps in sequence.

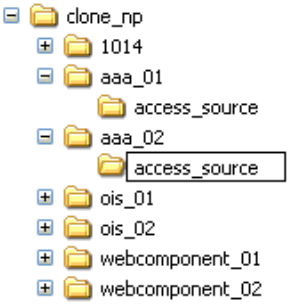
To upgrade cloned Access Server instances

1. Perform all activities outlined in the task overview in "Preparing Cloned Access System Components for the Upgrade" on page 16-90.

> **Note:** If you do not perform all preparation steps that are appropriate for this component, you might not be able to recover from a problem or to roll back after a failed upgrade.

2. **Source Creation**: Rename the subdirectory that contains the Access Server clone to create a source for the upgrade. For example:

   Rename: *clone_np**aaa_01*\access
   As: *clone_np**aaa_01*\access_source

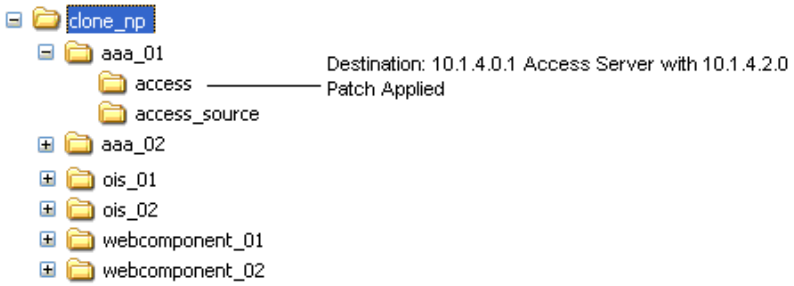


3. **Destination Creation**: Extract 10*g* (10.1.4.0.1) Access Server component libraries and files and specify a destination path that exactly matches the clone before it was renamed. For example:

   Destination Path: *clone_np**aaa_01*\access

   For a destination example, see Table 16–14, column 1. For more information, see "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28.

4. **Obtaining Tools**: Apply the 10*g* (10.1.4.2.0) patch to the 10*g* (10.1.4.0.1) instance, as described "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32.



5. Change to the destination that contains the 10*g* (10.1.4.2.0) MigrateOAM script for this Access Server upgrade. For example:

   cd *clone_np**aaa_01*\access\oblix\tools\migration_tools\MigrateOAM.bat

6. Run the 10*g* (10.1.4.2.0) MigrateOAM script in clone mode and specify your starting release and path names. For example:

```
MigrateOAM -M Clone -C AAA -F 610 -T 1014 -S "C:\clone_np\aaa_01\access_source"
-D "C:\clone_np\aaa_01\access" -I "C:\clone_np\aaa_01\access" -L "en-us"
```

   a. Use Automatic mode for each sequence so that you do not need to confirm each process.

   b. Accept any data changes if you are asked to do so.

c. Continue as requested through all processes; do not skip any processes.

d. Finish according to on-screen messages.

The destination now contains an upgraded instance based on the source.

7. **Auditing and Access Reporting**: If your earlier installation included auditing and access reporting, go immediately to "Upgrading Auditing and Access Reporting for the Identity System" on page 12-2 before performing any other steps.

8. Verify that the Access Server clone upgrade was successful as follows:

a. Start the Access Server service (notice that the name has not changed from the one originally assigned). For example, if you do not store the server password in the password.lst file, use the following command:

```
start_access_server -P mypassword port -d -t 61
```

Certain command options might disable the hide option and cause a password to appear in the command line.

b. Provide the password at the prompt, if needed.

On an IBM SecureWay LDAP directory server, the next time you start the Access Server it can take a few minutes for the dialog requesting the PEM pass phrase to appear.

c. **Access Server Service Does Not Start**: Check your event and Access Server log output files. For more information about logging and log output files, see the *Oracle Access Manager Identity and Common Administration Guide*.

d. Check the migration log files for any errors reported during the upgrade, as described in "Accessing Log Files" on page G-2.

e. Check the aaa_server_config.xml file to ensure that it includes the correct information for this upgraded clone.

f. Confirm that the value of the `MigrateUserDataTo1014` is `false` in the globalparams.xml file for this instance. For example:

*clone_np**aaa_01*\access\oblix\apps\common\bin\globalparams.xml

```
<NameValPair ParamName="MigrateUserDataTo1014" Value="False" />
```

g. **Windows**: Verify that the registry entry is updated by running the Registry editor (regedit) using one of the following methods:

In the Registry Editor Window, click My Computer, HKEY_LOCAL_MACHINE, SYSTEM, CurrentControlSet, Services, and then look for ObAAAServer-<Service Name>. Within this, check the Image path.

View the registry entry HKEY_LOCAL_MACHINE, SOFTWARE,Oblix,Oblix Netpoint. Check for the respective installed version and, under that, check the entry for ObAAAServer-<Service Name>.

h. **Upgrade Not Successful**: Proceed to "Recovering from a Failed Cloned Access System Component Upgrade" on page 16-101.

i. **Upgrade Successful**: Repeat this entire procedure to upgrade remaining Access Server clone instances.

9. After upgrading *all* Access Server instances, proceed to "Validating the Upgraded Cloned Access System" on page 16-101.

Validating the Upgraded Cloned Access System

Oracle recommends that you validate the upgraded cloned Access System when all cloned components are upgraded. If you experience an issue, see Appendix G for troubleshooting tips.

> **Note:** Oracle recommends that you do not start user data migration until you have upgraded and validated all original instances.

To validate your cloned Access System upgrade

1. Delete all Web browser caches.
2. Ensure that all Identity Server services and WebPass Web server instances are running, and Policy Manager Web server instances and Access Server services.
3. Perform the same activities that you performed after upgrading the Access System schema. For details, see "Validating Successful Operations in Your Environment" on page 16-69.
4. Perform Access System customization upgrades, as described in Chapter 13.
5. Confirm that the upgraded Access System is operating properly with the upgraded customizations and plug-ins. For details, see "Validating Successful Operations in Your Environment" on page 16-69.
6. Proceed to "Backing Up Upgraded Access System Clones".
7. When you are certain that your upgraded clone environment is operating properly, including your upgraded customizations, proceed to Chapter 17 and start upgrading original instances.

Backing Up Upgraded Access System Clones

Oracle recommends that after validating a successful upgrade you back up critical information. This will enable you to easily restore your environment to the newly upgraded state should that be a requirement.

To back up critical information after the Access System clone upgrade

1. Back up all upgraded destination file system directories. This is similar to backing up an existing component installation directory. For details, see "Backing Up the Existing Component Installation Directory" on page 8-8.
2. **Web Server for Clones**: Back up upgraded Web server configuration files using instructions from your vendor and details in"Backing Up the Existing Web Server Configuration File" on page 8-8.
3. **Windows**: Back up Windows Registry data for the upgraded clone as described in "Backing Up Windows Registry Data" on page 8-9.

Recovering from a Failed Cloned Access System Component Upgrade

If the cloned component upgrade was not successful, you can perform the following steps to undo a few changes, then retry the instance upgrade again.

The source file system directory is a back up copy of the cloned instance before the upgrade. The source provides information during the upgrade. The source file system directory remains intact.

If you want to remove all traces of the cloned system, see "Rolling Back After Upgrading Access System Clones" on page 16-102.

To recover from an unsuccessful Access System clone upgrade

1. Back up the clone source. You will retain the backup copy when you restart the clone upgrade. For example:

   Copy the clone: *clone_np**aaa_01*\access
   To: *backup_clone**aaa_01*\access

2. Remove the 10*g* (10.1.4.0.1) component libraries and files to which you have applied the Release 10.1.4 Patch Set 1 (10.1.4.2.0).
3. Extract the 10*g* (10.1.4.0.1) component libraries and files for the instance to upgrade, and then apply Release 10.1.4 Patch Set 1 (10.1.4.2.0).
4. **Web Server for Clones**: Restore the backed up Web server configuration file, if required for a cloned WebPass.
5. **Windows**: Restore (import) the backed up registry entry for the source instance.
6. Restart the clone upgrade as described in this chapter.

Rolling Back After Upgrading Access System Clones

You can use the following procedure to roll back all changes made to this point and to return to your original setup.

You cannot roll back the schema upgrade unless you used an external utility to back up the schema before upgrading the schema. Details about using external tools to back up and recover the schema is outside the scope of this manual.

To roll back after cloned Access System upgrades

1. Confirm that the original setup is operating properly and serving customers.
2. Shut down clone services and Web servers that service clones.
3. Remove the following items from host computers:
   - Clone file system directories
   - 10*g* (10.1.4.0.1) component libraries and files to which you applied Release 10.1.4 Patch Set 1 (10.1.4.2.0)
   - Any file system directories that you have added or that were added automatically as part of any upgrade process
   - The Web server instance for the clones
   - The branches in the LDAP directory server that were added for the new configuration and policy DNs
4. From the original System Console, remove all clone profiles.
5. If you have a back up copy of the schema before the upgrade, you might be able to reinstate the original schema using external tools.
6. Confirm that your original setup is operating properly.

Looking Ahead

Earlier components send and receive data in Latin-1 encoding. The ugpraded Access Server uses UTF-8 encoding and plug-in data will contain UTF-8 data. For more information about expected system behaviors, see Chapter 4.

When all earlier Access System clones are successfully upgraded, proceed as indicated in the following task overview.

Task overview: Remaining joint Identity and Access System activities include

1. **Finishing Cloned Access System Upgrades**: Proceed to the following topics::
   a. Upgrading SDKs, Integration Connectors, and Access System Customizations
   b. Validating Successful Operations in Your Environment
2. Perform as many tests and familiarization activities as your enterprise dictates before upgrading original instances.

Upgrading SDKs, Integration Connectors, and Access System Customizations

Oracle recommends that you upgrade any customizations and test these with the upgraded clone Access System, as described in Chapter 13. The following overview outlines the tasks that you should perform.

Caution: You must upgrade the Access System before upgrading integration components or an independently installed SDK

Task overview: Upgrading SDKs, Integration Connectors, and Access System Customizations

1. Chapter 11
   - Upgrading Third-Party Integration Connectors
   - Upgrading Independently Installed Software Developer Kits
2. Chapter 13
   - Upgrading Auditing and Reporting for the Access Server
   - Confirming Access System Failover and Load Balancing
   - Upgrading Forms-based Authentication
   - Recompiling and Redesigning Custom Authentication and Authorization Plug-Ins
   - Recompiling Custom AccessGates for .NET 2 Support
   - Associating Release 6.1.1 Authorization Rules with Access Policies
   - Assuring Proper Authorization Failure Re-directs After Upgrading from 6.1.1
   - Updating the ObAMMasterAuditRule_getEscapeCharacter in Custom C Code
   - Validating Access System Customization Upgrades
3. Perform tasks in "Validating Successful Operations in Your Environment" on page 16-69.

17

Upgrading the Original System

This chapter describes how to upgrade your original system using the zero downtime upgrade method. Oracle recommends that you review all information about the zero downtime upgrade method to ensure that this approach is the right one for your enterprise. This chapter includes the following topics:

> **Note:** If you are using the in-place upgrade method, skip this chapter.

Prerequisites For Original Upgrades with the Zero Downtime Method

Confirm that you and your team have performed the following zero downtime upgrade tasks, as described in Chapter 16:

- Creating and populating a new branch in the LDAP directory server
- Upgrading the Schema
- Upgrading data in the new branch of the LDAP directory server
- Upgrading the clone system
- Upgrading SDKs, integration connectors, and customizations
- Validating the upgraded clone system
- Backing up the upgraded clone system

- Familiarizing yourself with 10*g* (10.1.4.2.0) features and functions

Retrieving Changes in the Original Branch Before Upgrading Originals

If changes are made to the original system after you create the new branch in the LDAP directory server for the clones and before you upgrade the original, the changes are stored in the original branch in the LDAP directory server (or in configuration files). In this case, before you upgrade original instances you might want to create another new branch in the LDAP directory server to contain the very latest version of the original data.

After creating the newest branch and populating it with the latest data from the original system, you will reconfigure the clones to use the newest branch and then upgrade the clones anew. The following overview outlines the tasks that you must perform if you choose to complete this task. Here are a few considerations:.

- You can reuse the existing clone profiles in the original System Console. However, if you isolated the original system by removing clone profiles, you must add new clone profiles.
- You can reuse the existing clone file system and source subdirectories on each host.
- You will reconfigure the clone source to use the newest branch in the LDAP directory server.
- You must delete the destination that was created and upgraded based on details from the source.
- You will create a new destination before upgrading the clone.
- If you have new instances, you will want to create clones and add profiles to the original System Console.
- If you have new customizations, you will need to upgrade these manually and test them thoroughly with the upgraded cloned system.

Task overview: Retrieving changes to data in the original branch before upgrading original instances

1. Immediately before upgrading the original system:
   a. Ensure the original system is running properly and serving customers.
   b. Shut down all clone servers and services.
   c. In the LDAP directory Server, remove the new branches that were added for the clone system.
   d. Retain the clone file system on each host computer, and retain each source that was created before upgrading each clone instance.

      Note: If you remove the clone file system and source, you will need to create these anew.

   e. In the clone file system path, remove each upgraded destination because these are configured to use the branch that you deleted in Step c.
2. In the LDAP directory server, create a newer branch and populate it with the latest version of original configuration and policy data. For details, see "Copying Configuration and Policy Data to a New Branch in the LDAP Directory Server" on page 16-34.

3. **No Clone File System or No Source**: If you removed a clone file system or source in Step 1, you need to create the clone anew. For details, see "Cloning Earlier Components for a Zero Downtime Upgrade" on page 16-21.
4. In the original System Console, ensure that all clone instances have a profile.
5. **Absent Clone Profiles in the Original System Console**: Add a profile to the original System Console for each clone instance that does not have a profile. For details, see "Preparing the Original Installation for a Zero Downtime Upgrade" on page 16-2.
6. Configure each clone to use the newest branch. For more information, see "Configuring Cloned Components and Services" on page 16-42, and consider the following:
   - If you retained the cloned source in Step 1, you will reconfigure the source to use the newest branch.
   - If you created new clones in Step 3, you will not yet have a source and instead must reconfigure the clone instance
7. Upgrade the reconfigured clones using instructions in "Upgrading the Cloned Identity System" on page 16-73 and the following:
   a. Skip the Source Creation step if you reconfigured an existing source to use the newest branch in Step 6.
   b. Perform steps to create a destination and obtain 10*g* (10.1.4.2.0) tools for each clone instance upgrade.
   c. Upgrade Identity System instances as described in "Upgrading the Cloned Identity System" on page 16-73.
   d. Perform tasks in "Renaming Audit Files After Upgrading Identity System Clones" on page 16-88.
   e. Upgrade Access System instances as described in "Upgrading the Cloned Access System" on page 16-90.
8. Validate the upgraded clone system as described in "Validating Successful Operations in Your Environment" on page 16-69.
9. Go to "Reconfiguring Domain Name Systems (DNS) to Use Upgraded Clones" on page 17-3.
10. Upgrade the originals as described in the following topics, which are located in this chapter:
    a. Upgrading Your Original Identity System
    b. Upgrading Your Original Access System
    c. Validating the Entire Upgraded Original Environment
    d. Starting On-the-fly User Data Migration
    e. Reconfiguring Domain Name Systems to Use the Upgraded Original Deployment
    f. Removing the Cloned System After Upgrading Originals

Reconfiguring Domain Name Systems (DNS) to Use Upgraded Clones

When you are completely satisfied that the upgraded cloned system is fully operational, it can function as a failover system for your original setup. Until you

perform this task, the production setup is serving your user community and the upgraded clone setup is not available to customers.

To avoid any downtime when upgrading original servers, the requests to the original servers must be redirected either to the cloned servers that have been upgraded or to other original servers. There are several ways to achieve this redirection:

- You can configure the DNS to redirect requests that target original COREid Server and WebPass system URLs to cloned Identity Server and WebPass system URLs.
- You can set up load balancing to ensure that requests that target original COREid Server and WebPass components are redirected to cloned and upgraded Identity Server and WebPass components (or other original COREid Server and WebPass components).

Reconfiguring DNS to redirect network traffic is outside the scope of this manual. For more information about setting up load balancing, see the*Oracle Access Manager Deployment Guide*.

Upgrading Your Original Identity System

After reconfiguring your network to use upgraded clones in place of original components, you are ready to upgrade your original Identity System components. Topics in this section include:

Caution: Oracle recommends that you review all information in this section before performing any activities.

About Upgrading Original Identity System Instances

The differences and similarities between upgrading original components and upgrading cloned components are summarized in this topic. Explicit details and steps are provided in later discussions that you will see when you perform the upgrade tasks.

Caution: Oracle recommends that you review all information in this section before performing any activities.

Similarities When Upgrading Originals versus Clones: Upgrading original instances is similar to upgrading clones in the following ways:

- **Source Creation**: You rename the subdirectory that contains the original instance to create a source for the upgrade. For example:

  Original Instance: *np/ois_01/identity*

  Source Name: *np/ois_01/identity_source*

- **Destination Creation**: You extract fresh 10*g* (10.1.4.0.1) component libraries and files and specify the original file system path (the path that the source had before you renamed it). For example:

  Original Instance: *np/ois_01/identity*

  10.1.4 Destination Name: *np/ois_01/identity*

- **Obtaining Tools and Upgrading**: You apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the 10*g* (10.1.4.0.1) instance to obtain the tools needed for the upgrade.

- **Messages**: The upgrade process provides messages and prompts for every major release between your starting release (6.1.1 for example) and the latest release (10*g* (10.1.4.0.1)). Oracle recommends that you use Automatic rather than Confirmed mode for the quickest upgrade and that you do not skip any processes. For more information, see "About Original Mode (Prod) Processing" on page 15-33. The destination that you specify during the upgrade will be upgraded and include 10*g* (10.1.4.2.0) based on the source details.

- **Registry Entries**: When you upgrade on a Windows platform, the registry entry for the originally installed instance and release is deleted and a new entry is created for the latest release. After upgrading an instance, the registry entry for the earlier release is no longer available.

- **Web Servers that Service Multiple Web Components**: A Web server instance cannot support components that are at different Oracle Access Manager release levels (6.1.1 versus 10.14, for example). The Web server must remain off until all serviced Web components are upgraded. For more information, see "Web Server Support for Multiple Oracle Access Manager Releases" on page 15-7.

Differences When Upgrading Originals versus Clones: All COREid Server clones were upgraded before upgrading any WebPass instances. However, with original COREid Servers, you upgrade only the original instances that are associated with a single WebPass and then you upgrade the associated WebPass.

After each COREid Server upgrade, you reconfigure the upgraded instance to operate with the new branch in the LDAP directory server. Only after upgrading all original COREid Server instances that are associated with a single WebPass will you upgrade the associated WebPass. The following additional conditions will apply when upgrading original Identity System instances:

- **Identity System Only Deployment**: You perform the following activities, in order:
  - Configure the upgraded WebPass to operate with associated original COREid Servers.
  - Upgrade and then reconfigure original COREid Servers that are associated with a different WebPass, and then upgrade and reconfigure that WebPass.

  - Repeat this sequence until all original COREid Servers and WebPass instances are upgraded.
  - After Upgrading and Reconfiguring All Original Identity System Components: Set up the upgraded Identity System.

- **Joint Identity and Access System**: After reconfiguring the first upgraded WebPass, you must add a temporary directory profile for the original Access Server upgrade. For more information, see "Adding a Temporary Directory Profile for Original Access System Upgrades" on page 17-21.

  Before upgrading the first Access Manager, you must ensure that each WebGate has its own profile. For details, see "About Creating Individual Profiles for WebGates that Share a Profile" on page 17-24.

Task overview: Upgrading original Identity System components

1. Locate the association details for original COREid Servers and WebPass instances, which might have been printed when performing activities in "Viewing Details for Existing COREid Servers Associated with a WebPass" on page 16-10.
2. Perform any prerequisite activities before upgrading each original instance. For more information, see "Preparing Original Identity System Components for the Upgrade" on page 17-7.
3. Upgrade original COREid Server instances that are associated with a single WebPass, as described in "Upgrading Original COREid Servers that are Associated with a Single WebPass" on page 17-7.
4. Reconfigure each upgraded original COREid Server to use the new branch in the LDAP directory server, as described in "Configuring Upgraded Original COREid Servers" on page 17-12.
5. Upgrade the WebPass instance that is associated with upgraded original COREid Servers, as described in "Upgrading An Original Associated WebPass Instance" on page 17-15.
6. Configure the upgraded WebPass instance, as described in"Configuring the Upgraded Original WebPass for Upgraded COREid Servers" on page 17-19.
7. **Joint Identity and Access System**: Add a temporary directory profile for use when upgrading Access System components, as described in "Adding a Temporary Directory Profile for Original Access System Upgrades" on page 17-21.
8. Repeat steps in this task overview to upgrade other original Identity System components in the following order:
   - Upgrade a COREid Server instance that is associated with a different WebPass
   - Reconfigure the upgraded original COREid Server to use the new directory branch
   - Upgrade the associated WebPass instance
   - Reconfigure the upgraded WebPass instance
9. When all Identity System components are upgraded, perform steps in "Validating the Upgraded Original Identity System".

For information about recovering if there is a problem, see "Recovering From an Original Identity System Upgrade Failure" on page 17-27. For a look at what follows original Identity System upgrade tasks, see Looking Ahead on page 17-28.

Turning Off the Access Server Cache Flush

If you have a joint Identity and Access System deployment, this task should have been performed for original components before you upgraded the clones. If it was not performed for original components earlier, it must be performed before you continue. For details, see "Turning Off the Access Server Cache Flush" on page 17-7.

Preparing Original Identity System Components for the Upgrade

The procedures to prepare components for an upgrade are described in detail in Chapter 8. You must perform most of the same preparation tasks before upgrading each original component using the zero downtime method. The following overview outlines the tasks that you will perform for each original instance upgrade. Details are provided in independent topics in Chapter 8.

> **Note:** Be sure to locate details about original COREid Server and WebPass associations. You must upgrade COREid Servers associated with a particular WebPass before upgrading the associated WebPass or other COREid Servers. For more information, see "Viewing Details for Existing COREid Servers Associated with a WebPass" on page 16-10.

Task overview: Preparing original Identity System components for a zero downtime upgrade includes these tasks (described in Chapter 8)

1. Preparing Earlier Customizations
2. Copying Custom Identity Event Plug-ins
3. Preparing Host Computers
   - Changing Read Permissions on Password Files
   - Confirming Free Disk Space
4. Preparing Release 6.x Environments
5. Preparing Multi-Language Installations
6. Backing Up File System Directories, Web Server Configurations, and Registry Details

> **Note:** With the zero downtime upgrade method, you do not need to back up the file system directory for each instance. Instead, you will rename the original path to use as a source during the upgrade.

7. Stopping Servers and Services
8. Logging in with Appropriate Administrative Rights

Upgrading Original COREid Servers that are Associated with a Single WebPass

This topic describes all activities that must be performed to upgrade original COREid Server instances that are associated with the same WebPass. At the end of this topic you will find a procedure that provides you with all the steps.

Caution: Oracle recommends that you review all information in this topic before proceeding with the activities. You will be instructed to rename and move directories and it is imperative that you track where you are and what directories you are using.

To help illustrate the activities that you will be instructed to perform, Table 17–1 provides sample file system path names in columns that illustrate the progression of actions that you will take before upgrading each instance. Additional information follows the table. The sample path names are for Windows platforms. The paths in your environment might be different.

Table 17–1 Activities to Prepare for an Original COREid Server Instance Upgrade

1 Original Path	2 Source Creation	3 Destination Creation and Obtaining Tools
COREid Server Instance np611\ois_01\identity	In the original file system, rename the subdirectory containing each original instance. For example: np611\ois_01\identity_source	After creating the source (see column 2): A. Extract 10*g* (10.1.4.0.1) Identity Server component libraries and files and specify the original path as the installation directory. For example: *np611**ois_01*\identity **Note**: The destination path of the 10*g* (10.1.4.0.1) instance must exactly match the path that the original had before it was renamed (see column 1). See "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28. B. Apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the 10*g* (10.1.4.0.1) instance to obtain the tools. See "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32. C. Repeat steps A and B for each clone instance.

After performing the activities outlined in Table 17–1, the 10*g* (10.1.4.2.0) MigrateOAM script will be available in the destination. For example:

*np611**ois_01*\identity\oblix\tools\migration_tools\MigrateOAM.bat

For more information about source and destination creation, see "Preparation Tasks for the Zero Downtime Method" on page 15-12.

Table 17–2 lists the arguments that you specify to upgrade original COREid Servers using the 10*g* (10.1.4.2.0) MigrateOAM script for the instance.

Table 17–2 MigrateOAM Prod Arguments for Original COREid Server Upgrades

MigrateOAM Original (Production) Mode Syntax	Values and Operations
-M Prod	Specify Prod as the mode to upgrade original components. The production mode is required to upgrade original components.
-C OIS	Specify OIS to upgrade an original COREid Server. **Note**: Upgrade each COREid Server original that is associated with a single original WebPass. There are no schema or data upgrades with original COREid Servers.
-F *nnn*	Specify the number that identifies your earlier release. For example: 610 (for 6.1 or 6.1.1), 650 (for 6.5.x), or 700 (for 7.x)

Table 17–2 (Cont.) MigrateOAM Prod Arguments for Original COREid Server Upgrades

MigrateOAM Original (Production) Mode Syntax	Values and Operations
-T 1014	Specify1014 as the release to which this data will be upgraded.
-S "*source directory"*	Specify the full path (in quotation marks) to the renamed original COREid Server directory (see column 1 of Table 17–1). For example: ■ -S *"C:\np611\ois*_01\identity_source"
-D "*destination directory"*	Specify the full path (in quotation marks) to the 10*g* (10.1.4.2.0) Identity Server directory that replaced the original instance directory (see columns 1 and 4 of Table 17–1). For example: ■ -D *"C:\np611\ois_01*\identity"
-I *"installation directory"*	The installation directory should be the same as the destination directory. For example: ■ -I *"C:\np611\ois_01*\identity"
-L *"Languages"*	Specify all installed languages to be upgraded by the appropriate code, in quotations. For example, English, "en-us"; French, "fr-fr"; German, "de-de".

For more information about the script and Prod mode, see "About Original Mode (Prod) Processing" on page 15-33.

In the following procedure any file system path names, starting release value, and languages are provided as samples only. Your details might be different.

Caution: If you do not perform all preparation activities that are appropriate for this component, it might limit your ability to recover or roll back from an upgrade issue.

To upgrade original COREid Servers associated with a single WebPass

1. Determine the associations between your original COREid Server and WebPass instances. For example:
   a. From the COREid System Console, click the System Admin tab, the System Configuration tab, and then click Configure WebPass in the left navigation pane.
   b. In the List all WebPasses page, click the name of an original WebPass (not a clone).
   c. From the Details for WebPass page, click the List Identity Servers button.

      A page appears that lists the primary and secondary servers configured for the existing WebPass.
   d. Print the page to use as a reference or simply determine which COREid Server instances must be upgraded for this WebPass.
   e. Repeat these steps for each WebPass and document the original COREid Servers for the associated WebPass.
2. **Preparation**: Perform tasks for the instance, as described in "Preparing Original Identity System Components for the Upgrade" on page 17-7, which includes:
   - Preparing Earlier Customizations
   - Copying Custom Identity Event Plug-ins
   - Preparing Host Computers

  - Changing Read Permissions on Password Files
  - Confirming Free Disk Space
- Preparing Release 6.x Environments
- Preparing Multi-Language Installations
- Backing Up File System Directories, Web Server Configurations, and Registry Details

> **Note:** With the zero downtime upgrade method, you do not need to back up the file system directory for each instance. Instead, you will rename the original path to use as a source during the upgrade.

- Stopping Servers and Services
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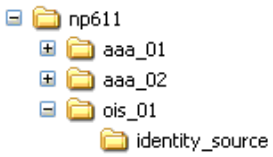
3. **Source Creation**: Rename the subdirectory that contains the original COREid Server instance to create a source for the upgrade. For example:

   Rename: *np611\ois_01*\identity
   As Sample Path: *np611\ois_01*\identity_source



   You are ready to add 10*g* (10.1.4.0.1) libraries and files for this instance upgrade.

> **Caution:** Do not copy existing 10*g* (10.1.4.0.1) libraries and files.

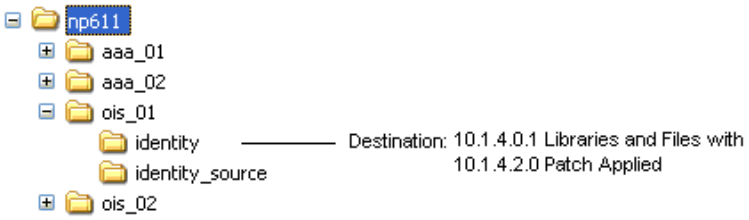
4. **Destination Creation**: Extract 10*g* (10.1.4.0.1) Identity Server libraries and files and specify a destination path that exactly matches the original path before it was renamed. For example:

   Destination Path: *np611\ois_01*\identity

   For a destination path example, see column 1 of Table 17–1. For more information, see "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28.

5. **Obtaining the Tools**: Apply the 10*g* (10.1.4.2.0) patch to the 10*g* (10.1.4.0.1) instance, as described in "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32.

   When your file system is set up, you are ready to upgrade the instance.



6. Change to the *destination_dir* that contains the 10*g* (10.1.4.2.0) MigrateOAM script for the COREid Server instance that you will upgrade. For example:

   cd *np611**ois_01*\identity\oblix\tools\migration_tools

7. Run the MigrateOAM script in Prod mode and specify your starting release and path names for the instance. For example:

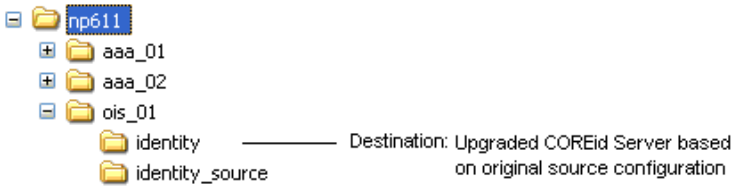
   ```
   MigrateOAM -M Prod -C OIS -F 610 -T 1014 -S "C:\np611\ois_01\identity_source"
   -D "C:\np611\ois_01\identity" -I "C:\np611\ois_01\identity" -L "en-us"
   ```

   a. Use Automatic mode so that you do not need to confirm each process.

   b. Continue as requested through all processes; do not skip any processes.

   c. Finish according to on-screen messages.

      The source remains intact. The destination now includes a 10*g* (10.1.4.2.0) instance configured with the same parameters and details as the source.



8. Verify that the upgrade was successful:

   a. Check that the value of the MigrateUserDataTo1014 is false in the globalparams.xml in the destination path. For example:

      destination_dir\identity\oblix\apps\common\bin\globalparams.xml

      ```
      <NameValPair ParamName="MigrateUserDataTo1014" Value="False" />
      ```

   b. Verify that the ois_server_config.xml file has the correct information for this instance, in the *destination_dir*\identity\oblix\config file system directory.

   c. Start the Identity Server service to confirm that it will start (notice that the name has not changed from the one originally assigned).

   d. **Identity Server Service Does Not Start**: Check your event and Identity Server log output files. For more information about logging and log output files, see the *Oracle Access Manager Identity and Common Administration Guide*.

   e. Check the migration log files for any errors reported during the upgrade, as described in "Accessing Log Files" on page G-2.

   f. **Windows**: Verify that the registry entry is updated by running the Registry editor (regedit) using one of the following methods:

In the Registry Editor Window, click My Computer, HKEY_LOCAL_MACHINE, SYSTEM, CurrentControlSet, Services, and then look for ObOISServer-<Service Name>. Within this, check the Image path.

View the registry entry HKEY_LOCAL_MACHINE, SOFTWARE,Oblix,Oblix Netpoint. Check for the respective installed version and, under that, check the entry for ObOISServer-<Service Name>.

g. Verify that the version file in the destination path is updated for 10.1.4 (np*version_component*.txt). For example:

destination_dir\identity\oblix\config\np1014_is.txt

h. In your upgraded cloned environment, verify that WebGate protection is still working by accessing a protected resource.

9. Proceed as follows:

- **Upgrade Successful**:
  - Perform activities in "Configuring Upgraded Original COREid Servers" on page 17-12.
  - Repeat all steps in this procedure for other original COREid Server instances that are associated with the same WebPass.
  - When all original COREid Servers that are associated with the same WebPass are upgraded and configured, proceed to "Upgrading An Original Associated WebPass Instance" on page 17-15.
- **Upgrade Not Successful**: Proceed to "Recovering From an Original Identity System Upgrade Failure" on page 17-27.

Configuring Upgraded Original COREid Servers

After each original COREid Server is upgraded, you must reconfigure the instance. This is the much like the procedure that you performed to reconfigure clone instances.

Note: Starting with 10*g* (10.1.4.0.1), the name "COREid Server" was changed to "Identity Server".

The tools that you use to reconfigure your original upgraded COREid Server instances are stored in the destination directory that you specified when upgrading the original instance. The abbreviation "ois" refers to the Oracle Identity Server.

Windows Systems: The registry entry was updated when you upgraded the original instance. As a result, you do not need to run config_ois.exe to add the upgraded COREid Server service entry to the Windows registry.

All Systems: You run setup_ois (Windows) or start_setup_ois (non-Windows) from the file system destination that you specified during the upgrade to configure the host name, port, and other details for the upgraded instance. For example:

Windows: *np611\ois_01*\identity\oblix\tools/setup/setup_ois

UNIX: */home/np611/ois*_01/identity/oblix/tools/setup/start_setup_ois

In the example, UNIX refers to supported UNIX-based platforms such as Linux and Solaris. When you run this tool, you will use only the -i option and specify the destination file system directory that was used when upgrading the instance: -i "*destination_dir*".

You enter the command and parameters on a single line. You will be prompted to provide details for the original upgraded instance, including:

- The unique original COREid Identifier
- The original COREid Server Hostname
- The port on which the original COREid Server listens.
- The security mode for the original COREid Server.
- Whether this is the first installed COREid Server: Answer Yes if it is; otherwise, answer No.

Be sure to specify information for the original instance that is entered in the original System Console. When you upgrade the first COREid Server that was installed in this environment, Answer Yes when asked if this is the first COREid Server in the installation. For other COREid Servers, answer No.

> **Note:** Be sure to specify information for the original instance that is entered in the original System Console. When you upgrade the first COREid Server that was installed in this environment, Answer Yes when asked if this is the first COREid Server in the installation. For other COREid Servers, answer No.

When the command finishes, the original upgraded COREid Server is reconfigured based on the information that you supplied. You can verify the changes in the ois_server_config.xml file in the *destination_dir*\identity\oblix\config file system directory. This file should include the details that you supplied during the configuration. For more information about these tools, see your *Oblix NetPoint or Oracle COREid Administration Guide*.

Removing Setup Files: You will be instructed to remove the following files before starting the reconfiguration:

- setup.*
- configInfo.*
- \ldap subdirectory (if there is one)

New versions of these files will be generated during reconfiguration and setup. At the conclusion of the browser-based setup procedure that you will perform, these files will contain the new configuration DN. Removing these files when instructed will help ensure that the Identity Server service will start up after setup.

The information in the following procedure is an example only. Your details will be different.

To reconfigure original upgraded COREid Servers

1. Delete the following files from the *destination_dir*\identity\oblix\config file system directory that was specified for the instance (for example, *np611**ois_01*\identity):
   - setup.*
   - configInfo.*
   - \ldap subdirectory
2. Change to the file system *destination_dir* containing the COREid Server setup tool for this upgraded instance. For example:

Windows: *np611**ois_01*\identity\oblix\tools/setup/setup_ois

UNIX: */home/np611/ois*_01/identity/oblix/tools/setup/start_setup_ois

In the example, UNIX refers to supported UNIX-based platforms such as Linux and Solaris.

3. Run the command using the following parameters and specifications for your original instance. For example:

   Windows:

   ```
   setup_ois.exe -i "C:\np611\ois_01\identity"
   ```

   UNIX:

   ```
   ./start_setup_ois -i "/home/np611/ois_01/identity"
   ```

4. Follow the on-screen prompts and respond with details for your original upgraded COREid Server and COREid Server service.

   a. Unique original COREid Identifier: Enter the name of the original COREid Service.

   b. COREid Server Hostname: Enter the DNS host name where the original upgraded COREid Server resides.

   c. COREid Server Port: Enter the port on which the original upgraded COREid Server listens.

   d. Security Mode [open\simple\cert]: Enter the mode that is specified in the System Console for the original upgraded COREid Server instance.

   e. Do you want to setup SSL between the COREid Server and the Directory Server [y/n]: Respond appropriately for your original connection.

   f. First COREid Server: Answer Yes if it is the first installed COREid Server instance; otherwise, answer No.

5. Check the ois_server_config.xml file in *destination_dir*\identity\oblix\config file system directory to ensure that it includes the details that you supplied during the operation.

6. Proceed as follows:

   - **Successful**: If the file mentioned in Step 5 contains the information you specified, the operation was successful. Proceed to Step 7.
   - **Not Successful**: If the information does not appear in the files mentioned in Step 5, the operation failed. In this case, see "Recovering From an Original Identity System Upgrade Failure" on page 17-27.

7. Restart the original upgraded COREid Server service, and proceed as follows:

   - **More COREid Servers Associated with the Same WebPass**: Repeat steps to upgrade the next original COREid Server that is associated with this WebPass, as described in "Upgrading Original COREid Servers that are Associated with a Single WebPass" on page 17-7.
   - **No More COREid Servers Associated with the Same WebPass**: Proceed to "Upgrading An Original Associated WebPass Instance" on page 17-15.

Upgrading An Original Associated WebPass Instance

After upgrading original COREid Servers that are associated with a specific WebPass, you are ready to upgrade the original associated WebPass. The activities that you perform when upgrading original WebPass instances, are very similar to the activities that you performed to upgrade WebPass clones.

> **Caution:** Oracle recommends that you review all information in this topic before proceeding with NY activities.

You start by performing steps to ensure that for each cloned WebPass instance you have the 10*g* (10.1.4.2.0) MigrateOAM script in an appropriate location. To help illustrate the activities that you will be instructed to perform, Table 17–3 organizes sample directory path names in columns that describe the progression of actions that you will take. The sample path names are for Windows platforms. The paths in your environment might be different.

Table 17–3 Activities to Prepare for an Original WebPass Instance Upgrade

1 Original Path	2 Source Creation	3 Destination Creation and Obtaining Tools
WebPass Instances *np611**webcomponent_01*\identity	In the original file system, rename the subdirectory containing each original instance. For example: *np611**webcomponent_01*\identity_source	After creating a source for the original instance upgrade: A. Extract 10*g* (10.1.4.0.1) WebPass libraries and files and specify the original path before it was renamed as the installation (destination) directory. For example: *np611**webcomponent_01*\identity **Note**: The path of the 10*g* (10.1.4.0.1) instance must exactly match the path of the original instance before it was renamed (see column 1). See "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28. B. Apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the 10*g* (10.1.4.0.1) instance to obtain the tools. See "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32. C. Repeat steps A and B for each clone instance.

After performing activities outlined in Table 17–3, the 10*g* (10.1.4.2.0) MigrateOAM script will be stored in the destination that you created. For example:

*np611**webcomponent_01*\identity\oblix\tools\migration_tools\MigrateOAM.bat and so on.

For more source and destination creation in Table 17–3, see "Preparation Tasks for the Zero Downtime Method" on page 15-12.

Table 17–4 lists the arguments that you specify with the 10*g* (10.1.4.2.0) MigrateOAM script to execute the original upgrade for each individual WebPass.

Table 17–4 MigrateOAM Script for Original WebPass Upgrades

MigrateOAM Original Mode Syntax	Values and Operations
-M Prod	Specify Prod as the mode, which is required to upgrade original components.
-C WP	Specify WP to upgrade an original WebPass component. **Note**: Upgrade each WebPass original after upgrading all COREid Servers that are associated with that WebPass. Upgrade all original WebPass instances before upgrading any Access System originals.
-F *nnn*	Specify the number that identifies your earlier release. For example: 610 (for 6.1 or 6.1.1), 650 (for 6.5.x), or 700 (for 7.x)
-T 1014	Specify1014 as the release to which this data will be upgraded.
-S *"source directory"*	Specify the full path (in quotation marks) to the renamed earlier WebPass directory (see column 2 of Table 17–3). For example, when you have multiple instances: ■ -S *"C:\np611\webcomponent_01*\identity_source" ■ -S *"C:\np611\webcomponent_02*\identity_source" ■ and so on
-D *"destination directory*"	Specify the full path (in quotation marks) to the original 10*g* (10.1.4.2.0) WebPass directory that replaced the earlier instance directory (see columns 1 and 4 of Table 17–3). For example: ■ -D *"C:\np611\webcomponent_01*\identity" ■ -D *"C:\np611\webcomponent_02*\identity" ■ and so on
-I *"installation directory"*	The installation directory should be the same as the destination directory. For example: ■ -I *"C:\np611\webcomponent_01*\identity" ■ -I *"C:\np611\webcomponent_02*\identity" ■ and so on. **Note**: Refer to Table 17–3 for details about path names and directory content.
-L *"Languages"*	Specify all installed languages to be upgraded by the appropriate code, in quotations. For example, English, "en-us"; French, "fr-fr"; German, "de-de".
-W *"Web server type*"	Specify the appropriate code for the Web Server used by this original, in quotations. For example, "nsapi", "apache2", "isapi", apache", "ihs", "ohs", "ohs2", "domino".

Upgrading an original WebPass instance does not impact the schema and data but does include a Web server configuration upgrade. During the upgrade of the original WebPass, you will see messages and prompts for each sequence from your starting release to the conclusion. Oracle recommends that you use Automatic rather than Confirmed mode for the quickest upgrade. Oracle also recommends that you do not skip any processes.

> **Note:** When you have a single Web server instance serving more than one Oracle Access Manager Web component, the Web server must remain stopped until all serviced Web components on the host computer are upgraded.

In the following procedure, sample file system directory path names, starting release, and languages are provided to help illustrate activities that you must perform.

Caution: If you do not perform all preparation tasks, you might not be able to roll back or recover from an upgrade issue.

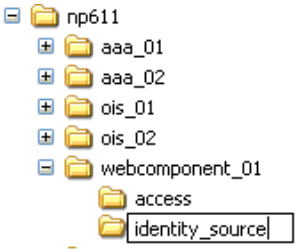
To upgrade an original WebPass instance

1. **Preparation**: See "Preparing Original Identity System Components for the Upgrade" on page 17-7, which includes:
   - Copying Custom Identity Event Plug-ins
   - Preparing Earlier Customizations
   - Preparing Host Computers
     - Changing Read Permissions on Password Files
     - Confirming Free Disk Space
   - Preparing Release 6.x Environments
   - Preparing Multi-Language Installations
   - Backing Up File System Directories, Web Server Configurations, and Registry Details

     Note: With the zero downtime upgrade method, you do not need to back up the file system directory for each instance.

   - Stopping Servers and Services
   - Logging in with Appropriate Administrative Rights
2. **Source Creation**: Rename the subdirectory that contains the original WebPass to create a source for the upgrade. For example:

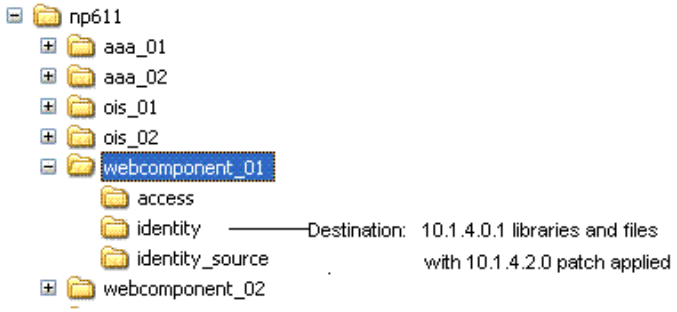
   Rename: *np611**webcomponent_01*\identity
   As: *np611**webcomponent_01*\identity_source



3. **Destination Creation**: Extract 10*g* (10.1.4.0.1) WebPass libraries and files and specify the original path (before it was renamed) as the destination. For example:

   Sample Path: *np611**webcomponent_01*\identity

   For a destination example, see column 1 of Table 17–3. For more information, see "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28.



4. **Obtaining the Tools**: Apply the 10*g* (10.1.4.2.0) patch to the 10*g* (10.1.4.0.1) instance, as described "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32.

   When your original file system is set up according to the steps in this procedure, you are ready to upgrade the original WebPass.

5. Change to the file system destination that contains the 10*g* (10.1.4.2.0) MigrateOAM script for the instance to be upgraded. For example:

   *destination_dir**webcomponent_01*\identity\oblix\tools\migration_tools

6. Run the 10*g* (10.1.4.2.0) MigrateOAM script in Prod mode and specify your starting release, path names, language, and Web server type. For example:

   ```
   MigrateOAM -M Prod -C WP -F 610 -T 1014 -S "C:\np611\webcomponent_01\identity_
   source" -D "C:\np611\webcomponent_01\identity" -I "C:\np611\webcomponent_
   01\identity" -L "en-us" -W "nsapi"
   ```

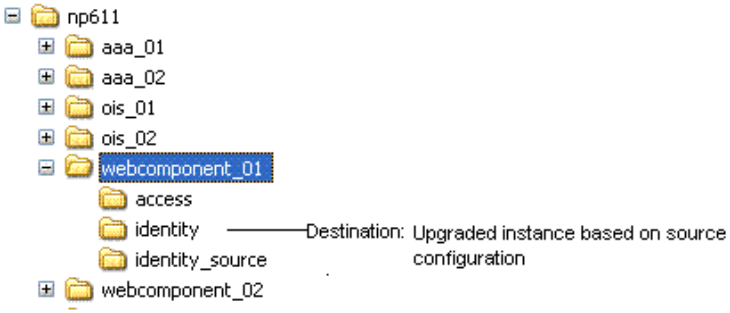
   a. Use Automatic mode for each sequence so that you do not need to confirm each process.

   b. Accept Web server configuration changes by specifying the full directory path name to the Web server configuration file for which this original is configured.

   c. Continue as requested through all processes; do not skip any processes.

   d. Finish according to on-screen messages.

      The destination has been upgraded using configuration details from the source.



7. Verify that the upgrade was successful, as follows:

a. Apply Web server changes, if needed, and check the Web server-specific configuration file. If you have IIS configured as the Web server for this instance, ensure that the transfilter with its green status in ISAPI filters. For more information, see the *Oracle Access Manager Installation Guide*.

Note: When you have a single Web server instance serving more than one Oracle Access Manager Web component, the Web server must remain shut down until all serviced Web components on the host computer are upgraded.

---

b. **Windows**: Verify that the registry entry is updated by running the Registry editor (regedit) and:

View the registry entry HKEY_LOCAL_MACHINE, SOFTWARE,Oblix,Oblix Netpoint. Check for the respective installed version and, under that, check the entry for WebPass.

c. Check migration log files for any errors reported during the upgrade, as described in "Accessing Log Files" on page G-2.

8. Proceed as follows:

a. **WebPass Upgrade Successful**: Proceed with "Configuring the Upgraded Original WebPass for Upgraded COREid Servers".

b. **Upgrade Not Successful**: Proceed to "Recovering From an Original Identity System Upgrade Failure" on page 17-27.

9. After upgrading and configuring all original WebPass instances, proceed to "Setting Up the Upgraded Original Identity System" on page 17-24.

Configuring the Upgraded Original WebPass for Upgraded COREid Servers

You use the following procedure after upgrading the WebPass instance. In this case, you use the WebPass setup tool to reconfigure the instance to communicate with the original upgraded COREid Server.

Note: When upgrading an original WebPass instance, the Web server configuration is also updated. No further Web server configuration update is needed.

The WebPass setup tool is included in each upgraded destination on all platforms. On windows platforms the tool is named setup_webpass.exe and on non-Windows systems it is named start_setup_wepbass. The tool is located in the upgraded WebPass destination in the file system. For example:

*np611**webcomponent_01*\identity\oblix\tools\setup\setup_WebPass

Options for the tool are shown in Table 17–5. When running this tool, you can specify only the -i option and all other information will be requested automatically. If you have multiple WebPass instances, you must repeat this operation with each original instance.

Table 17–5 Options for setup_webpass (and start_setup_webpass) for an Original Instance

Command Options	Operation
-i "*Upgrade_Destination_dir*"	Specifies the file system directory where your upgraded original WebPass is stored (the destination that was specified during the upgrade). For example: "C:*np611**webcomponent_01*\identity".
-q -n *WebPass _name*	Specifies the unique name of this original WebPass instance.
-h *associated_COREidServer_Hostname*	Specifies the computer name where the associated original COREid Server resides.
-p *associated_COREidServer_port_#*	Specifies the port number of the computer where the associated original COREid Server resides.
-s *mode*	Specifies the transport security mode for the associated original COREid Server and original WebPass: open or simple or cert.
-P simple | cert mode password	Specifies the password for either the Simple or Cert transport security mode.
-c request | install	Specifies a certificate request or installation.

As the command is performed, messages keep you informed. Be sure to supply any information for your environment that is requested during the operation.

The following procedure provides the sequence of steps that you need to perform. File System path names are presented as an example. Your details will vary.

To modify an upgraded original WebPass to operate with the upgraded COREid Server

1. Change to the file system destination that was specified for this original WebPass upgrade and locate the setup_WebPass (or start_setup_webpass) utility. For example:

   Windows: *np611**webcomponent_01*\identity\oblix\tools\setup\setup_webpass
   UNIX: */home/np611/webcomponent_01*/identity/oblix/tools/setup/start_setup_webpass

2. Run the utility using the specifications for this upgraded original WebPass. For example:

   ```
   setup_webpass -i "C:\np611\webcomponent_01\identity"
   ```

3. Follow the on-screen prompts and respond with details for this original upgraded WebPass and the associated original upgraded COREid Server.

   a. Unique WebPass Identifier: Enter the name of the original WebPass that appears in the System Console.

   b. COREid Server Hostname: Enter the DNS host name where the associated original COREid Server resides.

   c. COREid Server Port: Enter the port on which the original associated COREid Server listens, as specified in the System Console.

   d. Security Mode [open\simple\cert]: Enter the mode that is specified in the System Console.

4. **Not Successful**: Proceed to "Rolling Back After Upgrading the Original Identity System" on page 17-27.
5. **Successful**: Proceed as follows:
   - **Identity System Only:**
     - **COREid Servers Associated with a Different WebPass**: Perform steps in "Upgrading Original COREid Servers that are Associated with a Single WebPass" on page 17-7, and then upgrade the associated WebPass.
     - **No More WebPass Instances to Upgrade**: Perform steps in "Setting Up the Upgraded Original Identity System" on page 17-24.
   - **Joint Identity and Access System**:
     - **First Upgraded WebPass**: Perform steps in "Adding a Temporary Directory Profile for Original Access System Upgrades" on page 17-21.
     - **COREid Servers Associated with a Different WebPass**: Upgrade the next set of COREid Servers as described in "Upgrading Original COREid Servers that are Associated with a Single WebPass" on page 17-7, and then upgrade the associated WebPass.
     - **No More WebPass Instances to Upgrade**: Perform steps in "Setting Up the Upgraded Original Identity System" on page 17-24.

Adding a Temporary Directory Profile for Original Access System Upgrades

If you have a joint Identity and Access System, you must perform this task after upgrading and reconfiguring the first original WebPass instance. You perform this task using the operational upgraded clone Identity System.

This task is performed by a Master Access Administrator if there is no LDAP directory profile that grants write permission to policy data for the original Access Server. This task is performed after upgrading the first original WebPass instance, and before upgrading *any* original Access System component. The temporary profile grants the original Access Server write access to the policy data stored in the new branch of the directory server. You create the temporary directory profile using the upgraded clone Identity System Console.

During WebGate upgrades, the Access Server gathers configuration information stored in the WebGatestatic.lst file and updates the LDAP directory server using the temporary directory profile created for this purpose. After writing information to the LDAP directory server, the Access Server returns status information to the WebGate. Any unknown parameters in the WebGateStatic.lst file are moved to the LDAP directory server.

In earlier releases, WebGate configuration parameters were stored in the WebGatestatic.lst file. However, starting with Oracle Access Manager 10*g* (10.1.4.0.1), you must configure WebGates parameters such as IPValidation and IPValidationExceptions from the System Console, as described in the *Oracle Access Manager Access Administration Guide*. Proper migration of earlier WebGate configuration parameters during an upgrade is required because the WebGateStatis.lst file is deleted.

Note: Upgrading any additional WebPass instances or any Access System components *before* creating this profile could result in a failed upgrade.

Guidelines for the Temporary Directory Profile

When creating this temporary directory profile you must:

- Assign a profile name of migration_wgstatic_profile; do *not* use another name.
- Create the migration_wgstatic_profile for the directory where the policy data is stored. For example:
  - If your user, configuration, and policy data are stored together on a single LDAP directory server, create this new profile for that LDAP directory server.
  - If your policy data is stored in the same LDAP directory server as configuration data, create this new profile for that LDAP directory server.
- Assign permissions for all operations to the migration_wgstatic_profile.
- Use the same namespace as the <ldapOblixBase> (for the new branch) that is stored in the clone *AccessManager_dir*/access/oblix/config/configInfo.xml. For example, `obapp=PSC,o=Oblix, <New_Config_DN>`.
- If your LDAP directory server supports LDAP referrals, enable LDAP referrals in this temporary LDAP directory server profile. A referral directs a client request to another server to find requested information in another location. For more information, see the *Oracle Access Manager Identity and Common Administration Guide*.
- If the policy data LDAP directory server is SSL-enabled, the CA certificate is needed by the Access Server to connect to the LDAP directory server. The CA certificate must be manually added (using the certutil tool) to the certificate store in the original *AccessServer_install_dir*/access/oblix/config/cert8.db or cert7.db. However, if the existing policy data directory used by the Access Server is already in SSL mode and uses the same CA certificate, this step is not needed.
- If multiple WebGates share a single AccessGate profile in the Access System Console, you must also perform tasks in "Creating Individual Profiles for WebGates that Share a Profile" on page 17-33 before you upgrade any original Access Manager instance.

Important: The following procedure must be completed before upgrading any additional WebPass instances and any Access System components. For more information about LDAP directory server profiles, see the *Oracle Access Manager Identity and Common Administration Guide*.

To create the temporary LDAP directory server profile for the Access Server

1. Navigate to the clone Identity System Console (formerly known as the COREid System Console) in your cloned environment. For example:

   ```
   http://hostname:port/identity/oblix/
   ```

2. From the cloned Identity System Console, click the System Configuration tab.
3. Click Directory Profiles to display the Configure Profiles page.
4. Locate the Configure LDAP Directory Server Profiles section and click Add to display the Create Directory Server Profile page.
5. Fill in the information for this temporary profile: In the Name field enter the following name, and in the Name Space field enter the namespace for your environment:

Name: `migration_wgstatic_profile`

Name Space: *`obapp=PSC,o=Oblix, <New_Config_DN>`*

In the example, the Name Space is obapp=PSC, *`<ldapOblixBase>`*, as defined in the configInfo.xml that is stored in your clone *AccessManager_dir*/oblix/config file system path.

6. Select the All Operations button to give this profile permission to perform all operations.
7. In the Used By field, select the Access Servers option.

   Next you must create a database instance profile where you identify the LDAP directory server where your policy data is stored. If your policy data is stored on a separate LDAP directory server, the new database instance profile should be created for that LDAP directory server. If user, configuration, and policy data are all on one LDAP directory server, the new database instance profile should be created for that LDAP directory server
8. In the Database Instances section of the Create Directory Server Profile page, click Add.

   The Create Database Instance page appears.
9. Fill in the following information to configure a database instance profile for your policy data LDAP directory server:

   Name:
   Machine:
   Port:
   Root DN:
   Root DN Password:

   For more information, see the *Oracle Access Manager Identity and Common Administration Guide* for details.
10. In the Flags field, if your directory supports LDAP referrals click the LDAP referrals check box if appropriate for your environment.

    See the *Oracle Access Manager Identity and Common Administration Guide* for details on configuring LDAP referrals.
11. Save the database instance profile and the associated LDAP directory server profile.
12. If the policy LDAP directory server operates in SSL mode, the Access Server requires a CA certificate to connect to it.

    If the policy LDAP directory server uses the same CA certificate as the Access Server, no additional configuration is required. Otherwise, you must add the CA certificate (cert8.db or cert7.db) to the certificate store in the following original file system path:

    AccessServer_install_dir\oblix\config\cert8.db or cert7.db

    Where *AccessServer_install_dir* is the file system path where the original Access Server is installed. For more information on adding a new certificate store, see the *Oracle Access Manager Installation Guide*.
13. Proceed as follows:

    - **Multiple WebGates Share An AccessGate Profile:** Go to "About Creating Individual Profiles for WebGates that Share a Profile".

- **Another WebPass Instance to Upgrade**: Go to "Upgrading Original COREid Servers that are Associated with a Single WebPass" on page 17-7.
- **No Other WebPass Instances to Upgrade**: Go to "Setting Up the Upgraded Original Identity System" on page 17-24.
- **Not Successful**: Delete this temporary directory profile and create a new one.

About Creating Individual Profiles for WebGates that Share a Profile

Before you upgrade an Access Manager original, you need to add an individual profile in the clone System Console for each WebGate that shares an AccessGate profile. You are notified about this when you upgrade WebPass, however, you do not need to perform this task until you are ready to upgrade the Access Manager original.

For more information, see "Creating Individual Profiles for WebGates that Share a Profile" on page 17-33.

Setting Up the Upgraded Original Identity System

After configuring all upgraded original COREid Servers and WebPass instances, you must set up the upgraded Identity System to use the new configuration DN. You must perform this task for each individual Identity Server and WebPass association.

Web Server Requirements: All Oracle Access Manager Web components (WebPass, Access Manager, and WebGates), must be the same release (10*g* (10.1.4.2.0)) before you restart the Web server. As a result, you cannot set up the Identity System or Access Manager until all Oracle Access Manager Web components have been upgraded. See Table 17–6 for conditions

Table 17–6 Conditions for Upgraded Original System Setup

System	Readiness to Restart Web Server
Identity System Only:	Last WebPass has been upgraded.
Joint Identity and Access System:	
WebPass and Access Manager use the same Web server instance	Delay Identity System setup until after original serviced Access Manager components are upgraded
Access Manager and WebGates in the same directory	Upgrade WebGate before reconfiguring Access Manager
One Web server instance serves multiple Oracle Access Manager Web components	Upgrade all serviced Web components before restarting the Web server instance
All Web components on the host computer are upgraded, including WebGates	Perform activities in: ■ "Setting Up the Upgraded Original Identity System" on page 17-24 ■ "Setting Up the Upgraded Original Access Manager" on page 17-39

For more information, see "Web Server Support for Multiple Oracle Access Manager Releases" on page 15-7.

Extra Directory Profiles in a Split Directory Server Configuration: In this situation, you might find extra directory profiles are added during the setup operation. You will be instructed to remove the extra profiles. For more information, see "Setting Up the Cloned COREid System to Use the New Branch" on page 16-50.

You use the following procedure only when your environment is ready. In this procedure, file system path names are presented as an example. Your details will be different. For more information about setting up the Identity System, see the *Oracle Access Manager Installation Guide*.

To set up the upgraded original Identity System to use the new branch

1. Confirm that your environment is ready based on the following conditions.
2. Ensure that the original WebPass Web server is running and go to the upgraded original Identity System Console, as usual.

   ```
   http://hostname:port/identity/oblix/
   ```

   In the sample URL, *hostname* refers to computer that hosts the Web server for the original WebPass that you have upgraded; *port* refers to the HTTP port number of the WebPass Web server instance; /identity/oblix connects to the Identity System Console.
3. Click the Identity System Console link.

   The System Console setup page appears.
4. Click the Setup button.
5. Follow on-screen instructions and those here to set up the Identity System (see also your *Oracle Access Manager Installation Guide* for more information):
   a. Confirm LDAP directory server details for the new directory branch.
   b. Enter the configuration bind DN and user data searchbase to be used.

      Configuration DN—*o=Newbranch,o=company,c=us*

      Searchbase—Supply the original searchbase
   c. Finish this setup and leave all other setup details as they are.
   d. Restart the new Identity Server service when instructed to do so during setup.
6. Go to the Identity System Console and verify that the Directory Server profile for upgraded original Identity Servers use the new configuration DN. For example:
   a. Go to the Identity System Console, as usual.

      ```
      http://hostname:port/identity/oblix/
      ```
   b. From the Identity System Console click the System Configuration tab.
   c. Click Directory Profiles in the left column to display the Configure Profiles page.
   d. Click the name of an existing directory profile for an original Identity Server to display its specifications.
   e. Confirm that the new configuration DN appears in the profile.
   f. **Extra Directory Profiles in a Split Directory Configuration**: Check for and remove any extra directory profiles that might have been added when upgraded Identity Servers were reconfigured. For more information, refer to the discussion about extra profiles in "Setting Up the Cloned COREid System to Use the New Branch" on page 16-50 and see *Oracle Access Manager Identity and Common Administration Guide*.
7. Check the setup.xml file to ensure that the new configuration DN is listed (\identity\oblix\config directory):

- setup.xml*
- configInfo.xml*
- configInfo.lst*
- \ldap subdirectory (if there is one)

8. Restart the Web server and the upgraded Identity Server service.
9. Proceed as follows:
   - **Configuration Successful, Joint Identity and Access System**: Proceed to "Upgrading Your Original Access System" on page 17-30.
   - **Configuration Successful, Identity System Only**: Proceed to "Validating the Entire Upgraded Original Environment" on page 17-58.
   - **Configuration Not Successful**: Remove the files named in Step 7 and re-run browser-based setup as described in this procedure. Otherwise, perform activities in "Rolling Back After Upgrading the Original Identity System" on page 17-27.

Validating the Upgraded Original Identity System

Oracle recommends that you quickly validate the following items to ensure that the overall upgrade of your original Identity System was successful. If you experience an issue, refer to the troubleshooting tips in Appendix G.

Note: The Web server instance should remain shut down until all serviced Web components have been upgraded.

To validate your upgraded original Identity System

1. Delete all Web browser caches once the upgrade is complete.
2. Make sure all upgraded original Identity Server services and WebPass Web server instances are running.
3. Check that your message and parameter catalog customizations have been preserved. For example, if you have changed any message in a particular message catalog file, then it needs to be retained.
4. Perform all validation activities for the upgraded Identity System, as described in "Validating Identity System Operations" on page 16-70.

   Note: These are the same activities that you performed when validating operations with the upgraded Identity System schema.

   ---

5. Proceed to "Backing Up the Upgraded Original Identity System".

Backing Up the Upgraded Original Identity System

Oracle recommends that you validate successful operations and then perform the following back up tasks. This will enable you to easily restore your environment to the newly upgraded and validated state should that be needed. These tasks are described in detail in Chapter 8.

To back up critical information after upgrading original Identity System components

1. Back up the upgraded destination file system directory. This is similar to backing up an existing component installation directory. For details, see "Backing Up the Existing Component Installation Directory" on page 8-8.
2. **Web Server**: Back up the upgraded Web server configuration file using instructions from your vendor and details in"Backing Up the Existing Web Server Configuration File" on page 8-8.
3. **Windows**: Back up Windows Registry data as described in "Backing Up Windows Registry Data" on page 8-9.
4. Proceed to"Looking Ahead" on page 17-28.

Recovering From an Original Identity System Upgrade Failure

If an original Identity System component upgrade was not successful, you can perform the following steps to restart this upgrade.

The source directory was not touched during the upgrade and can be reused.

To recover from an unsuccessful original Identity System upgrade

1. Back up the source file system directory anew. You will retain one to use as a backup copy and use one to restart the upgrade.
2. For the instance to be retried, remove the 10*g* (10.1.4.0.1) libraries and files to which you applied Release 10.1.4 Patch Set 1 (10.1.4.2.0).
3. For the instance to be retried, install 10*g* (10.1.4.0.1) libraries and files and apply Release 10.1.4 Patch Set 1 (10.1.4.2.0)
4. **Web Server**: Restore the backed up Web server configuration file, if required.
5. **Windows**: Restore the backed up Registry data for the component.
6. Using a backup copy of your earlier original component installation directory (and Web server configuration, if needed), restart the upgrade as described in the appropriate topic.

Rolling Back After Upgrading the Original Identity System

This task is optional. You can use the following procedure to roll back all changes and return to your original installation. When you finish this operation, you will only your original setup and release.

You cannot roll back the schema upgrade unless you used an external utility to back up the schema before it was upgraded. Details about using external tools to back up and reinstate the schema is outside the scope of this manual. No automated tools are provided to roll back the schema upgrade.

To roll back after upgrading Identity System originals

1. Confirm that your clone setup is operating properly and serving customers.
2. Shut down the upgraded original service or Web server.
3. Remove any 10*g* (10.1.4.2.0) destination file system directories that were added for the original upgrade.
4. Remove any other file system directories that were added automatically or that you added.

5. Restore the original instance file system path by renaming the source.
6. Windows: For each original instance on a Windows platform, import the back up copy of the Windows registry entry for this component.

> **Note:** If there is no back up copy of the Windows registry entry, you must perform specific steps to generate a new registry entry. For more information, see "Reinstating Original Windows Registry Entries During a Rollback Operation" on page 15-36.

7. Web Server Configuration: Restore the backup copy of original Web server configuration files.
8. Restart the original service or Web server.
9. Repeat all steps for each upgraded original.
10. In the original System Console, remove entries for the clones
11. If you have a back up copy of the original schema before upgrading, you might be able to reinstate the copy using external tools.
12. Confirm that the original setup is operating properly, and then configure the DNS to enable the original setup to serve customers. For more information, see "Reconfiguring Domain Name Systems (DNS) to Use Upgraded Clones" on page 17-3.
13. Roll back the upgraded clone setup, which includes all clone file system directories, any Web server instances created for clones, the new branch that was created in the LDAP directory server. Also remove entries added to the original System Console for clone components. For more information, see:
    - Rolling Back Changes Made for the New `oblix` Branch in Chapter 16
    - Rolling Back After Upgrading Identity System Clones in Chapter 16

Looking Ahead

Upgraded original Identity System components send and receive information in UTF-8 encoding. Earlier components send and receive data in Latin-1 encoding. As a result, the 10*g* (10.1.4.0.1) Identity System does *not* work with earlier Access System components. For more information about expected system behaviors, see Chapter 4.

Proceed as follows:

- **Identity System Only**: Finish the upgrade as described in "Task overview: Remaining original Identity System upgrade activities".
- **Joint Identity and Access System**: You must upgrade integration connectors before upgrading the SDK. In this case, perform tasks as described in "Task overview: Remaining original joint Identity and Access System activities" on page 17-29.

Task overview: Remaining original Identity System upgrade activities

1. Proceed to "Upgrading SDKs and Identity System Customizations" on page 17-29.
2. Go to "Validating the Entire Upgraded Original Environment" on page 17-58.
3. Perform as many tests as your enterprise dictates, and then proceed to following topics:

- Starting On-the-fly User Data Migration
- Reconfiguring Domain Name Systems to Use the Upgraded Original Deployment
- Deleting the Temporary Directory Server Profile
- Reverting Backward Compatibility
- Removing the Cloned System After Upgrading Originals

Note: When you have a joint Identity and Access System, you must perform activities in the following sequence using information in this chapter and others.

Task overview: Remaining original joint Identity and Access System activities

1. **Finishing Original Identity System Upgrades**: Perform tasks in "Upgrading SDKs and Identity System Customizations".
2. **Perform Original Access System Upgrades**: Perform tasks as directed in:
   a. Upgrading Your Original Access System
   b. Upgrading SDKs, Integration Connectors, and Access System Customizations
   c. Validating the Entire Upgraded Original Environment
3. **Finish the Zero Downtime Upgrade**: After your own validation period ends, proceed to:
   - Starting On-the-fly User Data Migration
   - Reconfiguring Domain Name Systems to Use the Upgraded Original Deployment
   - Deleting the Temporary Directory Server Profile
   - Reverting Backward Compatibility
   - Removing the Cloned System After Upgrading Originals

Upgrading SDKs and Identity System Customizations

Oracle recommends that you upgrade your Identity System customizations and any independently installed software developer kits (SDKs) and then validate that the entire upgraded original Identity System is operating properly.

Task overview: Remaining original Identity System upgrade activities

1. Proceed as needed for your environment:
   - **Identity System Only**: Upgrade integration connectors as described in Chapter 11.
   - **Joint Identity and Access System**: Upgrade the Access System, integrations, and independently installed SDKs before performing tasks in Chapter 11.
2. Upgrade original Identity System customizations as described in Chapter 12, which includes:
   - Upgrading Auditing and Access Reporting for the Identity System
   - Combining Challenge and Response Attributes on a Panel

- Confirming Identity System Failover and Load Balancing
- Migrating Custom Identity Event Plug-Ins
- Ensuring Compatibility with Earlier Portal Inserts
- About Custom Items and Upgrades
- Incorporating Customizations from Release 6.5 and 7.x
- Incorporating Customizations from Releases Earlier than 6.5
- Validating Identity System Customization Upgrades

3. Proceed as follows:
   - **Joint Identity and Access System**: Go to "Upgrading Your Original Access System".
   - **Identity System Only**: Proceed to tasks in Table 17–7:

Table 17–7 Finishing the Upgrade for Identity System Only Deployment

Finishing the Original Identity System Upgrade
Validating the Entire Upgraded Original Environment
Starting On-the-fly User Data Migration
Reconfiguring Domain Name Systems to Use the Upgraded Original Deployment
Deleting the Temporary Directory Server Profile
Reverting Backward Compatibility
Removing the Cloned System After Upgrading Originals

Upgrading Your Original Access System

After upgrading your original Identity System, you are ready to upgrade your original Access System using the zero downtime method.

Caution: Oracle recommends that you review all information in this section before performing any activities.

Topics in this section include:

- About Upgrading Original Access System Instances
- Preparing Original Access System Components for the Upgrade
- Creating Individual Profiles for WebGates that Share a Profile
- Upgrading An Original Access Manager Instance
- Setting Up the Upgraded Original Access Manager
- Configuring Original Access Servers to Use the New Branch
- Upgrading Original Access Server Instances
- Upgrading Original WebGates
- Validating the Upgraded Original Access System
- Backing Up the Upgraded Original Access System
- Recovering From an Original Access System Upgrade Failure

About Upgrading Original Access System Instances

The differences and similarities between upgrading original Access System components and upgrading cloned components are summarized here. Explicit details and steps are provided in later topics in this section.

Similarities When Upgrading Originals versus Clones: Upgrading original instances is similar to upgrading clones in the following ways:

- **Source Creation**: You do need a source; however, in this case you must rename the subdirectory containing the original instance. For example:

  Original Instance: *np/aaa_01/access*

  Source Name: *np/aaa_01/access_source*

- **Destination Creation**: In this case, you extract fresh 10*g* (10.1.4.0.1) component libraries and files into the same path that the original had before you renamed it. For example:

  Original Instance: *np/aaa_01/access*

  1014 Destination: *np/aaa_01/access*

- **Obtaining Tools and Upgrading**: You apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the 10*g* (10.1.4.0.1) instance to obtain the tools needed for the upgrade.
- **Messages**: Messages and prompts keep you informed. Use Automatic mode and do not skip any processes. For more information, see "About Original Mode (Prod) Processing" on page 15-33. The destination is upgraded based on source details.
- **Registry Entries**: After upgrading, the registry entry for the earlier release is no longer available.
- **Web Servers that Service Multiple Web Components**: The Web server must remain shut down, as described in "Web Server Support for Multiple Oracle Access Manager Releases" on page 15-7.

Differences When Upgrading Originals versus Clones: After upgrading each Access Manager instance, you reconfigure it to operate with the upgraded schema and data in the new branch of the LDAP directory server. Take the following items into account:

- All original Access Manager components must be upgraded and reconfigured before you upgrade any Access Server instances.
- Before restarting any original Access Server after reconfiguring an upgraded original Access Manager, log in to the Access System Console from any upgraded original Access Manager and delete the profiles that were created and named `Access_Manager_user_setup_profile` and `Access_Server_setup_user_profile`.

After upgrading all Access Manager components, you can start the task of upgrading original Access Servers. In this case, you first back up configuration data in the new branch and then reconfigure the original Access Server. After reconfiguring the original Access Server, you start the upgrade.

The following task overview outlines the sequence of procedures that you perform. You must upgrade all Access Managers on a host before upgrading Access Servers on the host. You must upgrade all Access Servers on a host before upgrading WebGates on the same host.

Task overview: Upgrading original Access System components

1. Locate the association details for original Access Servers and WebGate instances using the Access System Console. For more information, see your *NetPoint or Oracle COREid Administration Guide*.
2. **Preparation**: See "Preparing Original Access System Components for the Upgrade" on page 17-32, when directed to do so.
3. **Access Manager**: See the following topics and perform tasks when directed:
   a. Upgrading An Original Access Manager Instance on page 17-35
   b. Setting Up the Upgraded Original Access Manager on page 17-39
4. **Access Servers**: Tasks with original Access Servers must be performed in reverse order compared with tasks for clones:
   a. Configuring Original Access Servers to Use the New Branch on page 17-42.
   b. Upgrading Original Access Server Instances on page 17-45
5. **WebGates**: Perform tasks in "Upgrading Original WebGates" on page 17-49.
6. **Validation and Backup**: Perform the following tasks:
   a. Validating the Upgraded Original Access System on page 17-55
   b. Backing Up the Upgraded Original Access System on page 17-55
7. **SDKs, Integration Connectors, and Access System Customizations**:
   - Upgrading SDKs, Integration Connectors, and Access System Customizations on page 17-57
   - Validating the Entire Upgraded Original Environment on page 17-58

For information about recovering if there is a problem, see "Recovering From an Original Access System Upgrade Failure" on page 17-55.

Preparing Original Access System Components for the Upgrade

The procedures to prepare each component for an upgrade are described in detail in Chapter 8. You must perform most of the same preparation tasks before upgrading each original Access System component using the zero downtime method. The following overview outlines the tasks that you will perform for each original instance upgrade. Details are provided in independent topics in Chapter 8.

Task overview: Preparing original Access System components for the upgrade includes the following topics

1. Creating Individual Profiles for WebGates that Share a Profile
2. Preparing the Default Logout in the Policy Manager
3. Preparing Host Computers
   – Changing Read Permissions on Password Files
   – Confirming Free Disk Space
4. Preparing Release 6.x Environments
5. Preparing Multi-Language Installations
6. Backing Up File System Directories, Web Server Configurations, and Registry Details

Note: WYou do not need to back up the file system directory. Instead, you will rename the original path to use as a source. The source becomes a backup that remains intact during the upgrade.

7. Stopping Servers and Services
8. Logging in with Appropriate Administrative Rights

Creating Individual Profiles for WebGates that Share a Profile

Before you upgrade an original Access Manager instance, you need to add an individual profile in the clone System Console for each WebGate that shares an AccessGate profile. If each WebGate is defined by its own individual profile, you can skip this task.

When each WebGate has an individual profile defined in the Access System Console, the content of the WebGateStatic.lst file is migrated to the LDAP directory server under the attribute `obcompoundata`. After the data is migrated, the WebGatestatic.lst file is removed from the *WebGate_install_dir* file system path automatically. When you have more than one WebGate sharing the same profile, however, the following error when upgrading the second WebGate that uses the profile:

```
"The WebGate Profile is being shared by many WebGate Instances. WebgateStatic.lst
has already been migrated. However the contents do not match between the
WebgateStatic.lst of this WebGate Instance and the migrated one. Please create a
new WebGate Entry for this WebGate Instance. ...."
```

Before upgrading any WebGate that shares a profile with another WebGate, you need to:

- Add a separate and unique AccessGate profile for each original WebGate that currently shares a profile.
- Ensure that the new profile contains specifications based on details in the existing WebGateStatic.lst file
- Back up, and then delete the WebGateStatic.lst file from the original *WebGate_ install_dir*

A release 6.1.1. WebGateStatic.lst file is shown next. For more information about the details in this file, see your *Oblix NetPoint or Oracle COREid Administration Guide*. All parameters in this file are now provided on the AccessGate profile page in the Release 10.1.4 Patch Set 1 (10.1.4.2.0) Access System Console.

```
BEGIN:vCompoundList
DenyOnNotProtected:false
CachePragmaHeader:no-cache
CacheControlHeader:no-cache
IPValidation:false
# Set UseIISBuiltinAuthentication to true
# if you are using MSPassport or Integrated
# Windows Authentication on this machine.
# Otherwise leave it set to false
# Only used for IIS
UseIISBuiltinAuthentication:false
#IPValidationExceptions:
#BEGIN:vList
#nn.nn.nn.nn
#nn.nn.nn.nn
```

```
#END:vList
WaitForFailover:-1 (Access Server Timeout Threshold in the AccessGate Profile)
END:vCompoundList
```

Both the WaitForFailover parameter and the replacement Access Server Timeout Threshold in the AccessGate Profile control the TCP/IP timeout between the WebGate and the Access Servers with which the WebGate communicates. The default value is -1, which means that the network default TCP/IP timeout value is used.

The following procedure outlines how to add a new profile to prepare WebGates that share a profile. For more information, see *Oracle Access Manager Access Administration Guide*.

To create an individual profile for each original WebGate

1. Locate the WebGateStatic.lst file for the WebGate that needs an individual profile, make a back up copy of the file, and then print the details. For example:

   WebGate_install_dir\access\oblix\apps\webgate\WebGateStatic.lst

2. Go to the clone Access System Console, as usual.

   `http://hostname:port/access/oblix/`

3. Click the Access System Console link, click Access System Configuration, and then click Add New AccessGate in the left navigation pane.
4. On the Add New AccessGate page, add unique details for this specific WebGate:
   - **AccessGate Name**: The name of this WebGate instance, which cannot contain spaces, a colon ":", the pound sign "#", or non-English keyboard characters.
   - **Description**: Optional summary that will help you identify this WebGate later on.
   - **Hostname**: The name or IP address of the server hosting this WebGate.
   - **Port**: The Web server port protected by this WebGate
   - **AccessGate Password**: An alphanumeric string to identity this WebGate to an Access Server.

     Note: This password must be the same one that was specified when you installed the WebGate.

   - **Re-type AccessGate Password**: Re-type the password.
5. Fill in remaining fields based on information in the WebGateStatic.lst file for the instance, and then save the profile.
6. Associate this new profile with an original Access Server, on the Details for AccessGate page as follows:
   a. On the Details for AccessGate page, click the List Access Servers (or List Clusters) button at the bottom of the page.
   b. Click the Add button to advance to the Add a new Access Server page.
   c. Select an Access Server from the Select Server list, specify a priority, and define the number of Access Servers (connections) to which this WebGate can connect. For example:

      Select server—*Same as earlier profile*

Select priority—*Same as earlier profile*
Number of connections—*Same as earlier profile*

d. Click the Add button to complete the association.

e. Click the link to display a summary and print this page for use later

7. Delete the WebGateStatic.lst file from WebGate installation directory before you upgrade the WebGate.
8. Repeat this procedure for each WebGate that is sharing a profile.
9. Complete all other zero downtime upgrade tasks in order.

Upgrading An Original Access Manager Instance

The activities that you perform when upgrading original Access Manager instances, are similar to the activities that you performed to upgrade Access Manager clones.

Caution: Oracle recommends that you review all information in this topic before proceeding with the activities. You will be instructed to rename and create file system directories.

You start by ensuring that you have the source, destination, and tools defined for the instance upgrade. To help illustrate these activities, Table 17–8 organizes sample file system paths in columns that describe the progression of actions that you will perform. Additional information follows the table. The sample path names are for Windows platforms. The paths in your environment might differ.

Table 17–8 Activities to Prepare for an Original Access Manager Instance Upgrade

1 Original Path	2 Source Creation	3 Destination Creation and Obtaining Tools
Access Manager Instances *np611**webcomponent_01*\access *np611**webcomponent_02*\access	In the original file system, rename the subdirectory containing each original instance. For example: *np611**webcomponent_01*\access_source *np611**webcomponent_02*\access_source	After creating the source (see column 2): A. Extract 10*g* (10.1.4.0.1) Policy Manager libraries and files and specify the original path as the installation (destination) directory. For example: *np611**webcomponent_01*\access **Note**: The destination path of the 10*g* (10.1.4.0.1) instance must exactly match the original path before it was renamed (see column 1). See "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28. B. Apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the 10*g* (10.1.4.0.1) instance to obtain the tools. See "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32. C. Repeat steps A and B for each clone instance.

After performing the activities outlined in Table 17–8, the 10*g* (10.1.4.2.0) MigrateOAM script will be stored in the *destination_dir*. For example:

*np611**webcomponent_01*\access\oblix\tools\migration_tools\MigrateOAM.bat
*np611**webcomponent_02*\identity\oblix\tools\migration_tools\MigrateOAM.bat
and so on.

For more information about source and destination creation, see "Preparation Tasks for the Zero Downtime Method" on page 15-12.

Table 17–9 lists the arguments that you specify with the 10*g* (10.1.4.2.0) MigrateOAM script to execute the original instance upgrade for each individual Access Manager.

Table 17–9 MigrateOAM Script for Original Access Manager Instance Upgrades

MigrateOAM Original Mode Syntax	Values and Operations
-M Prod	Specify Prod as the mode, which is required to upgrade original components.
-C AM	Specify AM to upgrade an original Access Manager component. **Note**: Upgrade each original Access Manager after upgrading all Identity System components and before upgrading any original Access Servers.
-F *nnn*	Specify the number that identifies your earlier release. For example: 610 (for 6.1 or 6.1.1), 650 (for 6.5.x), or 700 (for 7.x)
-T 1014	Specify1014 as the release to which this data will be upgraded.
-S *"source directory"*	Specify the full path (in quotation marks) to the renamed original Access Manager directory (see column 2 of Table 17–8). For example, when you have multiple instances: ■ -S *"C:\np611\webcomponent*_01\access_source" ■ -S *"C:\np611\webcomponent*_02\access_source" ■ and so on
-D *"destination directory*"	Specify the full path (in quotation marks) to the 10*g* (10.1.4.2.0) Policy Manager directory that replaced the earlier Access Manager directory (see columns 1 and 4 of Table 17–8). For example: ■ -D *"C:\np611\webcomponent_01*\access" ■ -D *"C:\np611\webcomponent_02*\access" ■ and so on
-I *"installation directory"*	The installation directory should be the same as the destination directory. For example: ■ -I *"C:\np611\webcomponent_01*\access" ■ -I *"C:\np611\webcomponent_02*\access" ■ and so on **Note**: Refer to Table 17–8 for details about path names and directory content.
-L *"Languages"*	Specify all installed languages to be upgraded by the appropriate code, in quotations. For example, English, "en-us"; French, "fr-fr"; German, "de-de".
-W *"Web server type*"	Specify the appropriate code for the Web Server used by this original, in quotations. For example, "nsapi", "apache2", "isapi", apache", "ihs", "ohs", "ohs2", "domino".

Upgrading an original Access Manager does not impact the schema or data but does include a Web server configuration upgrade. For more information about using the MigrateOAM for this upgrade, see "About Original Mode (Prod) Processing" on page 15-33

> **Note:** When you have a single Web server instance serving more than one Oracle Access Manager Web component, the Web server must remain stopped until all serviced Web components on the host computer are upgraded.

In the following procedure, directory path names, the starting release, and languages are provided as samples only.

Caution: If you do not perform all preparation steps, you might not be able to recover from a problem or to roll back after a failed upgrade.

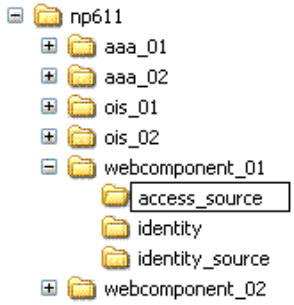
To upgrade the original Access Manager

1. **Preparation**: Perform tasks in "Preparing Original Access System Components for the Upgrade" on page 17-32, which includes:
   - Preparing Earlier Customizations
   - Preparing the Default Logout in the Policy Manager
   - Creating Individual Profiles for WebGates that Share a Profile
   - Preparing Host Computers
     - Changing Read Permissions on Password Files
     - Confirming Free Disk Space
   - Preparing Release 6.x Environments
   - Preparing Multi-Language Installations
   - Backing Up File System Directories, Web Server Configurations, and Registry Details

     Note: With this upgrade method, you do not need to back up the file system directory.

   - Stopping Servers and Services
   - Logging in with Appropriate Administrative Rights
2. **Source Creation**: Rename the subdirectory that contains the original Access Manager to create a source for the upgrade. For example:

   Rename: *np611**webcomponent_01*\access
   As: *np611**webcomponent_01**access_source*



3. **Destination Creation**: Extract 10*g* (10.1.4.0.1) Policy Manager libraries and files and specify a destination path that exactly matches the original before you renamed it. For example:

   Destination Path: *np611**webcomponent_01*\access

or a destination path example, see column 1 of Table 17–8. For more information, see "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28.

4. **Obtaining the Tools**: Apply the 10*g* (10.1.4.2.0) patch to the 10*g* (10.1.4.0.1) instance, as described "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32.

   When your file system is set up appropriately, you are ready to upgrade the original instance.

5. Change to the destination_dir that includes the 10*g* (10.1.4.2.0) MigrateOAM script for the instance that you will upgrade. For example:

   np611\webcomponent_01\access

6. Run the MigrateOAM script in Prod mode and specify your starting release and path names for the instance. For example:

```
MigrateOAM -M Prod -C AM -F 610 -T 1014 -S "C:\np611\webcomponent_01\access_
source" -D "C:\np611\webcomponent_01\access" -I "C:\np611\webcomponent_01\
access" L "en-us" -W "nsapi"
```

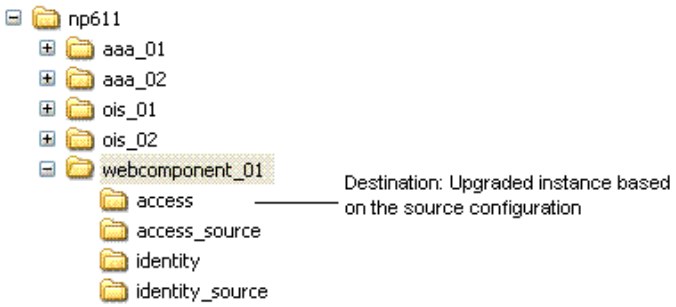
   a. Use Automatic mode for each sequence so that you do not need to confirm each process.

   b. Accept Web server configuration changes by specifying the full directory path name to the Web server configuration file for which this original is configured.

   c. Continue as requested through all processes; do not skip any processes.

   d. Finish according to on-screen messages.

      The source remains intact. The destination now includes a 10*g* (10.1.4.2.0) instance configured with the same parameters and details as the source.



7. Verify that upgrading the original Access Manager was successful as follows:

   a. Apply Web server changes, if needed.

   Note: When you have a single Web server instance serving more than one Oracle Access Manager Web component, the Web server must remain stopped until all serviced Web components on the host computer are upgraded.

   b. **Windows**: Verify that the registry entry is updated by running the Registry editor (regedit) and:

View the registry entry HKEY_LOCAL_MACHINE, SOFTWARE,Oblix,Oblix Netpoint. Check for the respective installed version and, under that, check the entry for Access Manager.

c. Verify that the version file in the destination path is updated for 10.1.4 (np*version_component*.txt). For example:

destination_dir\oblix\config\np1014_am.txt

8. Proceed as follows:

a. **Upgrade Not Successful**: Check the migration log file for this instance for any errors reported during the upgrade, as described in "Accessing Log Files" on page G-2.

b. **Upgrade Successful**: Proceed to "Setting Up the Upgraded Original Access Manager" if all Web components on this host are upgraded. Otherwise, skip to "Upgrading Original Access Server Instances" on page 17-45.

9. Upgrade and set up all original Access Manager instances.

Setting Up the Upgraded Original Access Manager

After upgrading each Access Manager instance, you reconfigure it to operate with the upgraded schema and data in the new branch of the LDAP directory server. Be sure to take the conditions in Table 17–10 into account:

Table 17–10 Access Manager Setup Conditions for Zero Downtime Upgrades

Condition	Action
Access Manager and WebGates are in the same directory	Postpone reconfiguring this Access Manager until the WebGate is upgraded
One Web server instance is servicing other Web components	Upgrade all serviced Web components before restarting the Web server instance
All Web components for this Web server instance are upgraded	Perform activities in: ■ "Setting Up the Upgraded Original Identity System" on page 17-24, if needed ■ "Setting Up the Upgraded Original Access Manager" on page 17-39 ■ Before restarting any original Access Server service after reconfiguring an upgraded original Access Manager, log in to the Access System Console from any upgraded original Access Manager and delete the profiles that were created and named `Access_Manager_user_setup_profile` and `Access_Server_setup_user_profile`

You use the following procedure to set up the original Access Manager after upgrading. This procedure provides the sequence of steps that you need to perform. File System path names are presented as an example. Your details will be different. For more information about setting up the Identity System, see the *Oracle Access Manager Installation Guide*.

Setting Up the Original Access Manager to Use the New Branch

During this procedure, you will need to provide some details from the original installation, including the LDAP directory server type, the location of user data and the searchbase, and the Person Object Class. This information was defined when the

original COREid System was set up. The Person Object Class and other details were obtained when setting up the Access Manager clone. If you do not have access to the original, you can obtain it from the setup.xml file in the original COREid Server source directory. For example, the source in this example would be *np611**ois_01*\identity_source\oblix\config\setup.xml, for example).

You will also need to supply new information, including the new branch in the LDAP directory server where configuration and policy data are stored.

The following procedure provides the sequence of steps that you need to perform. File System path names are presented as an example. Your details will vary.

To reconfigure the original Access Manager to use the new branch

1. Obtain details about the original source COREid Server from the setup.xml file. For example: *np611**webcomponent_01*\identity_source\oblix\config\setup.xml.
2. Delete the following files from the upgrade destination that was specified for the instance: for example, *np611**webcomponent_01*\access\oblix\config:
   - setup.*
   - configInfo.*
   - \ldap subdirectory
3. Ensure that the original Access Manager Web server is running and go to the original Access System Console, as usual.

   `http://hostname:port/access/oblix/`

   In the sample URL, *hostname* refers to computer that hosts the original upgraded WebPass; *port* refers to the HTTP port number of the WebPass Web server instance; /access/oblix connects to the original Access System Console.
4. Click the Access System Console link to display the Setup page, and then click the Setup button.
5. Set up the Access Manager to use the new configuration DN and policy base, as follows (see also your *Oracle Access Manager Installation Guide* for more information).
   a. Enter and confirm LDAP directory server details, including the directory server type and the location and details for user data and configuration data.
   b. Enter the information for user data (original search base), and for configuration data (configuration DN) and policy data (Policy Base) in the new branch of the directory server. For example:

      Search Base—Enter the original searchbase.

      Configuration DN— `o=Newbranch,o=company,c=us`

      Policy Base——`o=NewPolicyBase,o=Policy_base,o=company,c=us`
   c. Proceed through remaining Access Manager setup pages and leave all other setup details as they are.
   d. Enter the Person Object Class, which was selected during the original earlier COREid System set up.

Note: This information is located in the setup.xml file of the original COREid Server: *np611*\ois_01\identity\oblix\config\setup.xml, for example.

e. Restart the Web server and Identity Server service when instructed to do so.

f. After the Web server restarts, click Next and continue by accepting the default Policy Domain Root (or specifying the root for your original installation).

g. Continue, but do not configure authentication schemes or policies to protect NetPoint URLs.

h. Click done when setup is complete.

6. Verify that the Directory Server profile has the new configuration DN and policy base, as follows:

   a. Go to the Access System Console, as usual.

      `http://hostname:port/access/oblix/`

   b. Click Access System Console, click System Configuration, then click Server Settings.

   c. Click Server Settings in the left column and then click the Directory Server link.

   d. On the Directory Server Configuration page, confirm that the Configuration Base (also known as the configuration DN) and Policy Base reflect the new branch.

   e. Check for and delete any extra directory profiles that might have been added and named `Access_Manager_user_setup_profile` and `Access_Server_setup_user_profile`.

7. Proceed as follows:

   - **Successful**: Proceed with Step 8.
   - **Not Successful**: Set up the Access Manager anew by performing procedure again and be sure to specify all information correctly.

8. In the following upgraded and updated Access Manager configuration files, confirm that the new configuration DN appears. For example, in *np611**webcomponent*\access_01\oblix\config:

   - setup.*
   - setup_am*
   - configInfo

9. Proceed as follows:

   - **Successful**: If the new configuration DN and policy base appear in the files mentioned in step 8, the operation was successful. Proceed to Step 10.
   - **Not Successful**: If the new configuration DN and policy base do not appear in the files mentioned in step 8, the operation failed. In this case, see "Rolling Back After Upgrading the Original Access System" on page 17-56.

10. Repeat the following procedures to upgrade and set up each original Access Manager.

- Preparing Original Access System Components for the Upgrade
- Upgrading An Original Access Manager Instance
- Setting Up the Upgraded Original Access Manager, as appropriate for the Web server conditions in your environment

11. When all original Access Manager instances are upgraded, proceed to "Configuring Original Access Servers to Use the New Branch" on page 17-42.

Configuring Original Access Servers to Use the New Branch

You perform this task only if you have a joint Identity and Access System deployed. Otherwise, skip to "Validating the Entire Upgraded Original Environment" on page 17-58. Ensure that all original Access Manager instances on the computer host have been upgraded.

Before you reconfigure each original Access Server, you must back up the original branch in the LDAP directory server, and then archive processed workflows. The original branch data that you need includes configuration and policy data, user and group data, workflow data. In addition, you need to back up the original instance \config file system subdirectory, which contains directory server configuration details for the original branch. This is needed for a successful roll back operation if you choose to roll back.

After performing the backup activities, you are ready to reconfigure the instance touse the new branch. However, the Access Server Service should be started only after you upgrade the instance. Do not restart the Access Server Service after reconfiguring the instance.

You will use the configureAAAserver.exe tool (Windows) or start_ configureAAAServer (UNIX-based systems) for this task. The tool is located in each original Access Server directory. For example:

Windows: *np611**aaa_01*\access\oblix\tools\configureAAAServer\ configureAAAServer.exe

UNIX: */home/np611/aaa_01*/access/oblix/tools/configureAAAServer\start_ configureAAAServer

Extra directory profiles might be created for original Access Servers during the reconfiguration. You will be instructed to remove any extra directory profiles when you verify the reconfigured Access System.

In the example, UNIX refers to supported UNIX-based platforms such as Linux and Solaris. When running the tool, you will be asked to provide details for the original Access Server. File system path names in the following procedure are samples only. Your details will be different.

Caution: If you do not perform all preparation tasks for the instance, you might not be able to recover if there is a problem or to roll back to the original instance.

To reconfigure an original Access Server to use the new branch

1. **Preparing the Original Branch**: Back up the branch that is used by the original installation. See Chapter 5 and perform the following tasks:
   - Backing up the Earlier Oracle Access Manager Schema

- Backing up Oracle Access Manager Configuration and Policy Data
- Backing Up User and Group Data
- Backing Up Workflow Data
- Archiving Processed Workflow Instances

2. **Preparing the File System**: Back up the \config directory for the instance to be reconfigured; \config is located in the original *AccessServer_install_dir* file system path. For example:

   *np611**aaa_01*\access\oblix\config

3. Locate and run the tool for your platform in the original *AccessServer_install_dir*. For example:

   Windows: *np611**aaa_01*\access\oblix\tools\configureAAAServer\configureAAAserver.exe

   ```
   configureAAAServer.exe install "C:\np611\aaa_01\access"
   ```

   UNIX: */home/np611/aaa_01*/access/oblix/tools/configureAAAServer/start_configureAAAServer

   ```
   ./start_configureAAAServer install "/home/np611/aaa_01/access"
   ```

4. Follow the on-screen prompts and provide details for your original instance when prompted. For example:

   - The transport security mode for the original instance
   - The security mode in which the user data directory is running
   - The host computer on which the user data directory resides
   - The port number on which the user data directory listens
   - The bind DN of the user data directory
   - The password of the user data directory
   - The directory type for user data
   - The location where new oblix (configuration) data is stored
   - The new configuration DN
   - The new policy base
   - The original instance Access Server ID

   See the *NetPoint or Oracle COREid Administration Guide* for information on the configureAAA tool and LDAP directory server configurations.

5. Write the name of the original instance Access Server service, but do not specify or update failover information; do not start the Access Server service until the instance has been upgraded.

   - **Successful**: Proceed to Step 6.
   - **Not Successful**: Proceed to"Recovering From an Original Access System Upgrade Failure" on page 17-55.

6. Confirm that the new information that you entered during reconfiguration is included in the aaa_server_config.xml file in the \config file system subdirectory in the original *AccessServer_install_dir*. For example:

*np611**aaa_01*\access\oblix\config\aaa_server_config.xml

7. Confirm that the value of the `MigrateUserDataTo1014` is `false` in the globalparams.xml file for this instance. For example:

   *np611**aaa_01*\access\oblix\apps\common\bin\globalparams.xml

   ```
   <NameValPair ParamName="MigrateUserDataTo1014" Value="False" />
   ```

8. Proceed as follows:

   - **Successful**: If the new policy base appears in the file mentioned in Step 6, the operation was successful. Proceed to Step 9.

     Note: The Web Server instance on the host computer must remain stopped until all Web components (WebPass, Access Manager, and WebGate) on the host computer have been upgraded.

   - **Not Successful**: If the new policy base does not appear in the files mentioned in step 6, the operation failed. In this case, see "Recovering From an Original Access System Upgrade Failure" on page 17-55.

9. **After Access Manager Set Up**: Verify that the Directory Server profile for the original Access Server instance has the new configuration DN and policy base, as follows:

   a. Go to the original Access System Console, as usual.

      `http://hostname:port/access/oblix/`

   b. Click Access System Console, click System Configuration, then click Server Settings.

   c. Click the Directory Server link to display the Directory Server Configuration page.

   d. Confirm that the new configuration DN and the policy base are correct, and then click Cancel.

   e. **Extra Profiles in a Split Directory Server Configuration**: Check for and remove any extra directory profiles that might have been added when Access Servers were reconfigured. For more information, see "Setting Up the Cloned COREid System to Use the New Branch" on page 16-50 and the *Oracle Access Manager Identity and Common Administration Guide*.

10. Proceed as follows:

    - **Successful**: Proceed to "Upgrading Original Access Server Instances" to upgrade this instance.

    - **Not Successful**: Proceed to "Recovering From an Original Access System Upgrade Failure" on page 17-55, and start again.

11. Repeat all steps in this procedure and in "Upgrading Original Access Server Instances" with each original Access Server instance, before proceeding to "Upgrading Original WebGates".

Upgrading Original Access Server Instances

This topic describes all activities that must be performed to upgrade an original Access Server instance after you have reconfigured it. This topic concludes with a step-by-step procedure that walks you through all activities.

Caution: Oracle recommends that you review all information in this topic before starting.

During original Access Server upgrades, parameter catalogs and component-specific configuration files are upgraded. Table 17–11 provides sample directory path names in columns that describe the progression of actions that you will perform. Additional information follows the table. The sample file system path names are for Windows platforms. The paths in your installation might differ.

Table 17–11 Activities to Prepare for an Original Access Server Instance Upgrade

1 Original Path	2 Source Creation	3 Destination Creation and Obtaining Tools
Access Server Instances np611\aaa_01\access np611\aaa_02\access	In the original file system, rename the subdirectory containing each original instance. For example: np611\aaa_01\access_source np611\aaa_02\access_source	After creating the source (see column 2): A. Extract 10*g* (10.1.4.0.1) Access Server libraries and files and specify original path as the installation (destination) directory. For example: *np611**aaa_01*\access **Note**: The destination path of the 10*g* (10.1.4.0.1) instance must exactly match the original path before it was renamed (see column 1). See "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28. B. Apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the 10*g* (10.1.4.0.1) instance to obtain the tools. See "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32. C. Repeat steps A and B for each clone instance.

After performing the activities outlined in Table 17–11, the 10*g* (10.1.4.2.0) MigrateOAM script will be available in the destination path for original Access Server instances. For example:

*np611**aaa_01*\access\oblix\tools\migration_tools\MigrateOAM.bat
*np611**aaa_02*\access\oblix\tools\migration_tools\MigrateOAM.bat
and so on.

Table 17–12 lists the arguments that you specify with the 10*g* (10.1.4.2.0) MigrateOAM script to upgrade original Access Servers.

Table 17–12 MigrateOAM Production Arguments for Original Access Server Upgrades

MigrateOAM Original (Production) Mode Syntax	Values and Operations
-M Prod	Specify Prod as the mode to upgrade original components. The production mode is required to upgrade original components.
-C AAA	Specify AAA to upgrade an original Access Server. **Note**: Upgrade each original Access Server before upgrading original WebGates.
-F *nnn*	Specify the number that identifies your earlier release. For example: 610 (for 6.1 or 6.1.1), 650 (for 6.5.x), or 700 (for 7.x)
-T 1014	Specify1014 as the release to which this data will be upgraded.
-S "*source directory"*	Specify the full path (in quotation marks) to the renamed original Access Server directory (see column 1 of Table 17–11). For example: ■ -S *"C:\np611\aaa*_01\access_source" ■ -S *"C:\np611\aaa*_02\access_source" ■ and so on.
-D "*destination directory"*	Specify the full path (in quotation marks) to the 10*g* (10.1.4.2.0) Access Server directory that replaced the original instance directory (see columns 1 and 4 of Table 17–11). For example: ■ -D *"C:\np611\aaa_01*\access" ■ -D *"C:\np611\aaa_02*\access" ■ and so on.
-I *"installation directory"*	The installation directory should be the same as the destination directory. For example: ■ -I *"C:\np611\aaa_01*\access" ■ -I *"C:\np611\aaa_02*\access" ■ and so on.
-L *"Languages"*	Specify all installed languages to be upgraded by the appropriate code, in quotations. For example, English, "en-us"; French, "fr-fr"; German, "de-de".

In the following procedure, directory path names, the starting release, and languages are provided as samples only. Your details will differ.

Caution: If you do not perform all preparation steps, you might not be able to recover from a problem or to roll back after a failed upgrade.

To upgrade original Access Server instances

1. **Preparation**: Perform tasks in "Preparing Original Access System Components for the Upgrade" on page 17-32, which includes:
   - Preparing Earlier Customizations
   - Preparing the Default Logout in the Policy Manager
   - Creating Individual Profiles for WebGates that Share a Profile
   - Preparing Host Computers
     - Changing Read Permissions on Password Files
     - Confirming Free Disk Space

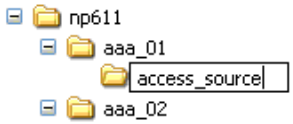
- Preparing Release 6.x Environments
- Preparing Multi-Language Installations
- Backing Up File System Directories, Web Server Configurations, and Registry Details

Note: With this upgrade method, you do not need to back up the file system directory.

- Stopping Servers and Services
- Logging in with Appropriate Administrative Rights

2. **Source Creation**: Rename the subdirectory that contains the original Access Server instance to create a source for the upgrade. For example:

   Rename: *np611**aaa_01*\access
   As: np611\aaa_01\access_source



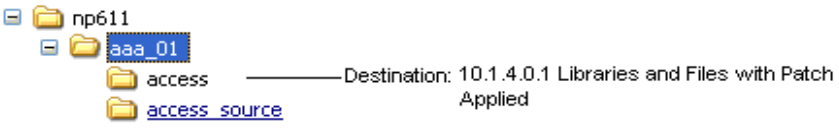
3. **Destination Creation**: Extract 10*g* (10.1.4.0.1) Access Server libraries and files and specify a destination path that exactly matches the original before you renamed it. For example:

   Destination Path: *np611**aaa_01*\access

   The destination path must exactly match the source before it was renamed in Step 2. For a destination example, see Table 17–11. For extraction details, see "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28.

4. **Obtaining the Tools**: Apply the 10*g* (10.1.4.2.0) patch to the 10*g* (10.1.4.0.1) instance, as described "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32.

   When your file system is set up appropriately, you are ready to upgrade the original instance.



5. Change to the destination_dir that includes the 10*g* (10.1.4.2.0) MigrateOAM script for the instance that you will upgrade. For example:

   *np611**aaa_01*\access

6. Run the MigrateOAM script in Prod mode and specify your starting release and path names for the instance. For example:

```
MigrateOAM -M Prod -C AAA -F 610 -T 1014 -S "C:\np611\aaa_01\access_source" -D
```

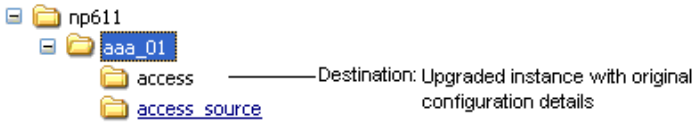
```
"C:\np611\aaa_01\access" -I "C:\np611\aaa_01\access" -L "en-us"
```

a. Use Automatic mode for each sequence so that you do not need to confirm each process.

b. Continue as requested through all processes; do not skip any processes.

c. Finish according to on-screen messages.

The source remains intact. The destination now includes a 10*g* (10.1.4.2.0) instance configured with the same parameters and details as the source.



7. Verify that the upgrade was successful as follows:

a. Start the Access Server service. **If the Access Server Service Does Not Start**:

Check your event and Access Server log output files. For more information about logging and log output files, see the *Oracle Access Manager Identity and Common Administration Guide*.

Check migration log files for any errors reported during the upgrade, as described in "Accessing Log Files" on page G-2.

b. **Windows**: Verify that the registry entry is updated by running the Registry editor (regedit) using one of the following methods:

In the Registry Editor Window, click My Computer, HKEY_LOCAL_MACHINE, SYSTEM, CurrentControlSet, Services, and then look for ObAAAServer-<Service Name>. Within this, check the Image path.

View the registry entryHKEY_LOCAL_MACHINE, SOFTWARE,Oblix,Oblix Netpoint. Check for the respective installed version and, under that, check the entry for ObAAAServer-<Service Name>.

c. Verify that the version file in the destination path is updated for 10.1.4. For example:

destination_dir\access\oblix\config\np1014_aaa.txt

Note: The Web Server must remain stopped until all Web components on the host computer have been upgraded.

---

d. **Upgrade Not Successful**: Proceed to "Recovering From an Original Access System Upgrade Failure" on page 17-55.

e. **Upgrade Successful**: Proceed to step 8.

8. Repeat all steps in this procedure for all other original Access Server instances on this host.

9. Proceed to "Upgrading Original WebGates".

Upgrading Original WebGates

After upgrading Access Server instances on a single host, Oracle recommends that you upgrade the WebGate so that you can finish reconfiguring the system and restart it. The Web Server must remain stopped until all Web components on the host computer have been upgraded.

When multiple WebGates share a single profile in the earlier installation, before upgrading the WebGate you will be instructed to create an individual profile for each WebGate if you have not already done so.

Each WebGate upgrade requires that at least one Access Server configured for that WebGate is running. This is required to enable the migration of information from the WebGateStatic.lst file to the WebGate profile in the System Console.

To upgrade original WebGates, see:

- Upgrading Original WebGates
- Reconfiguring Upgraded WebGates

Upgrading Original WebGates

During WebGate upgrades, profile information is used when migrating information from the original WebGateStatic.lst file. If you have not created the profile as described in "Adding a Temporary Directory Profile for Original Access System Upgrades" on page 17-21, this will be your first step to upgrading.

> **Caution:** Oracle recommends that you review all information in this topic before proceeding with the activities. You will be instructed to rename and move directories and it is critical that you track instance directories and names.

To help illustrate some activities that you will perform, Table 17–13 organizes sample file system path names in columns that describe the progression of actions that you will take. Additional information follows the table. The sample path names are for Windows platforms. The paths in your installation will be different.

Table 17–13 Activities to Prepare for an Original WebGate Instance Upgrade

1 Original Path	2 Source Creation	3 Destination Creation and Obtaining Tools
WebGate Instances *np611**webgate_01*\access	In the original file system, rename the subdirectory containing each original instance. For example: *np611**webgate_01*\access_source	After creating the source (see column 2): A. Extract 10*g* (10.1.4.0.1) WebGate libraries and files and specify the original path as the installation (destination) directory. For example: *np611**webgate_01*\access **Note**: The path of the 10*g* (10.1.4.0.1) instance must exactly match the original path before it was renamed (see column 1). See "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28. B. Apply Release 10.1.4 Patch Set 1 (10.1.4.2.0) to the 10*g* (10.1.4.0.1) instance to obtain the tools for this upgrade. See "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32. C. Repeat steps A and B for each WebGate instance.

After performing activities outlined in Table 17–13, the 10*g* (10.1.4.2.0) MigrateOAM script will be stored in the destination you created. For example:

*np611**webgate_01*\access\oblix\tools\migration_tools\MigrateOAM.bat
and so on.

Table 17–14 lists the arguments that you specify with the 10*g* (10.1.4.2.0) MigrateOAM script to execute the original instance upgrade for each individual WebGate.

Table 17–14 MigrateOAM Script for Original WebGate Instance Upgrades

MigrateOAM Original Mode Syntax	Values and Operations
-M Prod	Specify Prod as the mode, which is required to upgrade original components.
-C WG	Specify WG to upgrade an original WebGate component.
-F *nnn*	Specify the number that identifies your earlier release. For example: 610 (for 6.1 or 6.1.1), 650 (for 6.5.x), or 700 (for 7.x)
-T 1014	Specify1014 as the release to which this data will be upgraded.
-S *"source directory"*	Specify the full path (in quotation marks) to the renamed original WebGate directory (see column 2 of Table 17–13). For example, when you have multiple instances: ■ -S *"C:\np611\webgate_01*\access_source" ■ -S *"C:\np611\webgate_02*\access_source" ■ and so on
-D *"destination directory*"	Specify the full path (in quotation marks) to the 10*g* (10.1.4.2.0) WebGate directory that replaced the earlier WebGate directory (see columns 1 and 4 of Table 17–13). For example: ■ -D *"C:\np611\webgate_01*\access" ■ -D *"C:\np611\webgate_02*\access" ■ and so on
-I *"installation directory"*	The installation directory should be the same as the destination directory. For example: ■ -I *"C:\np611\webgate_01*\access" ■ -I *"C:\np611\webgate_02*\access" ■ and so on. **Note**: Refer to Table 17–13 for details about path names and directory content.
-L *"Languages"*	Specify all installed languages to be upgraded by the appropriate code, in quotations. For example, English, "en-us"; French, "fr-fr"; German, "de-de".
-W *"Web server type*"	Specify the appropriate code for the Web Server used by this original, in quotations. For example, "nsapi", "apache2", "isapi", apache", "ihs", "ohs", "ohs2", "domino".

Upgrading an original WebGate instance includes message and parameter file upgrades, as well as a Web server configuration upgrade.

Note: When you have a single Web server instance serving more than one Oracle Access Manager Web component, the Web server must remain stopped until all serviced Web components on the host computer are upgraded.

Each WebGate upgrade requires that at least one Access Server configured for that WebGate is running. This is required to enable the migration of information from the WebGateStatic.lst file to the WebGate profile in the System Console.

In the following procedure, directory path names, the starting release, and languages are provided as samples only.

> **Caution:** If you do not perform all preparation steps, you might not be able to recover from a problem or to roll back after a failed upgrade.

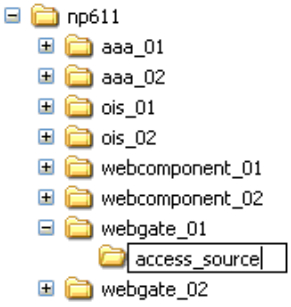
To upgrade the original WebGate

1. **Preparation**: Perform tasks in "Preparing Original Access System Components for the Upgrade" on page 17-32, which includes:
   - Preparing Earlier Customizations
   - Preparing the Default Logout in the Policy Manager
   - Creating Individual Profiles for WebGates that Share a Profile
   - Preparing Host Computers
     - Changing Read Permissions on Password Files
     - Confirming Free Disk Space
   - Preparing Release 6.x Environments
   - Preparing Multi-Language Installations
   - Backing Up File System Directories, Web Server Configurations, and Registry Details

     > **Note:** With this upgrade method, you do not need to back up the file system directory.

   - Stopping Servers and Services
   - Logging in with Appropriate Administrative Rights
2. Ensure that there is a temporary LDAP directory profile for the Access System, as described in "Adding a Temporary Directory Profile for Original Access System Upgrades" on page 17-21.
3. Confirm that there is a unique, individual profile for each WebGate defined in the Access System Console. For more information, see "About Creating Individual Profiles for WebGates that Share a Profile" on page 17-24.
4. Stop the original WebGate Web server and confirm that at least one Access Server that is configured to operate with this WebGate is running.
5. **Source Creation**: Rename the subdirectory that contains the original WebGate instance to create a source for the upgrade. For example:

   Rename: *np611\webgate_01*\access
   As: *np611\webgate_01*\access_source



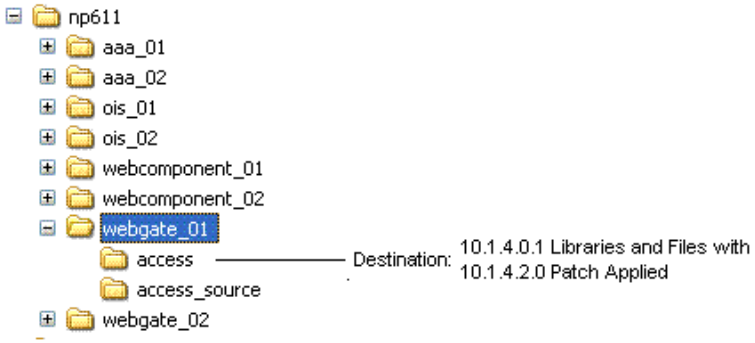
6. **Destination Creation**: Extract 10*g* (10.1.4.0.1) WebGate libraries and files and specify a destination path that exactly matches the original before you renamed it. For example:

   Destination Path: *np611**webgate_01*\access

   For a destination example, see Table 17–13. For extraction details, see "Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files" on page 16-28.

7. **Obtaining the Tools**: Apply the 10*g* (10.1.4.2.0) patch to the 10*g* (10.1.4.0.1) destination, as described "Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)" on page 16-32.

   When your file system is set up appropriately, you are ready to upgrade the original instance.



8. Change to the *destination_dir* that includes the 10*g* (10.1.4.2.0) MigrateOAM script for the instance that you want to upgrade. For example:

   cd *np611**webgate_01*\access

9. Run the MigrateOAM script in Prod mode and specify your starting release and path names for the instance. For example:

```
MigrateOAM -M Prod -C WG -F 610 -T 1014 -S "C:\np611\webgate_01\access_
source" -D "C:\np611\webgate_01\access" -I "C:\np611\webgate_01\access"
-L "en-us" -W "nsapi"
```

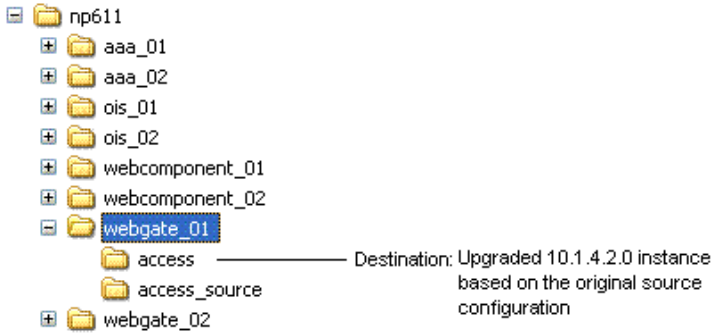
   a. Use Automatic mode for each sequence so that you do not need to confirm each process.

   b. Accept Web server configuration changes by specifying the full directory path name to the Web server configuration file for which this original is configured.

c. Continue as requested through all processes; do not skip any processes.

d. Finish according to on-screen messages.

Your destination directory is now upgraded based on the original source configuration.



10. Verify that upgrading the original WebGate was successful as follows:

a. Apply Web server changes, if needed.

Note: The Web Server must remain stopped until all Web components on the host computer have been upgraded.

---

b. **Windows**: Verify that the registry entry is updated by running the Registry editor (regedit) and:

View the registry entry HKEY_LOCAL_MACHINE, SOFTWARE,Oblix,Oblix Netpoint. Check for the respective installed version and, under that, check the entry for WebGate.

c. Verify that the version file in the destination path is updated to 10.1.4 (np*version_component*.txt). For example:

destination_dir\webgate\access\oblix\config\np1014_wg.txt

11. Proceed as follows:

a. **Upgrade Not Successful**: Check the event log and the migration log file for this instance for any errors reported during the upgrade, as described in "Accessing Log Files" on page G-2.

b. **Upgrade Successful**: Reconfigure the upgraded WebGate, as described in "Reconfiguring Upgraded WebGates".

12. After upgrading and configuring all original WebGates, validate your Access System.

Reconfiguring Upgraded WebGates

After upgrading a WebGate instance, you need to reconfigure the upgraded WebGate to communicate with the upgraded Access Server.

You use the configureWebGate (Windows) and start_configureWebGate (UNIX) setup tool to enable the WebGate to communicate with the associated upgraded Access Server. A WebGate setup tool is included in each WebGate file system path on all platforms. In this example, the destination file system path is:

*np611**webgate_01*\access\oblix\tools\configureWebGate

Options for configureWebGate and start_configureWebGate are shown in Table 17–15. If you have multiple WebGate instances, you must repeat this operation with each instance.

Table 17–15 Command Options for configureWebGate and start_configureWebGate

Command Options	Operation
-i *"destination_dir*"	Specifies the full directory path (in quotation marks) to the destination directory used to upgrade this instance. For example: Windows: "C:*np611**webgate_01*\access" UNIX: "*/home/np611/webgate_01*/access"
`-t WebGate`	Specifies that this operation is for a WebGate.

As the command is performed, messages keep you informed and you might be asked to supply information for this upgraded WebGate. Be sure to specify information for your environment.

The following procedure provides the sequence of steps that you need to perform. Your details will vary.

To modify a WebGate to communicate with the upgraded Access Server

1. Go to the WebGate destination directory that was specified during the upgrade and locate the configureWebGate (or start_configureWebGate) utility. For example:

   Windows: C:*np611**webgate_01*\access\oblix\tools\configureWebGate
   UNIX: */home/np611/webgate_01*/access/oblix/tools/configureWebGate

2. From the tools directory, run configureWebGate using the following options (see also Table 17–15) and specifications for your original environment. For example:

   ```
   configureWebGate -i "C:\np611\webgate_01\access" -t WebGate
   ```

   The command must be entered as one line without breaks.

3. Proceed as directed by on-screen messages:
   - The transport security mode for the original instance
   - The WebGate ID
   - The WebGate password (for simple or cert mode)
   - The Access Server ID
   - The Access Server Host
   - The port number on which the Access Server listens

4. Proceed as follows:
   - **Successful**: The Message "WebGate installed successfully" appears. Proceed to Step 5 after you back up this information as described in "Backing Up the Upgraded Original Access System" on page 17-55.
   - **Not Successful**: Proceed to "Recovering From an Original Access System Upgrade Failure" on page 17-55.

5. If the WebGate is in the same directory as the upgraded Access Manager, go to "Setting Up the Upgraded Original Access Manager" on page 17-39. Otherwise, upgrade and reconfigure another WebGate.
6. Upgrade and reconfigure each earlier WebGate.
7. When all WebGate instances are reconfigured, proceed to "Validating the Upgraded Original Access System".

Validating the Upgraded Original Access System

Oracle recommends that you quickly validate the following items to ensure that the overall upgrade of your original Access System upgrade was successful. If you experience an issue, refer to the troubleshooting tips in Appendix G.

To validate your upgraded original Access System

1. Delete all Web browser caches once the upgrade is complete.
2. Make sure all upgraded original Access Server services and Access Manager and WebGate Web server instances are running.
3. Check that your message and parameter catalog customizations have been preserved. For example, if you have changed any message in a particular message catalog file, then it needs to be retained.
4. Perform all validation tasks for the upgraded Access System, as described in "Validating the Upgraded Cloned Access System" on page 16-101.
5. Proceed to "Backing Up the Upgraded Original Access System".

Backing Up the Upgraded Original Access System

Oracle recommends that you validate successful operations and then perform back up activities. This will enable you to easily restore your environment to the newly upgraded state should that be needed.

To back up critical information after upgrading original Access System components

1. Back up the upgraded destination file system directory. This is similar to backing up an existing component installation directory. For details, see "Backing Up the Existing Component Installation Directory" on page 8-8.
2. **Web Server**: Back up the upgraded Web server configuration file using instructions from your vendor and details in "Backing Up the Existing Web Server Configuration File" on page 8-8.
3. **Windows**: Back up Windows Registry data as described in "Backing Up Windows Registry Data" on page 8-9.
4. Proceed to "Looking Ahead" on page 17-57, and "Upgrading SDKs, Integration Connectors, and Access System Customizations" on page 17-57.

Recovering From an Original Access System Upgrade Failure

If an original Access System component upgrade was not successful, you can perform the following steps to restore your environment, then try again.

To recover from an unsuccessful original Access System component upgrade

1. Back up the source file system directory anew. You will retain one to use as a backup copy and use one to restart the upgrade.
2. For the instance to be retried, remove the 10*g* (10.1.4.0.1) libraries and files to which you applied Release 10.1.4 Patch Set 1 (10.1.4.2.0).
3. For the instance to be retried, install 10*g* (10.1.4.0.1) libraries and files and apply Release 10.1.4 Patch Set 1 (10.1.4.2.0)
4. **Web Server**: Restore the backed up Web server configuration file, if required.
5. **Windows**: Restore the backed up Registry data for the component.
6. Using a backup copy of your earlier original component installation directory (and Web server configuration, if needed), restart the upgrade as described in the appropriate topic.

Rolling Back After Upgrading the Original Access System

This procedure will undo all changes and leave you with your original installation as it was before being upgraded.

Having only one WebGate will result in downtime when rolling back.

To roll back after upgrading the original Access System

1. Confirm that your clone setup is operating properly and serving customers.
2. Shut down the upgraded original service or Web server.
3. Remove any destination file system directories that were added and patched.
4. Restore the original instance file system path by renaming the source.
5. **Windows**: Import the back up copy of the Windows registry entry for the original instance and release.
6. **Web Server Configuration**: Restore the backup copy of original Web server configuration files.
7. Restore the back up copy of the Access Server's \config subdirectory to return to the original configuration.
8. Restart the original service or Web server.
9. Repeat all steps for each upgraded original.
10. In the original System Console, remove entries for the clones
11. If you have a back up copy of the original schema before upgrading, you might be able to reinstate the copy using external tools.
12. Confirm that the original setup is operating properly, and then configure the DNS to enable the original setup to serve customers. For more information, see "Reconfiguring Domain Name Systems (DNS) to Use Upgraded Clones" on page 17-3.
13. Roll back the upgraded clone setup, which includes all clone file system directories, any Web server instances created for clones, the new branch that was created in the LDAP directory server. Also remove entries added to the original System Console for clone components. For more information, see Chapter 16:
    - Rolling Back Changes Made for the New `oblix` Branch
    - Rolling Back After Upgrading Identity System Clones

- Rolling Back After Upgrading Access System Clones

Looking Ahead

When you have a joint Identity and Access System, you perform activities in the following sequence to finish the upgrade.

Task overview: Remaining joint Identity and Access System activities include

1. Upgrading SDKs, Integration Connectors, and Access System Customizations
2. Validating the Entire Upgraded Original Environment
3. Starting On-the-fly User Data Migration
4. Reconfiguring Domain Name Systems to Use the Upgraded Original Deployment
5. Deleting the Temporary Directory Server Profile
6. Reverting Backward Compatibility
7. Removing the Cloned System After Upgrading Originals

Upgrading SDKs, Integration Connectors, and Access System Customizations

Oracle recommends that you upgrade any customizations and test these with the upgraded clone Access System. The following overview outlines the tasks that you should perform.

Caution: You must upgrade the Access System before upgrading integration components or an independently installed SDK

Task overview: Upgrading SDKs, Integration Connectors, and Access System Customizations

1. Chapter 11
   - Upgrading Third-Party Integration Connectors
   - Upgrading Independently Installed Software Developer Kits
2. Chapter 13
   - Upgrading Auditing and Reporting for the Access Server
   - Confirming Access System Failover and Load Balancing
   - Upgrading Forms-based Authentication
   - Recompiling and Redesigning Custom Authentication and Authorization Plug-Ins
   - Associating Release 6.1.1 Authorization Rules with Access Policies
   - Assuring Proper Authorization Failure Re-directs After Upgrading from 6.1.1
   - Updating the ObAMMasterAuditRule_getEscapeCharacter in Custom C Code
   - Validating Access System Customization Upgrades: See also "Validating the Entire Upgraded Original Environment", next.
3. This chapter: Validating the Entire Upgraded Original Environment.

Validating the Entire Upgraded Original Environment

Before you validate the entire upgraded original environment, be sure that you have integrated your upgraded customizations which were tested in the clone environment.

See Chapter 14 for details and suggestions to validate the entire upgraded original environment, including the Identity System and Access System. This is the same validation that you performed in "Validating Successful Operations in Your Environment" on page 16-69.

If the upgrade is successful, you can restart automatic user data migration as explained "Starting On-the-fly User Data Migration" on page 17-58.

Starting On-the-fly User Data Migration

You use the procedure here to start immediate (on-the-fly) user data migration after validating that your upgraded original environment is operating properly and that you will not be rolling back to the earlier release.

> **Note:** If you roll back to an earlier release after performing activities here, any user data that has been migrated will not be reverted.

In the following procedure you locate the globalparams.xml.upgrade file in the upgraded and validated environment (clone or original) and change the value of the MigrateUserDataTo1014 parameter from false to true.

To start on-the-fly user data migration after a zero downtime upgrade

1. Locate the globalparams.xml file in the destination path of the upgraded and validated environment. For example:

   *np611**ois_01*\identity\oblix\apps\common\bin\globalparams.xml

2. Change the value of the MigrateUserDataTo1014 parameter from false to true so that user data migration can start. For example:

   ```
   <NameValPair ParamName="MigrateUserDataTo1014" Value="True" />
   ```

3. Restart the Identity Server Service.

4. If you are certain that the original upgraded system is operating properly, proceed to "Reconfiguring Domain Name Systems to Use the Upgraded Original Deployment".

Reconfiguring Domain Name Systems to Use the Upgraded Original Deployment

When you are completely satisfied that the upgraded original system is fully operational, you can reconfigure the DNS to use the original environment instead of the cloned environment.

Reconfiguring DNS to redirect network traffic is outside the scope of this manual.

When this task is finished, you can proceed to "Deleting the Temporary Directory Server Profile".

Deleting the Temporary Directory Server Profile

After upgrading the first original WebPass, an administrator created a temporary directory profile to grant the Access Server write access to policy data stored in the directory server. This temporary directory profile was required when the Access Server gathered configuration information stored in the WebGatestatic.lst file and updated the directory server during WebGate upgrades.

After upgrading *all* earlier WebGates and confirming proper operation of the upgraded WebGates, you can delete the temporary directory server profile.

> **Note:** Do not perform this task until all earlier WebGates in your environment have been upgraded and verified to be working.

For details, see "Deleting the Temporary Directory Server Profile" on page 14-7. When this task is finished, proceed to "Reverting Backward Compatibility" on page 17-59.

Reverting Backward Compatibility

You might recall that backward compatibility with earlier custom plug-ins (and WebGates/AccessGates) was enabled during Identity and Access Server upgrades.

After upgrading all older plug-ins, WebGates and AccessGates, and confirming that the entire system upgrade has been successful, Oracle recommends that you revert backward compatibility.

The steps that you must perform to manually revert backward compatibility are similar to those used to manually enable backward compatibility. For more information, see the following topics in Chapter 14:

- Reverting Identity Server Backward Compatibility
- Reverting Access Server Backward Compatibility

When this task is finished, proceed to "Removing the Cloned System After Upgrading Originals".

Removing the Cloned System After Upgrading Originals

After upgrading and validating the original environment, and after reconfiguring the DNS to use the upgraded original system, you can remove the cloned system if you like.

Task overview: Removing the cloned environment

1. Confirm that your original setup is operating properly and serving customers.
2. Shut down clone services and Web servers.
3. Remove all clone file system directories.
4. In the original System Console, remove entries for the clones.

Part VII

Appendixes

This part of the book provides useful information that falls outside the scope of the main topics covered elsewhere in this manual.

Part VII contains the following appendixes:

A

Oracle Access Manager Directory Structure Changes

If you started the upgrade process from Oracle Access Manager release 6.5 or 7.x, you can skip this chapter because the directory structure remains the same. However, if you started the upgrade from a release earlier than 6.5, there are important directory structure changes that you need to be aware of.

The installed product directory structure remained constant from Oracle Access Manager release 5.2 to release 6.5. With the introduction of localization for multi-language environments in release 6.5, new directories were added, some directories moved, and some were eliminated. This new directory structure is carried forward with 10*g* (10.1.4.0.1).

Not all new directories reside on all Oracle Access Manager component hosts. This appendix introduces both the earlier directory structure and the new structure.

About the 10*g* (10.1.4.0.1) Directory Structure

Starting with the release 6.5, a new directory structure was introduced to accommodate the addition of Language Packs that enable you to display static information to users in their native language. Oracle Access Manager provides a new directory named \oblix\oracle\nlstrl that is created for each component during with the automatic installation of the Oracle National Language Support Library.

The top level directory structure for 10*g* (10.1.4.0.1) looks like the following:

OracleAccessManager\access

OracleAccessManager\identity

OracleAccessManager\webcomponent

In addition, 10*g* (10.1.4.0.1) provides additional Language Packs and support for multibyte character sets such as Japanese and Chinese.

Note: English language messages require no additional Language Pack. All installations include a \lang directory with an \en-us subdirectory for English language messages.

With release 6.5 through 10*g* (10.1.4.0.1), the location of certain files has changed. For example, the location of message files and stylesheets will differ from earlier releases. See these topics for more information:

- \lang Directory and \langtag Subdirectories
- \logs Directory
- \obsymbols Directory
- \reports Directory
- \scoreboard Directory
- \WebServices Directory

The default directory structure for the latest Oracle Access Manager PresentationXML libraries is summarized in the next list. Information here introduces some of these changes, which are explained in detail in the *Oracle Access Manager Customization Guide*:

- *IdentityServer_install_dir*\identity\oblix\apps*AppName*\bin
- *IdentityServer_install_dir*\identity\oblix\lang*langTag*
- *IdentityServer_install_dir*\identity\oblix\lang*langTag*\style0
- *IdentityServer_install_dir*\identity\oblix\lang\shared

- *WebPass_install_dir*\identity\oblix\lang*langTag*
- *WebPass_install_dir*\identity\oblix\lang*langTag*\style0
- *WebPass_install_dir*\identity\oblix\lang\shared
- *WebPass_install_dir*\identity\oblix\WebServices\XMLSchema

\lang Directory and *langtag* Subdirectories

Starting with release 6.5 and continuing forward, Oracle Access Manager installations include a directory named \lang, which includes a named directory (*langtag*) for each installed language. For example, *langtag* en-us contains English-specific directories and files that is included with every installation by default. When you install a Language Pack a *langtag* directory is included and named with a specific language tag. In the example here, the French Language Pack was installed:

IdentityServer_install_dir\identity\oblix\lang\en-us
IdentityServer_install_dir\identity\oblix\lang\fr-fr
IdentityServer_install_dir\identity\oblix\lang\shared

Note: Your installation will be English only unless Oracle-provided Language Packs were installed. You can install Language Packs independently after installing or upgrading, to 10*g* (10.1.4.0.1) as described in the *Oracle Access Manager Installation Guide*.

Each *langTag* subdirectory contains ..XML message catalog files for various applications, which you can customize, as well as other .HTML files. In addition, each \langTag directory contains a \style0 directory.

The \lang\shared directory provides default global stylesheets in all languages. For more information about stylesheets and PresentationXML directories, see "About Custom Items and Upgrades" on page 12-11 and the *Oracle Access Manager Customization Guide*.

Note: In release 6.5 the \engine directory was removed. Also, in release 6.5 the \orig directory was removed, but returned in release 7.0 and remains in 10*g* (10.1.4.0.1).

\logs Directory

This directory contains Oracle Access Manager log files.

\obsymbols Directory

This directory contains .pdb files used for debugging crashes on Windows systems.

\reports Directory

This directory contains a subdirectory for Crystal Reports that includes samples and templates.

\scoreboard Directory

This directory contains the scoreboard files used by SNMP.

\WebServices Directory

On the computer hosting a WebPass, this directory contains subdirectories for Web Services Description Language files; samples; and XMLSchema. For more information, see the *Oracle Access Manager Developer Guide*.

Identity Server Directories

The Identity Server was formerly known as the NetPoint or COREid Server. There are several new directories for the Identity Server. Some are new starting with release 6.5 and continuing through10*g* (10.1.4.0.1) and some are new as of 10*g* (10.1.4.0.1):

IdentityServer_install_dir\identity\oblix

\lang (contains a named directory (*langtag*) for each installed language and \shared)
langtag (for example, en-us, contains message files in a specific language)
\help
\style0 (default wrapper stylesheets specific to each application)
\shared (default global stylesheets for various applications in all languages)
\obsymbols (.pdb files used for debugging crashes on Windows systems)
\oracle (files for Oracle National Language Support)
\reports (Readme file explaining files and contents)
\crystal (Crystal Reports directory)
\samples (Crystal Reports samples)
\templates (Crystal Reports templates)
\scoreboard (Files used by Oracle Access Manager SNMP)

Table A–1 shows the subdirectories and files that are part of 10*g* (10.1.4.0.1) located in *IdentityServer_install_dir*\identity\oblix.

Table A–1 IdentityServer_install_dir\identity\oblix Subdirectories

6.5 to 10*g* (10.1.4.0.1)	Earlier Subdirectory	File type
\apps	\apps	Application subdirectories with related files
\config	\config	Configuration files
\data	\data	Runtime-related configuration files
\data.ldap	\data.ldap	LDAP-related configuration files
\include	\include	Include files for third-party integration
\lang		Contains the following subdirectories: --\shared directory of default global stylesheets --\en-us (*langtag*)language-specific files/directories: -- message files in a specific language --\help directory in a specific language --\style0 (default wrapper stylesheets)
\lib	\lib	Library files
\logs	\logs	Log files
\mail	\mail	Mail files
\obsymbols		.pdb files used for debugging crashes on Windows systems
\oracle		Files for the Oracle National Support Library
\orig	\orig	Copies of the parameter files with default settings Oracle Customer Care or Professional Services can use these files during troubleshooting to determine if customization of a file is causing a problem.
\reports		Crystal reports samples and templates
\scoreboard		Scoreboard files used by SNMP
\tools	\tools	Utility applications (migration_tools and other directories)
\unsupported	\unsupported	Useful tools, utilities, and code examples that have not been tested by Oracle Quality Assurance

WebPass Directories

There are several new directories for WebPass, starting with release 6.5 and continuing through 10*g* (10.1.4.0.1), as shown:

WebPass_install_dir\identity\oblix

\lang (contains language specific subdirectories as well as \java and \shared)
langtag (is *not* an exact duplicate of the one on the Identity Server)
\style0 (copies of default wrapper stylesheets and image files)
\java (resource properties for specified languages)
\shared (default global files that WebPass uses in response to requests)
\logs
\obsymbols (.pdb files used for debugging crashes on Windows systems)
\oracle (files for Oracle National Language Support)
\WebServices
\ samples (Web Services Description Language samples)
\WSDL (Web Services Description Language files)
\XMLSchema (XML schemas that define elements specific to applications)

Table A–2lists the subdirectories and files that are part of 10*g* (10.1.4.0.1) located in *WebPass_install_dir*\identity\oblix:

Table A–2 WebPass_install_dir\identity\oblix Directories

6.5 to 10*g* (10.1.4.0.1) Subdirectory	**Earlier Subdirectory**	**File type**
\apps	\apps	Application subdirectories and files, including the Identity System Administration files
\config	\config	Configuration files.
\lang		Contains the following: --\en-us and other language-specific subdirectories that are *not* an exact duplicate of those on the Identity Server --\java subdirectory --the \shared directory of default global files that WebPass uses in response to requests
\lib	\lib	Library files
\logs	\logs	Log files
\obsymbols		.pdb files used for debugging crashes on Windows systems
\oracle		Files for the Oracle National Support Library
\orig	\orig	Copies of the parameter files with default settings Oracle Customer Care or Professional Services can use these files during troubleshooting to determine if customization of a file is causing a problem.
\tools	\tools	Utility applications (migration_tools and other directories)
\unsupported	\unsupported	Useful tools, utilities, and code examples that have not been tested by Oracle Quality Assurance
\Webservices		XML schema files for specific applications and more
Release 6.5, 7.0 and 10*g* (10.1.4.0.1) Files	**Previous Files**	**Description**
.apacheconfig	.apacheconfig	Directives for Apache Web servers
.nsconfig	.nsconfig	Directives for Sun (formerly Netscape/iPlanet) Web servers to hide files in the Oracle Access Manager system that should not be viewable from a browser
index.htm	index.htm	Startup Web page with .htm extension
index.html	index.html	Startup Web page with .html extension

Directories for Access System Components

The Access System consists of three components (Policy Manager, Access Server, WebGate). The Access System is optional.

Starting with release 6.5 and continuing through 10*g* (10.1.4.0.1), there are several new directories for the Access System components:

PolicyManager_install_dir\access\oblix
AccessServer_install_dir\access\oblix
WebGate_install_dir\access\oblix

The following subdirectories are included for all Access System components:

\lang (contains language specific subdirectories as well as \shared)
langtag (for example, en-us)
\docs (Web server setup details and other docs)

\style2
\obsymbols

The following additional subdirectories are included on the Policy Manager only:

\lang (contains language specific subdirectories as well as \shared)
langtag (for example, en-us)
\help
\shared (.js files)

The following additional subdirectories are included on the Access Server and WebGate for use with certain third-party integrations:

\lang
langtag
\securid-cgi (files for use when integrating RSA SecurID)
\securid-forms (files for use when integrating RSA SecurID)
\securid-forms-adforest (files for use when integrating RSA SecurID)
\securitybridgeforms (files for use when integrating the security bridge)

Subdirectories for the Policy Manager

The Policy Manager was formerly known as the Access Manager component. Not all directories are available on all Access System components. The following subdirectories and files are part of 10*g* (10.1.4.0.1) located in the *PolicyManager_install_dir*\access\oblix:

Table A–3 Policy Manager_install_dir\access\oblix Directories

6.5 to 10*g* (10.1.4.0.1) Subdirectory	Earlier Subdirectory	File type
\apps	\apps	Application subdirectories with related files
\config	\config	Configuration files
\data	\data	Runtime-related configuration files
\data.ldap	\data.ldap	LDAP-related configuration files
\lang		Contains the following subdirectories: --\en-us and other language-specific subdirectories that contain: --\docs (Web server setup docs) --\help --\style2 --\shared (.js files)
\lib	\lib	Library files
\logs	\logs	Log files
\obsymbols		.pdb files used for debugging crashes on Windows systems
\orig	\orig	A copy of all message and parameter files required for future migration to newer versions of Oracle Access Manager
\tools	\tools	Utility applications (migration_tools and other directories)

Subdirectories for the Access Server

Not all directories are available on all Access System components. The following subdirectories and files in 10*g* (10.1.4.0.1) are located in the *AccessServer_install_dir*\access\oblix as:

Table A–4 Access Server_install_dir\access\oblix Directories

6.5-10*g* (10.1.4.0.1) Subdirectory	Earlier Subdirectory	File type
\apps	\apps	Application subdirectories with related files
\config	\config	Configuration files
\data	\data	Runtime-related configuration files
\data.ldap	\data.ldap	LDAP-related configuration files
\engine	\engine	Files used to create and audit messages
\lang		Contains the following subdirectories (also on the WebGate host): --\en-us and other language-specific subdirectories that contain language-specific message catalogs and: --\docs (Web server setup docs) --\help --\securid subdirectories --\securitybridge subdirectory --\style2
\lib	\lib	Library files
\logs	\logs	Log files
\obsymbols		.pdb files used for debugging crashes on Windows systems
\orig	\orig	Copies of the parameter files with default settings Oracle Customer Care or Professional Services can use these files during troubleshooting to determine if customization of a file is causing a problem.
\reports		Crystal Reports samples and templates (Not on WebGate)
\scoreboard		Files used by Oracle Access Manager SNMP (Not on WebGate)
\sdk	\sdk	Software development kit files (Not on WebGate)
\tools	\tools	Utility applications (migration_tools and other directories)

Subdirectories for WebGate

In addition to the directories described in"Subdirectories for the Access Server" on page A-6, the directories here are included and WebGate information is added to the *WebGate_install_dir*\access\oblix:

- _ivmWebGate
- _uninstWebGate

PresentationXML Directories

The next discussions identify changes for Oracle Access Manager stylesheets and messages as follows:

- PresentationXML Directories with Oracle Access Manager Release 6.5 and Later

PresentationXML Directories with Oracle Access Manager Release 6.5 and Later

If you have upgraded from release 6.5 or later (or your earlier installation did not include custom images, styles, or JavaScript that you want to use with 10*g* (10.1.4.0.1)), you can skip this discussion.

Oracle Access Manager default Classic Style stylesheets and the PresentationXML library are now stored as shown here. For more information, see Appendix A, "Oracle Access Manager Directory Structure Changes" and the *Oracle Access Manager Customization Guide*:

IdentityServer_install_dir\identity\oblix\apps*AppName*\bin
IdentityServer_install_dir\identity\oblix\lang*langTag*
IdentityServer_install_dir\identity\oblix\lang*langTag*\style0
IdentityServer_install_dir\identity\oblix\lang\shared

WebPass_install_dir\identity\oblix\lang*langTag*
WebPass_install_dir\identity\oblix\lang*langTag*\style0
WebPass_install_dir\identity\oblix\lang\shared
WebPass_install_dir\identity\oblix\WebServices\XMLSchema

The contents of the default 10*g* (10.1.4.0.1) directories for the Identity Server are outlined in Table A–5. This directory structure was introduced in Oracle Access Manager release 6.5 and continues through 10*g* (10.1.4.0.1).

Table A–5 Default PresentationXML Libraries Release 6.5 and Later

Default Oracle Access Manager Directories	Contents
IdentityServer_install_dir\identity\oblix\apps*AppName**bin* where *AppName* can be common, groupservcenter, objservcenter, userservcenter, and so on.	Registration and parameter files specific to the application.
IdentityServer_install_dir\identity\oblix\lang*langTag* where *langTag* represents an installed language, such as en-us (English) or fr-fr (French).	Message files for various applications.
IdentityServer_install_dir\identity\oblix\lang*langTag*\style0	▪ Wrapper stylesheets for applications point to templates in \shared ▪ Common Oracle Access Manager images
IdentityServer_install_dir\identity\oblix\lang\shared	XSL stylesheet templates for various applications

The contents of the default 10*g* (10.1.4.0.1) WebPass directories identified earlier are outlined in Table A–6. This directory structure was introduced in Oracle Access Manager 6.5 and continues through 10*g* (10.1.4.0.1).

Table A–6 Default WebPass PresentationXML Libraries Release 6.5 and Later

Default WebPass Directories	Contents
WebPass_install_dir\identity\oblix\lang*langTag*	Contains message files for various applications

Table A–6 (Cont.) Default WebPass PresentationXML Libraries Release 6.5 and Later

Default WebPass Directories	Contents
WebPass_install_dir\identity\oblix\lang*langTag**style0*	▪ Image files used in presenting the page ▪ Copies of style0 stylesheets for client-side processing only
WebPass_install_dir\identity\oblix*lang*\shared	▪ JavaScript files ▪ Copies of stylesheets for reference only
WebPass_install_dir\identity\oblix\WebServices\XMLSchema	Contains XML schema files for specific applications

For more information about directories and their content, see the *Oracle Access Manager Customization Guide*.

PresentationXML Directories Before Oracle Access Manager 6.5

If you have upgraded from release 6.5 or later (or your earlier installation did not include custom images, styles, or JavaScript that you want to use with 10*g* (10.1.4.0.1)), you can skip this discussion.

The PresentationXML library was provided under two directories and distributed depending upon how the files were likely to be used. For example, stylesheets that define the default Oracle Access Manager Classic Style are maintained in flat files in the file system directory:

IdentityServer_install_dir\identity\oblix\apps*AppName*

For example:

IdentityServer_install_dir\identity\oblix\apps\userservcenter\ui\style0*style_name*.xls

The pre-6.5 Identity Server directory structure *IdentityServer_install_dir*\identity\oblix\apps*AppName* (common, groupservcenter, and so on) is summarized in Table A–7.

Table A–7 Pre-6.5 Identity Server PresentationXML Libraries

\bin	\ui	\xmlschema
Dynamically-loadable code for the application, and the registration file, message file(s) and parameter files specific to the application	Stylesheets for the application (in one or more style directories)	XML schema files specific to the application

The pre-6.5 WebPass directory structure is summarized in Table A–8. For example, *WebPass_install_dir*\identity\oblix\apps*AppName* (common, groupservcenter, and so on):

Table A–8 Pre-6.5 WebPass PresentationXML Libraries

\bin	\ui
JavaScript files	Stylesheets and GIFs specific to the application (in one or more style directories).

For more information, see the *Oracle Access Manager Customization Guide* for your earlier release.

Message Storage

Prior to release 6.5, Oracle Access Manager messages were controlled by an XML file for a specific application. For example:

IdentityServer_install_dir/identity/oblix/apps/*appname*/bin/*appnamemsg*.xml

where *IdentityServer_install_dir* is the directory where the Identity Server is installed and *appname* matches a specific application, as follows:

groupservcenter--Group Manager

objservcenter--Organization Manager

userservcenter--User Manager

Each *appnamemsg*.xml file contained multiple paired sets of data, in the form:

```
<Message MsgTag="the tag name">The tag text</Message>
```

In 10*g* (10.1.4.0.1), these message files now reside in specific language directories. For example: *IdentityServer_install_dir*/identity/oblix/lang/*langTag*/oblixbasemsg.xml.

For more information, see the *Oracle Access Manager Customization Guide*.

B

Migrating from a Solaris Platform to a Linux Platform While Upgrading

This appendix describes how you can upgrade an earlier Oracle Access Manager component installation that resides on a Solaris platform to Oracle Access Manager 10*g* (10.1.4.0.1) while migrating the component to a Linux platform. The topics in this chapter include:

About Migrating from a Solaris Platform to a Linux Platform

Oracle has developed a methodology and a set of procedures that you can use when you want to switch from a Solaris platform to a Linux platform as you upgrade an earlier Oracle Access Manager component. For example, you can upgrade Oracle Access Manager release 6.1.1 components running on Solaris to release 10*g* (10.1.4.0.1) running on Linux. This methodology allows the upgraded component on the Linux platform to access the same LDAP directory server as the original component on the Solaris platform.

Your deployment most likely includes Oracle Access Manager components on other platforms in addition to Solaris (a heterogeneous deployment). For example, you might be running Oracle Access Manager Identity and Access Servers on Solaris with Oracle Access Manager Web components running on other platforms. The steps in this appendix apply only to the Solaris components that you will migrate to a Linux platform during the upgrade.

The discussion "About the Execution Stage for In-Place Upgrades" on page 1-10 provides a high-level view of the upgrade tasks that you must perform, and the order in which these tasks must be completed for an in-place upgrade. The platform switch from Solaris to Linux while upgrading is similar to other in-place upgrades. You perform planning activities, schema and data preparation and upgrades, and component and customization preparation and upgrades. You upgrade and perform

the switch as described in this appendix. Troubleshooting tips and techniques are the same for this type of upgrade as for other in-place upgrades. An upgrade with platform switch only involves making the Solaris source installation directory available on the Linux platform, running the obmigratenp tool two times for each component as described here, then performing a few reconfigurations due to platform switch. After the upgrade, component validation is the same for this type of upgrade as for other in-place upgrades.

Note: You cannot use the zero downtime upgrade method when performing a switch from a Solaris platform to a Linux platform. Instead, upgrade while making the switch as described in this appendix and then apply the latest patch to installed components. For more information, see "Applying the Latest Patch Set" on page B-21.

Task overview: Upgrading a component while switching from Solaris to Linux

1. Perform planning activities as usual:
   a. Perform planning activities as described in Chapter 1.
   b. Review concepts as described in Chapter 2.
   c. Get familiar with the path and processing that occurs as described in Chapter 3.
   d. Review the summary of behaviors and backward compatibility as described in Chapter 4.
2. Perform the schema and data upgrade as follows:
   a. Prepare for the schema and data upgrade as described in Chapter 5 with the following exception: Do not install master 10*g* (10.1.4.0.1) Identity Server, WebPass, and Policy Manager components, which are not needed because the 10*g* (10.1.4.0.1) components you install on the Linux host will server the same purpose.
   b. Upgrade the Identity System schema as described in Chapter 6.
   c. **Joint Identity and Access System**: Upgrade the Access System schema and data as described in Chapter 7.
   d. Prepare all remaining earlier Oracle Access Manager components as described in Chapter 8.
3. Prepare the intended Linux hosts as described in "Prerequisites and Preparation" on page B-5, which includes:
   a. Preparing Your Linux Host
   b. Installing Oracle Access Manager 10g (10.1.4.0.1) Components on the Linux Host
   c. Making Earlier Installation Directories on Solaris Available to the Linux Host
   d. Finishing Host Preparation
4. Upgrade Identity System components as described in "Upgrading Identity System Components while Switching to Linux" on page B-14, which includes:
   a. Upgrading Identity Servers while Switching to Linux
   b. Upgrading WebPass Instances while Switching to Linux
   c. Finishing the Identity System Upgrade After Switching to Linux

   d. Validating and Backing up the Upgraded Identity System

5. **Joint Identity and Access System**: Upgrade Access System components as described in "Upgrading Access System Components while Switching to Linux" on page B-14, which includes:
   a. Upgrading Policy Manager Instances while Switching to Linux
   b. Upgrading Access Servers while Switching to Linux
   c. Upgrading WebGates while Switching to Linux
   d. Finishing the Access System Upgrade with a Solaris to Linux Switch
   e. Validating the Upgraded Access System
   f. Backing Up Upgraded Access System Component Directories
6. Perform remaining upgrade activities as described in:
   a. Chapter 11, "Upgrading Integration Components and an Independently Installed SDK"
   b. Chapter 12, "Upgrading Your Identity System Customizations"
   c. Chapter 13, "Upgrading Your Access System Customizations"
7. Verify that the upgrade was successful using procedures for all upgrades in Chapter 14.
8. Refer to troubleshooting tips in Appendix G as needed.

When upgrading with a switch from Solaris to Linux, you perform tasks in the same order as you would for other in-place upgrades. However, during an upgrade with a switch from Solaris to Linux, you use the obmigratenp tool that is available with the Oracle Access Manager 10*g* (10.1.4.0.1) component that you install on the Linux host.

When you run obmigratenp without any parameters, the command prints the meaning of all input parameters. For specific information about obmigratenp and other utilities, see Appendix C. The obmigratenp tool is located in the following directory:

Component_install_dir\identity|access\oblix\tools\migration_tools\obmigratenp

When upgrading with a switch from Solaris to Linux, you specify Confirmed mode when asked so that you can skip certain steps. For instance, upgrades with a switch from Solaris to Linux you must skip Web server configuration updates for Oracle Access Manager Web component and schema and data upgrades. For more information about Confirmed mode, see "Confirmed Mode" on page 2-10.

To upgrade with a switch to Linux from Solaris, you invoke the obmigratenp tool twice for each component, as follows:

- The first invocation creates the orig folders and performs message catalog migration using a command.

  ```
  obmigratenp -c <component> -f <from_version> -t <to_version>
  -s <old_version_Solaris_directory> -d <new_version_Linux_directory>
  -i <new_version_LINUX_directory> -u <user_name> -g <group_name>
  -l <comma_separated_list_of_languages_installed>
  ```

  The *user_name* and *group_name* values should be the same as those specified while installing the component on the Linux platform. The -d parameter indicates the destination directory (the new version directory) and -i specifies the directory from which the obmigratenp tool is being invoked. Typically -d and -i have the

same value. For example, the first invocation for an Identity Server upgrade might look like the following sample:

```
obmigratenp -c ois -f 611 -t 1014
-s /usr/temp/611/identity -d /usr/temp/1014/identity
-i /usr/temp/1014/identity -u <gtiberi> -g <admin>
-l en-us
```

- The second invocation upgrades everything other than the orig folder and message catalog migration. This will involve parameter catalogs, schema, data, component-specific details, registry details (if applicable), and Web server configuration. The second invocation takes the form:

  ```
  obmigratenp -c <component> -f <from_version> -t <to_version>
  -s <old_version_Solaris_directory> -d <new_version_Linux_directory>
  -i <new_version_Linux_directory> -u <user_name> -g <group_name>
  ```

  An example of the second invocation for an Identity Server component might look like the following:

  ```
  obmigratenp -c OIS -f 611 -t 1014 -s /usr/temp/611/identity
  -d /usr/temp/1014/identity -i /usr/temp/1014/identity -u <gtiberi>
  -g <admin>
  ```

Considerations for Upgrades with a Solaris to Linux Switch

Discussions in this section describe considerations you should take into account before performing an upgrade while switching from a Solaris platform to a Linux platform:

- Considerations for Identity Server and Policy Manager Components
- Considerations for Oracle Access Manager Web Components

Considerations for Identity Server and Policy Manager Components

This topic provides considerations for Identity Server and Policy Manager components when preparing for and switching from Solaris to Linux.

The LDAP server contains the earlier release of the Oracle Access Manager schema, which must be upgraded. If you intend to switch to a Linux platform from Solaris during an Identity Server upgrade, do not upload the schema using the component installer. Instead, select No when asked "Is this the first Identity Server installation in the network for this LDAP directory server?"

For Policy Manager, answer No when asked if you want to update the schema automatically when installing on the Linux host.

To summarize these considerations:

- When installing a 10*g* (10.1.4.0.1) Identity Server on Linux, select No when asked if this is "... the first Identity Server installation in the network for this LDAP directory server?".
- When upgrading an Identity Server with a platform switch, accept the schema and data changes.
- When installing a 10*g* (10.1.4.0.1) Policy Manager on Linux, select No when asked if you want to automatically update the schema now.
- When upgrading a Policy Manager with a platform switch, accept the schema and data changes

Considerations for Oracle Access Manager Web Components

For Oracle Access Manager Web components, the earlier Web server instance for Solaris will not be used. You must install a new Web server instance on the Linux platform before starting the upgrade. This new Web Server for Linux will replace the Web server for Solaris that currently operates with the earlier component.

When installing Oracle Access Manager Web components on a Linux computer, you must update the Web server configuration. However during the Web component upgrade, use Confirmed mode and skip the Web server configuration update when you are asked.

To summarize the considerations for Web components:

- When installing 10*g* (10.1.4.0.1) Oracle Access Manager Web components on a Linux host, select the automatic Web server configuration update option.
- During the upgrade, use Confirmed mode and skip the Web server configuration update.
- Do not perform a manual Web server configuration update.

Prerequisites and Preparation

This section describes the activities that you must perform before you start upgrading with a switch from Solaris to Linux.

Task overview: Preparing your environment for the upgrade with a switch to Linux

1. Preparing Your Linux Host
2. Installing Oracle Access Manager 10g (10.1.4.0.1) Components on the Linux Host
3. Making Earlier Installation Directories on Solaris Available to the Linux Host
4. Finishing Host Preparation

Preparing Your Linux Host

Before you start the upgrade, be sure to validate that your Linux platform is supported for Oracle Access Manager 10*g* (10.1.4.0.1) and that the system is operating properly.

You must download additional GCC run-time libraries (libgcc_s.so.1 and libstdc++.so.5) that are compatible with GCC 3.3.2 and specify the location of these on the local host while installing Oracle Access Manager components.

Finally, a Web server instance is required for use with Oracle Access Manager 10*g* (10.1.4.0.1) Web components only. After the upgrade and switch to Linux from Solaris, the Linux Web server instance will replace the Web server instance currently in use on the Solaris platform. Ensure that you have write permissions to the new Web server configuration files on Linux.

To prepare and validate your Linux system

1. Confirm that your Linux system and Web server instance are supported for Oracle Access Manager 10*g* (10.1.4.0.1) on the Oracle Access Manager platform support matrix, as follows:
   a. Go to Oracle Technology Network:

      http://www.oracle.com/technology/software/products/ias/files/fusion_certification.html

b. Locate Oracle Identity and Access Management, and then click the link for the latest release. For example:

   System Requirements and Supported Platforms for Oracle Access Manager 10gR3 (xls)

2. Install additional libraries (libgcc_s.so.1 and libstdc++.so.5) on each Linux host, as follows:

   a. Obtain the zip file from the site shown here:

      `http://download.oracle.com/otn/linux/ias/1012/as_linux_x86_gcc_runtime_lib_704.cpio`

   b. Extract the following files to the local Linux computer on which you will install one or more Oracle Access Manager components:

      libgcc_s.so.1

      libstdc++.so.5

   c. During Oracle Access Manager installation, specify the location of the libraries on the local computer and continue the installation.

3. Install a Web server instance on each Linux system that will host Oracle Access Manager Web components:

   a. Using your Web server vendor documentation as a guide, add a supported Web server instance to your Linux system for use with Oracle Access Manager.

   b. Verify that you have write permissions to Web server configuration files on your Linux system.

   Note: When installing Oracle Access Manager Web components with Oracle HTTP Server Web server (or Apache) you are prompted to install as the same user under which the Web server is running. This information is located in the httpd.conf file in the User and Group directive entries. For more information, see the *Oracle Access Manager Installation Guide*.

4. Proceed to "Installing Oracle Access Manager 10g (10.1.4.0.1) Components on the Linux Host".

Installing Oracle Access Manager 10*g* (10.1.4.0.1) Components on the Linux Host

Before you begin upgrading, you must install Oracle Access Manager 10*g* (10.1.4.0.1) on the Linux host computer as outlined in the following task overview. When your earlier installation includes languages other than English, this additional instance should be installed with the same Language Packs as the original. This 10*g* (10.1.4.0.1) installation on Linux provides a foundation for the earlier installation that you will upgrade on Solaris.

The WebGate can be installed to use the same Web server instance as WebPass and Policy Manager to protect these components. If you install the WebGate to protect a Policy Manager and WebPass, the WebGate *must* be installed in the same directory as the Policy Manager. For example, if the Policy Manager is installed in *\COREid\access\WebComponent*, then the WebGate must also be installed there. Other than this, the new installation does not need to mirror the earlier one on Solaris with respect to path names and directory levels.

> **Note:** Oracle recommends that you automatically update your Web server configuration file for Oracle Access Manager using the automatic option to avoid errors.

Setup and Validation Caveats: After installation, you can start the 10*g* (10.1.4.0.1) Identity Server service on the Linux host to ensure that it is operational. After WebPass installation you can establish communication between the Identity Server and WebPass as described in the *Oracle Access Manager Installation Guide*. However, do not set up the 10*g* (10.1.4.0.1) Identity System that you installed on the Linux host. This setup will be migrated from the Solaris host during upgrade. As a result, you will not be able to start the 10*g* (10.1.4.0.1) Identity System to verify that your Identity Server and WebPass are working together until after the upgrade and switch from Solaris.

There is a similar caveat after installing the 10*g* (10.1.4.0.1) Policy Manager on a Linux host. The upgraded Policy Manager setup will be migrated from the Solaris host. Do not set up the 10*g* (10.1.4.0.1) Policy Manager after installation. For complete installation prerequisites and other details, see the *Oracle Access Manager Installation Guide*.

> **Note:** The path names used here are for illustration only. Your path names will differ.

Task overview: Installing Oracle Access Manager on the Linux host

1. Perform all prerequisites mentioned in this chapter.
2. **Identity Server**: Install the Oracle Access Manager 10*g* (10.1.4.0.1) Identity Server on the Linux host, as follows:
   a. Specify a new installation directory. For example: */user/temp/1014/*identity
   b. Answer No when asked if this is the first Identity Server installation for this LDAP directory server.
   c. After installation, ensure that the Identity Server service is running.
3. **WebPass**: Install the Oracle Access Manager 10*g* (10.1.4.0.1) WebPass in a new directory. For example: *usr/temp/1014/webpass/identity*.

   > **Note:** Do not set up the Identity System.

4. **Policy Manager**: After installing a new Web server instance on this computer, install the Oracle Access Manager 10*g* (10.1.4.0.1) Policy Manager in a new directory (*usr/temp/1014/policymanager/*access, for example), and specify the path to the same Web server instance that is used by the new WebPass.

   > **Note:** Do not set up the Policy Manager.

5. **Access Server**: Install the Oracle Access Manager 10*g* (10.1.4.0.1) Access Server in a new directory. For example: */user/temp/1014/*access
6. **WebGate**: Install the Oracle Access Manager 10*g* (10.1.4.0.1) WebGate in a new directory (*usr/temp/1014/webgate/*access, for example) and specify the path to the same Web server instance used by the new WebPass.

7. Repeat as needed to provide an upgrade foundation for each earlier Oracle Access Manager component instance.
8. Validate that the 10*g* (10.1.4.0.1) Identity and Access System are operating properly, as described in the *Oracle Access Manager Installation Guide*.

You are ready to perform activities in "Making Earlier Installation Directories on Solaris Available to the Linux Host".

Making Earlier Installation Directories on Solaris Available to the Linux Host

You must ensure that the directories for earlier components on Solaris are available to the Linux host for the upgrade process. There are two options to achieve this:

- On the Solaris computer:
  - Tar the earlier component installation directory, then
  - FTP the earlier directory to the Linux computer where the latest version of the same component will be installed.
- Cross mount the install folder from the Solaris computer on the Linux computer.

You are ready to finish preparation.

Finishing Host Preparation

Table B–1 provides a list of prerequisite activities that should be performed on earlier components before you begin upgrading with a switch to Linux. After performing activities outlined in Table B–1, you can finish prerequisite activities in this chapter to prepare the Linux host that will be involved in the switch from Solaris.

Table B–1 Prerequisites for Upgrading Oracle Access Manager Components with a Switch from Solaris to Linux

Perform the following Activities as Described in Chapter 8
Checking Compatibility with Previous Releases on page 8-1
Copying Custom Identity Event Plug-ins on page 8-2
Preparing Earlier Customizations on page 8-2
Preparing the Default Logout in the Policy Manager on page 8-3
Preparing Host Computers on page 8-3
Preparing Release 6.x Environments on page 8-4
Preparing Multi-Language Installations on page 8-7
Backing Up File System Directories, Web Server Configurations, and Registry Details on page 8-7 **Note**: Perform this activity on both the earlier release running on Solaris and the latest release running on Linux.
Stopping Servers and Services on page 8-9
Logging in with Appropriate Administrative Rights on page 8-10

Upgrading Identity System Components while Switching to Linux

When all prerequisites are completed, you are ready to proceed with the upgrade task and platform switch.

Topics that follow should be performed in order:

- Upgrading Identity Servers while Switching to Linux
- Upgrading WebPass Instances while Switching to Linux
- Finishing the Identity System Upgrade After Switching to Linux
- Validating and Backing up the Upgraded Identity System

> **Note:** The commands in this section use the sample installation path names from "Installing Oracle Access Manager 10g (10.1.4.0.1) Components on the Linux Host" on page B-6. Your path names will differ.

For details about the obmigratenp tool, see Appendix C.

Upgrading Identity Servers while Switching to Linux

You perform the following steps to upgrade each earlier Identity Server on Solaris while switching to the Linux platform.

> **Note:** The exact commands must reflect your specific Identity Server deployments. Ensure that you have access to the earlier directory, as described in "Making Earlier Installation Directories on Solaris Available to the Linux Host" on page B-8.

To upgrade the Identity Server while switching to Linux from Solaris

1. Locate the obmigratenp tool on the Linux host where you installed the Oracle Access Manager 10*g* (10.1.4.0.1) component.

   usr/temp/1014//identity/oblix/tools/migration_tools/obmigratenp

2. Using appropriate path names for your Identity Servers, run the obmigratenp tool using a command that takes the following form:

   ```
   obmigratenp -c ois -f 611 -t 1014
   -s /usr/temp/611/identity -d /usr/temp/1014/identity
   -i /usr/temp/1014/identity -u <user_name> -g <group_name>
   -l en-us
   ```

   The *user_name* and *group_name* values should be the same as those specified while installing the component on the Linux platform. For example:

3. Using appropriate path names for your Identity Servers, run the obmigratenp tool a second time as follows:

   ```
   obmigratenp -c OIS -f 611 -t 1014 -s /usr/temp/611/identity
   -d /usr/temp/1014/identity -i /usr/temp/1014/identity -u <user_name>
   -g <group_name>
   ```

4. **Auditing and Access Reporting**: If your earlier installation included auditing and access reporting, go immediately to "Upgrading Auditing and Access Reporting for the Identity System" on page 12-2 before performing step 5.

5. On the Linux host, verify that the Identity Server upgrade was successful.

   a. Start the Identity Server service to confirm that it will start (notice that the name has not changed from the one originally assigned).

b. **Identity Server Service Does Not Start**: Confirm that you have performed all tasks and specified all information accurately. Check Identity Server migration log files for any errors reported during the upgrade and look for troubleshooting tips in Appendix G.

c. **Upgrade Not Successful**: See "Recovering From an Identity Component Upgrade Failure" on page B-21.

d. **Upgrade Successful**: Backup the instance as described in "Backing Up Upgraded Identity Component Information" on page B-14, then repeat these steps to upgrade every earlier Identity Server instance in your environment, before upgrading WebPass nastiness.

Upgrading WebPass Instances while Switching to Linux

You perform the following steps to upgrade each earlier WebPass on Solaris while switching to the Linux platform.

Note: The exact commands must reflect your specific WebPass deployments. Ensure that you have access to the earlier component as described in "Making Earlier Installation Directories on Solaris Available to the Linux Host" on page B-8.

To upgrade WebPass while switching to Linux from Solaris

1. Locate the obmigratenp tool on the Linux host where you installed the Oracle Access Manager 10*g* (10.1.4.0.1) component.

   usr/temp/1014/webpass/identity/oblix/tools/migration_tools/obmigratenp

2. Using appropriate path names for your WebPass instances, run the obmigratenp tool using a command that takes the following form:

   ```
   obmigratenp -c wp -f 611 -t 1014 -s /usr/temp/611/webpass/identity
   -d /usr/temp/1014/webpass/identity -i /usr/temp/1014/webpass/identity
   -u <user_name> -g <group_name> -l en-us
   ```

   The form is based on your specific WebPass example. However it uses a different directory structure.

3. Using appropriate path names for your WebPass instances, run the obmigratenp tool a second time as follows:

   ```
   obmigratenp -c OIS -f 611 -t 1014 -s /usr/temp/611/webpass/identity
   -d /usr/temp/1014/webpass/identity -i /usr/temp/1014/webpass/identity
   -u <user_name> -g <group_name>
   ```

4. Verify that the WebPass upgrade was successful on the Linux host.

   a. Stop, then restart the associated Identity Server service on the Linux host.

   b. Start the WebPass Web server instance on the Linux host.

   c. **Web Server Does Not Start**: Check the log files for any errors reported during the upgrade and look for troubleshooting tips in Appendix G.

   d. **Upgrade Not Successful**: See "Recovering From an Identity Component Upgrade Failure" on page B-21.

e. **Upgrade Successful**: Back up this instance as described in "Backing Up Upgraded Identity Component Information" on page B-14,then upgrade every WebPass instance in your environment.

f. After upgrading *all* WebPass instances, proceed to "Finishing the Identity System Upgrade After Switching to Linux".

Finishing the Identity System Upgrade After Switching to Linux

Using the procedures described in this chapter, your earlier Oracle Access Manager customizations are preserved. This implies that certain deployment-specific settings were carried over from the Solaris deployment to the Linux deployment. For example, the Identity Server host name and port. Following the upgrade, you must establish new deployment connections to ensure that the upgraded Oracle Access Manager Web components (WebPass) communicate with the Oracle Access Manager servers on Linux, not the earlier Web servers on Solaris.

Depending on the components you have upgraded, you must perform the following activities to finish your Identity System upgrade with a switch to Linux:

- Re-configuring the Identity Server for Its Linux Host
- Reconfiguring WebPass To Communicate with the Identity Server on Linux

Re-configuring the Identity Server for Its Linux Host

After upgrading the Identity Server with a switch to Linux, you must copy the ois_server_config.xml.bak from the original source directory on Solaris to the target directory on the Linux host. Also, you must modify the DNS host name of the Identity Server and the port to match the Linux server DNS host name and port. These changes are to be made in the configuration file. The following sample configuration file segment shows the parameters and values that you must change:

```
<? xml version="1.0" encoding="utf-8"?>
<ValNameList xmlns="http://www.oblix.com" ListName="ois_server_config.xml">
<NameValPair ParamName="OISServerID" Value="XXXX"></NameValPair>
<NameValPair ParamName="port" Value="YYYY"></NameValPair>
<NameValPair ParamName="security" Value="cert"></NameValPair>
<NameValPair ParamName="hostname" Value="<machine_name>"></NameValPair>
</ValNameList>
```

In the sample segment, you change the value of `ParamName="OISServerID"` to that of the Identity Server on the Linux host; the value of `ParamName="port"` is the port number on which the Identity Server listens; the value of `ParamName="security"` is either cert, simple or open; the value of `ParamName="hostname"` is the DNS host name of the Linux host.

To reconfigure an upgraded Identity Server for its Linux host

1. Locate the ois_server_config.xml.bak file in the following directory on the Solaris host:

   oam1014/identity/oblix/config/ois_server_config.xml.bak

   In the path, *oam1014* refers to the Identity Server installation directory on the Solaris host (also known as *IdentityServer_install_dir*.

2. Copy the file as follows:

   From the source directory on Solaris:
   IdentityServer_install_dir/identity/oblix/config/ois_server_config.xml.bak

To the target directory on Linux:
IdentityServer_install_dir/identity/oblix/config/ois_server_config.xml.bak

3. Rename the file on the Linux host to:

   From: ois_server_config.xml.bak

   To: ois_server_config.xml

4. On the Linux host: Open ois_server_config.xml and modify the values of parameters to reflect the Identity Server name, listening port, security, and Linux host in the configuration file:

```
<? xml version="1.0" encoding="utf-8"?>
<ValNameList xmlns="http://www.oblix.com" ListName="ois_server_config.xml">
<NameValPair ParamName="OISServerID" Value="XXXX"></NameValPair>
<NameValPair ParamName="port" Value="YYYY"></NameValPair>
<NameValPair ParamName="security" Value="cert"></NameValPair>
<NameValPair ParamName="hostname" Value="<machine_name>"></NameValPair>
</ValNameList>
```

5. Start the Identity Server service on the Linux host.
6. Validate that the Identity Server service on Linux is communicating with the WebPass on Linux as follows:
   a. Restart the Web server on Linux and access the URL to your Identity System Console. For example, `http://hostname:port/identity/oblix`
   b. Login and verify that the Identity Server on Linux is communicating with the WebPass on Linux.
7. After finishing the steps here on each Linux host involved in the switch, proceed to "Reconfiguring WebPass To Communicate with the Identity Server on Linux".

Reconfiguring WebPass To Communicate with the Identity Server on Linux

This topic includes the procedure that you use to reconfigure the upgraded WebPass instances to communicate with the upgraded Identity Servers after switching to Linux. As described here, you change the `refresh` parameter in the webpass.xml file to `false`. You then restart WebPass and enter the Identity System Console where you update the host name and port of Identity Servers as needed that were upgraded and switched to Linux. You finish by restoring the `refresh` parameter in the webpass.xml file to `true` and restarting the Web server.

To reconfigure WebPass to communicate with an upgraded Identity Server on Linux

1. Locate the webpass.xml file in the WebPass Web component installation directory on the Linux host. For example:

   *oam1014**webcomp**nsapi*\identity\oblix\apps\webpass\bin\webpass.xml

   In the path name, *oam1014**webcomp**nsapi* refers to the directory where the Oracle Access Manager WebPass for a Sun (formerly Netscape/iPlanet) Web server resides. This portion of the path name is also known as *WebPass_install_dir*.

2. Open the webpass.xml file in an editor and change the value of the `refresh` parameter to False, then save the file:

```
<SimpleList>
     <NameValPair ParamName="refresh" Value="false" />
</SimpleList>
```

3. Restart the WebPass Web server.
4. Go to the Identity System Console by specifying the appropriate URL for your deployment in your browser. For example:

   ```
   http://hostname:port/identity/oblix
   ```

   In the sample URL, *hostname* refers to computer that hosts the WebPass Web server; port refers to the HTTP port number of the WebPass Web server instance; /identity/oblix connects to the Identity System Console. The main product page should appear with links to Identity System applications.
5. Proceed as follows:
   - **Landing Page Appears**—Proceed with step 6.
   - **Landing Page Does Not Appear**—See troubleshooting tips in Appendix G and "Recovering From an Identity Component Upgrade Failure" on page B-21.
6. Select Identity System Console, then login as a user with administrator privileges:
   - **Login Successful**—Proceed with step 7.
   - **Login Not Successful**—Ensure that you have logged in as a user with the proper credentials (Master Administrator or Master Identity Administrator).
7. Update Identity Server details as follows:
   a. In the Identity System Console, click System Configuration, then select Identity Servers.
   b. Click the name of an Identity Server to modify its parameters.
   c. Click the Modify button at the bottom of the page.
   d. Edit the following parameters on the Modify Identity Server page as needed:

      Hostname: Enter the name of the computer on which the Identity Server is running.

      Port: Enter the port number on which the Identity Server is listening.
   e. Click the Save button at the bottom of the Modify Identity Server page.
8. Restart the Identity Server.
9. Repeat as needed for each Identity Server whose host has changed.
10. Open the webpass.xml file in an editor and change the value of the `refresh` parameter to False, then save the file:

    ```
    <SimpleList>
         <NameValPair ParamName="refresh" Value="true" />
    </SimpleList>
    ```

11. Restart the WebPass Web server.
12. Proceed to "Validating and Backing up the Upgraded Identity System".

Validating and Backing up the Upgraded Identity System

Oracle recommends that you first validate your Identity System upgrade and then back up the upgraded component details. For details, see the following topics:

- Validating your Identity System Upgrade

- Backing Up Upgraded Identity Component Information

> **Note:** These are the same procedures that appear in Chapter 9 and are intended to be used after upgrading all Identity System components.

Validating your Identity System Upgrade

It is a good idea to quickly validate the following items to ensure that the overall Identity System upgrade was successful. You can perform a more extensive tests to validate your Identity System upgrade as described in Chapter 14.

To confirm your Identity System upgrade

1. Delete all Web browser caches once the upgrade is complete.
2. Make sure your Identity Server service and WebPass Web server instance are running.
3. Check that your message and parameter catalog customizations have been preserved. For example, if you have changed any message in a particular message catalog file, then it needs to be retained.
4. Proceed to "Backing Up Upgraded Identity Component Information".

Backing Up Upgraded Identity Component Information

As mentioned earlier, Oracle recommends that you finish each component upgrade by backing up the upgraded component directory. This will enable you to easily restore your environment to the newly upgraded state should that be needed.

To back up critical information after the upgrade

1. Back up the latest Identity Server and WebPass component directories on Linux and store these in a new location.
2. **WebPass Web Server**: Back up the upgraded Web server configuration file, if required, using instructions from your vendor.
3. Proceed as follows:
   - **Identity System Only**: Upgrade the software developer kit (SDK) as described in Chapter 11 and then upgrade your Identity System customizations as described in Chapter 12.
   - **Joint Identity and Access System**: Perform activities in "Upgrading Access System Components while Switching to Linux" before upgrading the software developer kit (SDK).

Upgrading Access System Components while Switching to Linux

If you do not have a joint Identity and Access System deployment, you can skip this section and proceed instead to Chapter 11 to upgrade the software developer kit (SDK).

After upgrading the Identity System components, you are ready to proceed with the Access System upgrade and platform switch. Activities that follow should be performed in order:

- Upgrading Policy Manager Instances while Switching to Linux

- Upgrading Access Servers while Switching to Linux
- Upgrading WebGates while Switching to Linux
- Finishing the Access System Upgrade with a Solaris to Linux Switch
- Validating and Backing up the Upgraded Access System

> **Note:** The commands in this section use the sample installation path names from "Installing Oracle Access Manager 10g (10.1.4.0.1) Components on the Linux Host" on page B-6. Your path names will differ.

For details about the obmigratenp tool, see Appendix C.

Upgrading Policy Manager Instances while Switching to Linux

You perform the following steps to upgrade each earlier Policy Manager (formerly known as the Access Manager component) on Solaris while switching to the Linux platform.

> **Note:** The exact commands must reflect your specific Policy Manager deployments. Ensure that you have access to the earlier component directory, as described in "Making Earlier Installation Directories on Solaris Available to the Linux Host" on page B-8.

To upgrade the Policy Manager while switching to Linux from Solaris

1. Locate the obmigratenp tool on the Linux host where you installed the Oracle Access Manager 10*g* (10.1.4.0.1) component.

   usr/temp/1014/policymanager/access/oblix/tools/migration_tools/obmigratenp

2. Using appropriate path names for your Policy Managers, run the obmigratenp tool using a command that takes the following form:

   ```
   obmigratenp -c am -f 611 -t 1014
   -s /usr/temp/611/am/access -d /usr/temp/1014/policyManager/access
   -i /usr/temp/1014/policyManager/access -u <user_name> -g <group_name>
   -l en-us
   ```

3. Using appropriate path names for your Policy Managers, run the obmigratenp tool a second time as follows:

   ```
   obmigratenp -c am -f 611 -t 1014 -s /usr/temp/611/am/access
   -d /usr/temp/1014/policyManager/access -i /usr/temp/1014/policyManager
   /access -u <user_name> -g <group_name>
   ```

4. Verify that the upgrade was successful, as follows:

   a. **Policy Manager Web Server Does Not Start**: Check the Policy Manager migration log files for any errors reported during the upgrade and see troubleshooting tips in Appendix G.

   b. **Upgrade Successful**: Perform activities in "Backing Up Upgraded Access System Component Directories" on page B-21 for this instance, then continue upgrading remaining Policy Managers.

c. **Upgrade Not Successful**: See Proceed to "Recovering From an Access System Upgrade Failure" on page B-22.

d. When all Policy Managers are upgraded, proceed with "Upgrading Access Servers while Switching to Linux".

Upgrading Access Servers while Switching to Linux

You perform the following steps to upgrade each earlier Access Server on Solaris while switching to the Linux platform.

Note: The exact commands must reflect your specific Access Server deployments. Ensure that you have access to the component installation directory on Solaris, as described in "Making Earlier Installation Directories on Solaris Available to the Linux Host" on page B-8.

To upgrade the Access Server while switching to Linux from Solaris

1. Locate the obmigratenp tool on the Linux host where you installed the Oracle Access Manager 10*g* (10.1.4.0.1) component.

   usr/temp/1014/access/oblix/tools/migration_tools/obmigratenp

2. Using appropriate path names for your Access Servers, run the obmigratenp tool using a command that takes the following form:

   ```
   obmigratenp -c aaa -f 611 -t 1014
   -s /usr/temp/611/access -d /usr/temp/1014/access -i /usr/temp/1014/access
   -u <user_name> -g <group_name> -l en-us
   ```

3. Using appropriate path names for your Access Servers, run the obmigratenp tool a second time as follows:

   ```
   obmigratenp -c aaa -f 611 -t 1014 -s /usr/temp/611/access
   -d /usr/temp/1014/access -i /usr/temp/1014/access -u <user_name>
   -g <group_name>
   ```

4. **Auditing and Access Reporting**: If your earlier installation included auditing and access reporting, go immediately to "Upgrading Auditing and Reporting for the Access Server" on page 13-2 before performing step 5.

5. Verify that the upgrade was successful as follows:

   a. Start the Access Server service. For example, if you do not store the server password in the password.lst file, use the following command and provide the password at the prompt if needed:

      ```
      start_access_server -P mypassword port -d -t 61
      ```

      Certain command options might disable the hide option and cause a password to appear in the command line. On an IBM SecureWay directory server, the next time you start the Access Server it can take a few minutes for the dialog requesting the PEM pass phrase to appear.

   b. **Access Server Service Does Not Start**: Check the Access Server migration log files for any errors reported during the upgrade and look for troubleshooting tips in Appendix G.

   c. **Upgrade Not Successful**: Proceed to "Recovering From an Access System Upgrade Failure" on page B-22.

d. **Upgrade Successful**: Perform activities in "Backing Up Upgraded Access System Component Directories" on page B-21 for this instance, then repeat the procedure to upgrade all Access Servers in your environment.

e. After upgrading all Access Servers, you can continue with "Upgrading WebGates while Switching to Linux".

Upgrading WebGates while Switching to Linux

You perform the following steps to upgrade each earlier WebGate on Solaris while switching to the Linux platform.

Note: The exact commands must reflect your specific WebGate deployments. Ensure that you have access to the earlier component directory, as described in "Making Earlier Installation Directories on Solaris Available to the Linux Host" on page B-8.

To upgrade the WebGate while switching to Linux from Solaris

1. Locate the obmigratenp tool on the Linux host where you installed the Oracle Access Manager 10*g* (10.1.4.0.1) component.

   usr/temp/1014/access/oblix/tools/migration_tools/obmigratenp

2. Using appropriate path names for your WebGates, run the obmigratenp tool using a command that takes the following form:

```
obmigratenp -c wg -f 611 -t 1014
-s /usr/temp/611/wg/access -d /usr/temp/1014/wg/access
-i /usr/temp/1014/wg/access -u <user_name> -g <group_name> -l en-us
```

3. Using appropriate path names for your WebGates, run the obmigratenp tool a second time as follows:

```
obmigratenp -c wg -f 611 -t 1014 -s /usr/temp/611/wg/access
-d /usr/temp/1014/wg/access -i /usr/temp/1014/wg/access -u <user_name>
-g <group_name>
```

4. Verify that the upgrade was successful, as follows:

   a. Start the WebGate Web server.

   b. **WebGate Web Server Does Not Start**: Check the Access Server migration log files for any errors reported during the upgrade and see troubleshooting tips in Appendix G.

   c. **Upgrade Successful**: Perform activities in "Backing Up Upgraded Access System Component Directories" on page B-21 for this instance, then continue upgrading earlier WebGates.

   d. **Upgrade Not Successful**: Proceed to "Recovering From an Access System Upgrade Failure" on page B-22.

   e. Continue upgrading WebGates, and then proceed to "Finishing the Access System Upgrade with a Solaris to Linux Switch".

Finishing the Access System Upgrade with a Solaris to Linux Switch

Using the procedures described in this chapter, your earlier Oracle Access Manager customizations are preserved. This implies that certain deployment-specific settings

were carried over from the Solaris deployment to the Linux deployment. For example, the Access Server host name and port. Following the upgrade, you must establish new deployment connections to ensure that the upgraded Oracle Access Manager Web components communicate with the Oracle Access Manager servers on Linux, not the earlier servers on Solaris.

Depending on the component you have upgraded, you must perform the following activities to finish your upgrade: with a switch to Linux

- Reconfiguring Access Servers
- Reconfiguring WebGate

Note: There are no Policy Manager reconfiguration steps needed.

Reconfiguring Access Servers

This topic describes how to reconfigure Access Servers after switching to Linux hosts. You must specify new hostname and port details in the Access System Console, then use the command-line tool named `start_configureAAAServer` to reconfigure the Access Server.

To reconfigure Access Servers on Linux

1. Go to the Access System Console by entering the appropriate URL for your deployment in a browser window. For example:

   `http://hostname:port/access/oblix`

   where *hostname* refers to computer that hosts the WebPass Web server; *port* refers to the HTTP (or HTTPS) port number of the WebPass Web server instance; /access/oblix connects to the Access System Console.

2. Proceed as follows:
   - **Landing Page Appears**—Proceed with step 3.
   - **Landing Page Does Not Appear**—See troubleshooting tips in Appendix G and "Recovering From an Access System Upgrade Failure" on page B-22.

3. Select the Access System Console link, then log in as a user with Master Administrator privileges.

   The Access System Console should appear.

4. Proceed as follows:
   - **Login Successful**—Proceed with step 4.
   - **Login Not Successful**—Be certain that you are logging in as a user with the proper credentials (Master Administrator or Master Access Administrator).

5. Update Access Server details as follows:
   a. Select the Access System Configuration tab, then click Access Server Configuration when it appears in the left column.
   b. Click an Access Server name on the List all Access Servers page to view its parameters.
   c. Click the Modify button at the bottom of the page to display the Modify Access Server page.
   d. Edit the following parameters on the Modify Access Server page as needed:

Hostname: Enter the name of the computer on which the Access Server is running.

Port: Enter the port number on which the Access Server is listening.

e. Click the Save button at the bottom of the Modify Access Server page.

6. Restart the Access Server Service.
7. Repeat as needed for each Access Server whose host has changed.
8. Run the start_configureAAAServer tool, as follows:
   a. Locate the configureAAAServer tool:

      ```
      AccessServer_install_dir/access/oblix/tools/start_configureAAAServer
      ```

   b. Use the following command with the configureAAAServer tool to set up the Access Server:

      ```
      configureAAAServer reconfig AccessServer_install_dir
      ```

   c. Specify the following information for the Access Server:

      The transport security mode in which the directory server is running

      The host computer on which the directory server resides

      The port number on which the directory server listens

      The bind DN of the directory server

      The password of the directory server

      The directory server to which you are connecting

      The location where configuration data is stored

      The configuration DN

      The policy base

      The Access Server ID

   d. Restart the Access Server.
   e. Repeat as needed for each Access Server that was switched to a Linux host.
9. Proceed to "Reconfiguring WebGate".

Reconfiguring WebGate

This topic describes how to reconfigure WebGate to communicate with an Access Server that was switched to a Linux computer. For this, you use only the command-line tool named `configureWebGate`, and specify the host name for the Linux computer running the upgraded Access Server.

When you run the `configureWebGate`, you will use the options listed in Table B–2. For more information, see the *Oracle Access Manager Access Administration Guide*.

Table B–2 configureWebGate Commands

Command	Operation
`-i WebGate_install_dir`	Specifies the installation directory for the WebGate.
`-t <WebGate>`	Specifies that this operation is for WebGate.
`-h Access Server Host Name`	Specifies the computer name where the Access Server installed on the Linux host.

Table B–2 (Cont.) configureWebGate Commands

Command	Operation
`-p Access Server Port`	Specifies the port number on which the Access Server listens on the Linux host.

To modify a WebGate through the command line

1. Locate the `configureWebGate` tool:

   WebGate_install_dir\access\oblix\tools\configureWebGate

   In the sample path, *WebGate_install_dir* is the directory where WebGate is installed on the Linux platform.

2. Run the following command using specific values for your deployment and parameters listed in Table B–2, " configureWebGate Commands". For example:

   ```
   configureWebGate -i WebGate_install_dir -t WebGate -h Access_Server_Hostname
   -p Access_Server_Port
   ```

3. When you receive confirming messages that WebGate is configured properly, restart the Access Server.

Validating and Backing up the Upgraded Access System

Oracle recommends that you first validate your Access System upgrade and then back up the upgraded component details. For details, see the following topics:

- Validating the Upgraded Access System
- Backing Up Upgraded Access System Component Directories

Validating the Upgraded Access System

This is the same as the steps provided in Chapter 14.

You can complete any of the next steps to validate that the Access System schema and data upgrade have been successful. For more information, see *Oracle Access Manager Access Administration Guide*.

To verify a successful Access System upgrade

1. Make sure your Policy Manager Web server and WebPass Web server instance are running.
2. Delete all Web browser caches once the upgrade is complete
3. Navigate to the Access System Console from your browser by specifying the appropriate URL. For example:

   ```
   http://hostname:port/access/oblix
   ```

   where *hostname* refers to computer that hosts the Web server; port refers to the HTTP port number of the WebPass Web server instance; /access/oblix connects to the Access System Console.

   The Oracle Access Manager landing page should appear.

4. **Landing Page Does Not Appear**: Confirm that you have specified information correctly. Look for troubleshooting tips in Appendix G.
5. Log in to the Policy Manager/Access System Console as a Master Administrator.

6. Complete one or more of the following tasks, as described in the latest (10*g* (10.1.4.0.1)) *Oracle Access Manager Access Administration Guide*. For example:
   - Display configuration details for an authentication scheme by clicking the link that corresponds to the scheme.
   - Define or modify a policy domain.
   - Explore the Access System Console.
   - Access a protected resource to confirm that login is working.
7. Log out, as usual.

Backing Up Upgraded Access System Component Directories

As mentioned earlier, Oracle recommends that you finish each component upgrade by backing up the 10*g* (10.1.4.0.1) component directory after verifying that it is working properly. This will enable you to easily restore your environment to the newly upgraded state should that be a requirement.

> **Note:** This is an exact repeat of the information in Chapter 10 because there is no difference in the steps whether you are upgrading with a platform switch to Linux or without a switch to Linux.

To back up critical Access System information after the upgrade

1. Back up the latest component directory on Linux and store it in a new location.
2. **Web Server**: Back up the upgraded Web server configuration file, if needed, using your vendor documentation as a guide.
3. Proceed to Chapter 11 and upgrade the software developer kit (SDK).

Applying the Latest Patch Set

After this upgrade, Oracle recommends that you apply the latest patch set, which is available on My Oracle Support (formerly Metalink). For more information, see:

- The procedures in "Preparing Upgraded Environments for 10g (10.1.4.3) Language Packs" on page 14-3
- Obtaining Packages for Upgrades in Chapter 4 for details about the sequential application of patch sets
- The procedure in the *Oracle Access Manager Patchset Notes Release 10.1.4 Patchset 1 (10.1.4.2.0) For All Supported Operating Systems* that explains how to obtain prerequisite patch sets: 10*g* (10.1.4.2.0)
- The procedure in the *Oracle Access Manager Patchset Notes Release 10.1.4 Patchset 2 (10.1.4.3.0) For All Supported Operating Systems* that explains how to obtain and apply the 10*g* (10.1.4.3) patch set: 10*g* (10.1.4.3) patch set.
- To use NPTL after applying the 10*g* (10.1.4.3) patch set, see ""NPTL Requirements and Post-Installation Tasks" on page G-10.

Recovering From an Identity Component Upgrade Failure

If a component upgrade was not successful, you can perform the following steps to rollback this upgrade, then try again.

Note: This is an exact repeat of the information in Chapter 9 because the steps are the same whether you are upgrading on the same platform or performing a switch from Solaris to Linux.

To recover from an unsuccessful Identity component upgrade

1. Restore the earlier component installation directory that you backed up before the upgrade (to recover the earlier environment), then back it up again. You will retain one of the earlier directories as a backup copy and use one to restart the upgrade.
2. **WebPass Web Server**: Restore the upgraded Web server configuration file, if required.
3. Using a backup copy of your earlier component installation directory (and Web server configuration, if needed), restart the upgrade as described in this chapter.

Recovering From an Access System Upgrade Failure

This is an exact repeat of the information in Chapter 10 because the steps are the same whether you are upgrading on the same platform or performing a switch from Solaris to Linux.

If the component was not successful, you can perform the following steps to rollback this upgrade, then try again.

To recover from an unsuccessful Access System component upgrade

1. Restore the earlier component installation directory that you backed up before the upgrade (to recover the earlier environment), then back it up again. You will retain one of the earlier directories as a backup copy and use one to restart the upgrade.
2. **Web Server**: Restore the backed up Web server configuration file, if required for this component (Policy Manager or WebGate).
3. Using a backup copy of your earlier component installation directory (and Web server configuration, if needed), restart the component upgrade as described in this chapter.

C

Upgrade Process and Utilities

This chapter provides information about the utilities that are called into operation during the upgrade process.

Topics in this chapter include:

> **Note:** Running the tools manually is not recommended. Oracle strongly recommends that you perform a in-place upgrade as described in Part II and Part III or that you perform a zero downtime upgrade as described in Part VI.

About Upgrade Events

When you upgrade each component, the newest product release is installed over an earlier product release in the same location. This discussion introduces the program-driven processes that occur during component upgrades.

There will be a few differences when you perform an in-place upgrade versus an out-of-place zero downtime upgrade:

- In-place upgrades are initiated using the corresponding Oracle Access Manager 10*g* (10.1.4.0.1) installer. The arguments needed by the underlying utilities are gathered by the installer. During each component upgrade, the program controls the sequence of events and messages automatically. The process requires very little input from you.
- Out-of-place zero downtime upgrades are initiated using the 10.1.4.2.0 MigrateOAM script from a command-line. In this case, you must manually enter the mode for the operation, and other arguments and parameters, which are then passed to the underlying utilities.

In-place Upgrades: You initiate a component upgrade using the corresponding Oracle Access Manager 10*g* (10.1.4.0.1) installer. During each component upgrade, the program controls the sequence of events and messages automatically. The component upgrade process requires very little input from you.

After you start an upgrade and specify the same (target) installation directory where the earlier (source) component resides, you are asked if you want to upgrade the earlier version of the component.

If file system path names include spaces, a program might not be invoked properly unless you include quotation marks around each path name in any command you use. For example:

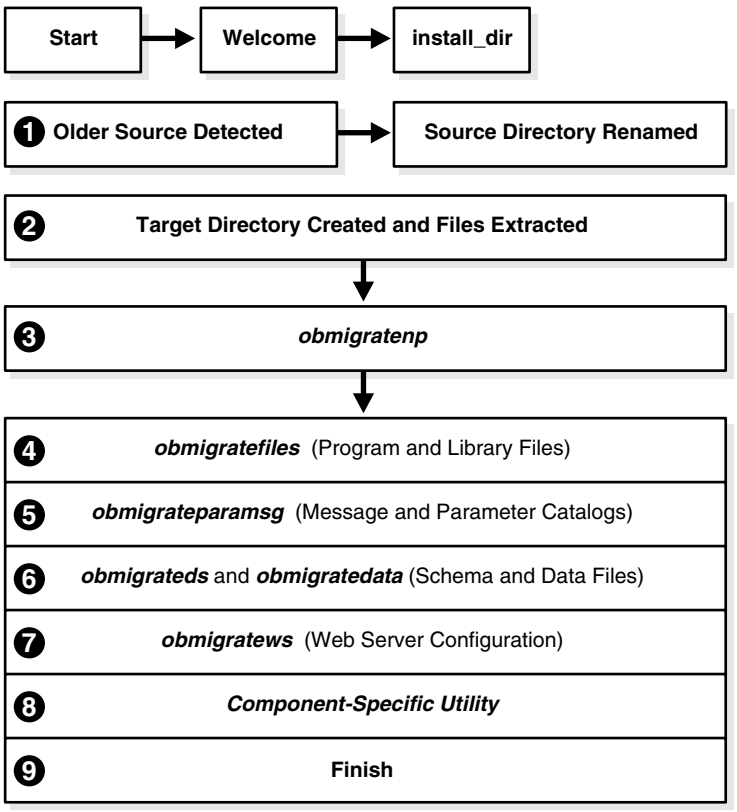
```
obmigratenp.exe -c ois -f 650 -t 700 -s
"C:\Program Files\NetPoint\identity_20060519_134931"
-d "C:\Program Files\NetPoint\identity"
-i "C:\Program Files\NetPoint\identity"
```

WARNING: If your file system path names include a space, be sure to include quotation marks around each path name in any command you use.

All Upgrades: Figure C–1 and the process overview that follows it describe a typical component upgrade, which is driven by each program (and the utilities that are called automatically during the process):

- An in-place upgrade is depicted. After you start the installation program for the component, you see a Welcome message and you are asked to provide specific input (such as an installation path name). As automated processing continues, you are asked to accept an operational method (Automatic versus Confirmed), or simply acknowledge that you are ready to continue.
- During a zero downtime upgrade, you manually enter a command line that includes arguments and specifications for the MigrateOAM script. The MigrateOAM script passes the arguments and specifications to other utilities that participate or control the upgrade. Starting with process 3 in Figure C–1, internal processing is similar whether you perform an in-place upgrade or a zero downtime upgrade. For more information about the zero downtime upgrade script and modes, see Chapter 15.

Figure C–1 Program-Driven Events During an In-place Upgrade



Process overview: When an earlier source is detected and you choose to upgrade

1. The source directory is renamed with a time stamp.
2. The target directory is created and 10*g* (10.1.4.0.1) files are extracted into it. The latest release must be extracted to the original target path, and languages for the previous installation are detected.

   The English language is upgraded automatically. If 10*g* (10.1.4.0.1) Language Packs are available in the source directory you can upgrade earlier languages and add new languages.

   > **Note:** If you upgrade a multi-language implementation without 10*g* (10.1.4.0.1) Language Packs, you will lose the multi-language functionality.For more information about multi-language implementations, see Chapter 4, "System Behavior and Backward Compatibility".

3. The obmigratenp utility is called (which determines the release you are migrating from as well as the release you are migrating to) and it internally detects which features need to be upgraded for this particular component and which other utilities to use for those upgrades.

   When your installation includes multiple languages, obmigratenp:

   a. Migrates message catalogs in the default language.

b. Migrates message catalogs in other selected languages when you have 10*g* (10.1.4.0.1) Language Packs in the component source directory.

c. Invokes general upgrades, as discussed in "Primary Utility: obmigratenp" on page C-6.

Note: For details about each utility and the log file generated by each utility, see later discussions in this appendix.

---

4. The obmigratefiles utility is called to upgrade program and library files.

   a. Required files are extracted to the target directory.

   b. Required configuration and SSL-related files are copied from the renamed source directory to the target directory, and 10*g* (10.1.4.0.1) is installed.

   For more information, see "File Upgrade: obmigratefiles" on page C-6.

5. The obmigrateparamsg utility is called to upgrade message and parameter catalog files.

   a. Required (.xml and .lst) files are identified in renamed source area.

   b. Files are modified for the latest release and written to the target directory. With 10*g* (10.1.4.0.1), .LST files are converted to .XML files and customizations made to the originals are retained in the upgraded files.

   For more information, see "Message and Parameter Upgrade: obmigrateparamsg" on page C-9.

6. **Schema and Data Upgrades Only**: Two utilities (obmigrateds and obmigratedata) are called automatically to initiate Oracle Access Manager schema and data upgrades.

   Zero Downtime Upgrades: The schema and data are upgraded independently. For more information, see "Schema and Data Upgrades with the Zero Downtime Upgrade Method" on page 15-9.

   In-Place Upgrades: The schema and data are upgraded together with the master Identity Server (and master Policy Manager when your installation includes the Access System). During subsequent Identity Server (and Policy Manager) upgrades, the initial schema and data upgrade is detected and this portion of the process is skipped. Oracle recommends that you upgrade the Oracle Access Manager schema and data automatically, as described in Part II, "Upgrading the Schema and Data". These upgrades use LDIF files that are specific to your directory server. Each LDIF file includes only changes from one release of Oracle Access Manager to the next. As a result, the schema and data upgrade will repeat one time for each release from your starting release to 10*g* (10.1.4.0.1). For example, if you are upgrading from release 6.1.1, the schema and data upgrade occurs as follows:

   - From release 6.1.1. to release 6.5
   - From release 6.5 to release 7.0
   - From release 7.0 to 10*g* (10.1.4.0.1)

7. The obmigratews utility is called to perform a selective Web server configuration file and filter upgrade, if needed, to accommodate changes for newer versions of Policy Manager, WebPass, and WebGate.

   Changes are added to the Web server configuration file.

For more information, see "Web Server Upgrade: obmigratews" on page C-16.

8. A component-specific utility is used to make changes to related registry entries for Windows, plug-ins, and other files.

   For example:

   a. **Identity Server:** obMigrateNetPointOis upgrades existing registry entry for the Identity Server to reflect the newer release; modifies PPP catalog if needed; modifies password from password.xml and .lst, if needed; re-creates proper uninstall_info.txt. For details, see "Identity Server: obMigrateNetPointOis" on page C-17.

   Note: The password written in the Oracle Access Manager 5.2, password.xml and password.lst files is not encrypted; however, later versions encrypt this. Encryption occurs automatically during an upgrade.

   b. **WebPass:** obMigrateNetPointWP upgrades existing registry entry for the WebPass to reflect the newer release; modifies password from password.xml and password.lst, if needed. For details, see "WebPass: obMigrateNetPointWP" on page C-18

   c. **Policy Manager:** obMigrateNetPointAM upgrades registry entry for Policy Manager; modifies password encryption from password.lst, if needed; copies your custom plug-ins to the target installation directory from your renamed source directory. For details, see "Policy Manager: obMigrateNetPointAM" on page C-19.

   d. **Access Server:** obMigrateNetPointAAA upgrades registry entry for Access Server; modifies password encryption, if needed; copies your custom plug-ins from your renamed source directory to the target installation directory; upgrades the following failover files:

      AppDB.lst—converted to .xml

      ConfigDB.lst—converted to .xml

      Group.lst—if present, converted to .xml

      UserDB.lst—if present, converted to .xml

      WebResrcDB.lst—converted to .xml

      For more information, see "Upgraded Items" on page 3-5.

   e. **WebGate:** obMigrateNetPointWG upgrades registry entry for the WebGate; modifies password encryption, if needed. For details, see "WebGate: obMigrateNetPointWG" on page C-20.

   f. **SDK:** obMigrateNetPointASDK is called by obmigratenp to accomplish an Access Manager SDK upgrade.

      The SDK upgrade will be invoked automatically as the last step when upgrading components bundled with SDK (Identity Server and the Oracle Access Manager Connector for WebSphere).

Note: If you decline the automatic SDK upgrade, current SDK configuration settings are not preserved and you must reconfigure SDK using the configureAccessGate tool, as described in the *Oracle Access Manager Access Administration Guide*

For details, see "Software Developer Kit (SDK): obMigrateNetPointASDK" on page C-20.

9. Finish as you would any installation.

   For details about what must be handled manually, see "Items that You Must Manually Upgrade" on page 3-9.

Note: Upgrades occur incrementally; the sequence of earlier processes begins and the earlier release is upgraded to the next-major release. Following the component-specific upgrade, the process might repeat automatically until all changes between your original release and the latest release are completed.

If you cancel an upgrade after being informed that the component has been installed, you need to complete the following steps to restore your Oracle Access Manager configuration to the original state.

MigrateOAM Script for Zero Downtime Upgrades

When you perform a zero downtime upgrade, you must use the MigrateOAM script that is available with Oracle Access Manager Release 10*g* (10.1.4.2.0). For details about the MigrateOAM script and processing, see "Zero Downtime Upgrade Tools, Processes, and Logs" on page 15-23.

Primary Utility: obmigratenp

Using the in-place ugprade method, the main utility driving a component upgrade is obmigratenp. If you are using the zero downtime upgrde method, the MigrateOAM script drives the process. The obmigrate utility orchestrates the upgrade process for a component from a given major release X to a given major release Y, as described in Table C–1.

Table C–1 The Upgrade Driver obmigratenp

Description	Function
obmigratenp.exe	▪ Decides and executes any intermediate incremental steps needed to reach a given target release for the component. ▪ Invokes other utilities to carry out functions to upgrade the specific component from major release X to major release Y
Path	*Component_install_dir*\identity|access\oblix\tools\migration_tools\obmigratenp
Command Line	Run `obmigratenp.exe` without any parameters. This command prints usage along with the meaning of all input parameters.

Table C–1 (Cont.) The Upgrade Driver obmigratenp

Description	Function

Other Files Used	■ Invokes Language Pack extraction to upgrade the default language, determine which additional languages to upgrade and which will not be upgraded.
	■ Reads the message catalog, to print messages to the console or while writing to a log file:
	`_install_dir\identity|access\oblix\tools\migration_tools\obmigratenpmsg.xml`
	■ Reads the parameter file, which includes a section for every component and every x to y upgrade:
	`_install_dir\identity|access\oblix\tools\migration_tools\obmigratenpparams`
	You can specify whether you want to have a certain type of upgrade for that component by setting flags to "true" or "false" to invoke or skip that function, respectively. When a flag is absent in this file, its value is presumed to be false.
	Flags include:
	■ kMigrateWS decides whether `obmigratews.exe` is executed.
	■ kMigrateData and kMigrateSchema determines if `obmigrateds.exe`. Setting either value to true invokes `obmigrateds.exe`.
	■ kMigrateASDK decides whether re-invocation of `obmigratenp.exe` is called for the Access Manager SDK upgrade.

Output	This utility drives the overall upgrade process by invoking various utilities and generating the log files described next.
Log File	Generates the log file: `install_dir\identity|access\oblix\tools\migration_tools\obmigratenp.log`, which typically contains: ■ Component name, source, and target directory ■ Command line used to invoke each upgrade utility ■ Return status of each upgrade utility ■ Other error and informative messages

File Upgrade: obmigratefiles

obmigratefiles is called by the obmigratenp multiple times to carry out file and folder related upgrades.

File upgrades involve copying required files from the renamed source directory to the target installation directory. The obmigratenp tool calls the obmigratefiles tool, which works on a given map file that specifies:

- The files to be copied
- From which source
- To which target

For more information, see the next process overview.

Process overview: obmigratenp calls obmigratefiles

1. obmigratefiles creates a folder of original files in the source directory in the two following circumstances, because the release 5.2.0 installer (and the 6.0.0 installer on Solaris) does not create a folder of original files:
   - When you are upgrading from Oracle Access Manager 5.2.0
   - When you are upgrading on Solaris from release 6.0.0

The map file that is used is *component_Version*_orig_files.lst. For example:

```
ois_520_orig_files.lst
```

or

```
ois_600_orig_files.lst
```

This folder is further used for the message and parameter upgrade.

2. obmigratefiles creates a folder of original files for the current release in the current installation directory using the map file

   *component_Version*_orig_files.lst.

   For example:

   ```
   ois_600_orig_files.lst
   ```

   The next time an upgrade occurs from this release to a newer release, the folder of original files for this release will be available to use during the message and parameter upgrade.

3. obmigratefiles copies config files, SSL setup-related files, and the like from the renamed source directory to the target installation directory.

   In this case, obmigratefiles works on a given *component*_base_files. For example:

   ```
   ois_base_files.lst
   am_base_files.lst
   ```
   and so on

   Base files contain the list of configuration files required for the upgrade. Typically, configuration files do not change. Files and directories in the base file are copied during the upgrade, including failover-related files. Any file and directory clean up occurs as needed. For example, if a particular Oracle Access Manager release deletes a file or introduces additional files, these will be treated appropriately. Suppose a file added in Oracle Access Manager 6.0 is not required in 6.5. In this case, the file will be deleted from the later installation.

   a. Upgrade all files listed in the base file.

   b. For all source versions from the base file release to the current source release, upgrade files listed in *component_source-version_files*.lst files.

   For example, consider upgrading from Oracle Access Manager 5.2. release-specific files exist for Oracle Access Manager 6.0, 6.5, and 7.0. In this case, step 2 copies files listed in ois_610_files.lst, ois_650_files.lst, and ois_700_files.lst. However, when upgrading from Oracle Access Manager 7.0 to 10*g* (10.1.4.0.1), the current source release is the base file release, therefore step 2 doesn't occur.

   Note: In case a deleted file exists in the base file, the deleted file will be removed from the base file list itself. Even if it existed in the earlier Oracle Access Manager release, it is no longer needed in the later release.

Additionally, release-specific files contain changes specific to only a particular *component_source-version_*files.lst; information that needs to be copied if you are upgrading from that release and there are some deviations. For example, suppose a file is added in Oracle Access Manager 6.0 and 6.5. In this case, you need files for:

```
ois_600_files.lst
```

```
ois_650_files.lst
ois_700_files.lst
```

Note: If Oracle Access Manager release 6.1 did not require any changes, ois_610_files.lst is not required.

Table C–2 provides more information

Table C–2 File Upgrades with obmigratefiles

Description	Function
obmigratefiles.exe	▪ Reads a given file for a specific component. ▪ Copies files from the source directory to the target directory according to the list specified in the file. ▪ Processes release-specific files as needed.
Path	*Component_install_dir*\identity|access\oblix\tools\migration_tools\obmigratefiles
Command Line	Run obmigratefiles.exe without any parameters. This command prints usage along with the meaning of all input parameters. **Options include:** -m Specifies name of map file to use -s [*source_dir*] Specifies the source directory. -d [*target_dir*] Specifies the target directory. -i Specifies the install directory. -l Specifies the language for Message migration. -p Specifies the flag for Language Packs.
Other Files Used	To print messages to the console or while writing to a log file, reads the message catalog: *_install_dir*\identity|access\oblix\tools\migration_tools\obmigratefilesmsg.xml
Output	This utility copies files based on input parameters.
Log File	Generates the log file: install_dir\identity|access\oblix\tools\migration_tools\obmigratefiles.log, which typically contains: ▪ Parameters passed to this utility. ▪ Status of every copy-instruction mentioned in used map file. ▪ Error messages, if any

Message and Parameter Upgrade: obmigrateparamsg

The obmigratenp utility calls the obmigrateparamsg utility with the required file for a specific component.

The Message Upgrade Process: Allows you to upgrade earlier messages with new messages and add new messages for the later release. A customized message will be retained. However, if the number of parameters in the message has changed, only the new message is retained. For example:

Original Message—`"Cannot copy file %1"`

Customized Message—`"Failed copy operation for file %1"`

New Message—`"Cannot copy file %1 from %2 to %3"`

> **Note:** In the examples shown here, the new message is retained.

The Parameter Upgrade Process: Parameter upgrades occur in parameter files. When you have modified parameters in your earlier release of Oracle Access Manager and the new release has modified the same parameter, the obmigrateparamsg utility overwrites the earlier changes. See the log file for changes.

Earlier Oracle Access Manager Versions: Include files named as *component_Fromrelease_to_Torelease_msg* | param.lst in the directory *component_install_dir*\identity | access\oblix\tools\migration_tools. For example:

```
ois_520_to_600_msg.lst
ois_520_to_600_param.lst
```

Use of obmigrateparamsg was an iterative process with upgrades occurring for each incremental release.

> **Note:** As mentioned previously, earlier during the upgrade from release 7.0 to 10*g* (10.1.4.0.1), .LST files are converted to .XML files and stored in the target directory. Customizations made in earlier .LST catalogs are preserved and appear in the .XML version of the file. No separate manual step is required to preserve customizations.

Oracle Access Manager 10*g* (10.1.4.0.1): The migration of parameter and message catalogs is performed in a single process. 10*g* (10.1.4.0.1) includes files named *component_release*_param_files.lst and *component_release*_msg_files.lst. For example:

```
am_700_param_files.lst
am_700_msg_files.lst
```

Optional hidden parameters from the earlier release are copied into the target. Hidden parameters are those which Oracle Access Manager supports and which you might want to add.

With Oracle Access Manager 10*g* (10.1.4.0.1), a path within the _param | msg_files.lst file includes a language ID to handle the multi-language feature available as of Oracle Access Manager 6.5. This looks like the example here:

```
file:/oblix/lang/%lang%/frontpagemsg.xml
```

When you specify the -p option, the obmigrateparamsg tool upgrades only message catalogs of the specified languages. The installer detects the language/ language of earlier release according to the following decision and pass it to obmigratenp:

- **For 5.2, 6.0 & 6.1**–Look into globalparams.xml file for the language tag. For example, language:En_US.
- **For 6.5 and Later**–Look in obnls.xml for the list of languages.

Table C–3 provides additional information about obmigrateparamsg.

Table C–3 Message and Parameter Upgrades with obmigrateparamsg

Description	Function
obmigrateparamsg.exe	▪ Reads a given file for a specific component. ▪ Processes given message/parameter files in the .xml file. For every message/parameter file, obmigrateparamsg: ▪ Reads the old release message/parameter file from the renamed source directory. ▪ Modifies the message/parameter file as needed. ▪ Writes the modified file to the target directory where the new installer has extracted files.
Path	*Component_install_dir*\identity|access\oblix\tools\migration_tools\obmigrateparamsg
Command Line	Run obmigrateparamsg.exe with the following parameters: obmigratparamsg -s source_dir -d *target_install_dir* -f *component_oldversion*_param_files.lst -t *component_newversion*_param_files.lst -l <langids> [-p] **Where** -s *source_dir* identifies the installation directory of the earlier Oracle Access Manager release. -d *target_install_dir* identifies installation directory of latest release of Oracle Access Manager. **Note:** This command is executed twice, first for the message catalogs (with the -l option), then for the parameter catalogs (*without* the -l option). The *target_install_dir* can be on a different computer from *source_dir*. -f component_oldversion_param_files.lst -t component_newversion_param_files.lst -l <*language*> (-l is to be specified only for message migration) [-p] Signifies the message catalog upgrade is to happen only for files under the /lang/*langTag* folder. To facilitate the migration of only message catalogs of the specified languages, this is used by Language Pack installers.
Other Files Used	To print messages to the console or while writing to a log file, reads the message catalog: *install_dir*\identity|access\oblix\tools\migration_tools\obmigrateparamsgmsg.lst
Output	This utility upgrades message/parameter files. The log contains all parameters forcefully overwritten/retained.
Log File	Generates the log file: *install_dir*\identity|access\oblix\tools\migration_tools\obmigrateparamsg.log, which typically contains: ▪ Parameters passed to this utility ▪ Name of every parameter/message file mentioned in input file and actions taken on this file. For example, replaced the existing parameter/message value with new value, added/deleted parameter/message, and so on. ▪ Error messages, if any. ▪ **Note**: When you modify a parameter/message in the earlier release and the current release includes a new parameter/message, you might want to look at these values because obmigrateparamsg has made decisions that you should be aware of.

As discussed in "Mime_types -related Customizations Not Retained" on page G-9, when upgrading from Oracle Access Manager 6.0, multiple entries with the same ParamName in mime_types (.xml and .lst) files are *not* upgraded:

IdentityServer_install_dir/identity/oblix/apps/admin/bin/mime_types.xml
IdentityServer_install_dir/identity/oblix/apps/admin/bin/mime_types.lst

WebPass_install_dir/identity/oblix/apps/admin/bin/mime_types.xml
WebPass_install_dir/identity/oblix/apps/admin/bin/mime_types.lst

Note: Both versions of the file are needed. You can remove MIME types that are no longer needed or add new MIME types to be associated with the particular attribute for further use. Simply edit the mime_types.lst and .xml files for the Identity Server, then copy these into the *WebPass_install_dir* to replace the earlier version.

Schema Upgrade: obmigrateds

Typically, the Oracle Access Manager schema is enhanced for each major Oracle Access Manager release. For example, when Identity Server functionality is enhanced it might refer to a greater number of schema attributes and object classes than previous versions.

During your upgrade, any differences between an earlier schema release and the next release are uploaded to your directory server using the required schema ldif file for your specific directory server. Every schema ldif file includes entries to modify the schema based on the difference between two versions. Schema ldif files use the following naming convention.

```
DataType_fromrelease_to_torelease_schema_DsType.ldif
```

For example:

```
osd_650_to_700_schema_ad.ldif
policy_650_to_700_schema_nds.ldif
```

and so on.

and reside in the directory with various upgrade map files:

```
Component_install_dir\identity|access\oblix\tools\migration_tools
```

During the upgrade, the obmigratenp utility reads the file obmigratenpparams.lst and calls obmigrateds to internally upload schema files when the kMigrateData kMigrateSchema flag is set to true in:

```
Component_install_dir\identity|access\oblix\tools\migration_tools
\obmigratenpparams.lst
```

Schema upgrades occur incrementally. As a result, the earlier release is upgraded to the next-latest release, the resulting schema is upgraded to the next-latest release, and so on until all interim schema changes between your original release and the latest release are completed. Obsolete schema elements are deleted during the upgrade.

A schema upgrade can occur only with Oracle Access Manager components that interface with the directory server: Identity Server, Policy Manager, and Access Server. Table C–4 provides more information about obmigrateds.

Table C–4 Schema Upgrades with obmigrateds

Description	Function

obmigrateds.exe	▪ Reads configuration files, assesses schema data (OSD), and determines possible directory servers with which Oracle Access Manager is communicating. For example, the directory server containing configuration data, the directory server containing user data, and the directory server containing policy data.
	▪ Gathers the information required to connect and bind to those directory servers.
	▪ Locates the schema file for the specific data type, directory type, and the from and to versions, then uploads the appropriate ldif file to the directory server using the ds_conf_update.exe utility
	▪ Using information read from the OSD (for example, 'o=oblix, ..'node) and configuration files, obmigrateds creates an input map file to be passed to obmigratedata.exe.
	For example:
	`data_fromrelease_to_torelease_osd.lst -- for osd, policy, and workflow upgrades`
	`data_fromrelease_to_torelease_user.lst -- for user data upgrade`
	▪ obmigrateds upgrades configuration data using obmigratedata, which creates an output data file, then deletes the Oracle Access Manager configuration tree from the directory and uploads this output data file to the directory server. For more information, see "Data Upgrade: obmigratedata"
	▪ obmigrateds upgrades user data using obmigratedata.
	Note: Starting with release 6.0, and later, the upgrade includes user entries for the "ChallengeResponsePhrase" value with an RC6 encryption scheme. Earlier Oracle Access Manager versions used an RC4 encryption scheme for the same purpose.
	Note: Zero downtime schema upgrades do not include the data upgrade. For more information, see "About Schema Mode Processing" on page 15-28.

Path	Component_install_dir\identity|access\oblix\tools\migration_tools\obmigrateds
Command Line	'Run obmigrateds.exe without any parameters. This command prints usage along with the meaning of all input parameters
Other Files Used	▪ Reads the message catalog here to print messages to the console or while writing to a log file: install_dir\identity|access\oblix\tools\migration_tools\obmigratedsmsg.lst ▪ Reads the parameter file obmigratedsparams.lst, gathers data, and determine which flags are set and which type of upgrade to perform: `install_dir\identity|access\oblix\tools\migration_tools\obmigratedsparams.lst.` Note: obmigratedsparams includes a section for every component. Within every section is a subsection for the upgrade from x to y. ▪ For example, the obmigratedsparams section for 'ois' contains a subsection '520_to_600' that contains flags that determine which of the following upgrades to complete: – osd/user schema upgrade – osd/policy/user data upgrade Each subsection also includes path and filenames (LST or XML) from which obmigrateds can get details about directory servers with OSD, policy data, or user data.
Output	This utility carries out schema and data migration by invoking appropriate utilities.

Table C–4 (Cont.) Schema Upgrades with obmigrateds

Description	Function
Log File	Generates the log file: *install_dir*\identity|access\oblix\tools\migration_tools\obmigrateds.log

Data Upgrade: obmigratedata

When the newer release of Oracle Access Manager include a new Oracle Access Manager-specific data organization or values, data upgrades occur in much the same way as the schema upgrade. The delta between the old and new versions is determined and the appropriate data ldifs are provided so they can be uploaded to the directory server. An incremental upgrade is performed between each major release and the next major release until you have completed the upgrade. After the upgrade, Oracle Access Manager can identify and use the data present in the directory and run smoothly.

A data upgrade can occur only with Oracle Access Manager components that interface with the directory server: Identity Server, Policy Manager, and Access Server.

Files that contain both object-class and attribute mappings are provided. The object and attribute mapping files reside in:

install_dir\identity|access\oblix\tools\migration_tools\obmigratedata

The object-class mapping filename is oc_*Fromrelease*_to_*Torelease*_map.lst. For example:

```
oc_520_to_600_map.lst
oc_610_to_650_map.lst
oc_650_to_700_map.lst
```

Note: There is no data migration from Oracle Access Manager 6.0.0 release 6.1.0. For this reason, there is no oc_600_to_610_map.lst file.

The attribute mapping filenames are appear as:

at_*Fromrelease*_to_*Torelease*_map_DataType.lst. For example:

```
at_520_to_600_map_osd.lst—Oblix schema data
at_520_to_600_map_policy.lst—NetPoint policy data
at_520_to_600_map_user.lst—User data
at_520_to_600_map_wf.lst—Workflow data
```

as well as files for 600 to 650 and 650 to 700 and 700 to 10*g* (10.1.4.0.1). For example:

```
at_600_to_650_map_item.lst
at_650_to_700_map_item.lst
```

where item refers to osd, policy, user, or workflow attribute mapping files.

The obmigrateds utility invokes obmigratedata for data upgrading and passes a map file with initial information—OSD directory, bind DN, password, personoc, groupoc, and the like—to obmigratedata. This map file uses the naming convention:

```
data_Fromrelease_to_Torelease_osd.lst
data_Fromrelease_to_Torelease_user.lst
```

For example:

```
data_520_to_600_osd.lst
data_520_to_600_psc.lst
data_610_to_650_osd.lst
data_610_to_650_psc.lst
data_650_to_700_osd.lst
data_650_to_700_psc.lst
data_700_to_1014_osd.lst
data_700_to_1014_psc.lst
```

This is because the upgrade is carried out in steps. For example, if you start from release 520, data is first upgraded from 520 to 600, then from 610 to 650, from 650 to 700, and finally from 700 to 10*g* (10.1.4.0.1).

Note: There is no data upgrade between release 600 and 610. Starting from release 5.2, you upgrade first to release 6.1.1 using 6.1.1 installers; then you complete the upgrade from 6.1.1 using 10*g* (10.1.4.0.1).

See Table C–5 for more information.

Table C–5 Data Upgrades with obmigratedata

Description	Function
obmigratedata.exe	▪ Accepts a file giving basic required information as input for the target directory server (connectivity details, person and group object classes, and so on). The input file instructs the utility about the file used to obtain object-class mapping. **Note:** The object class mapping file identifies the file to be used for attribute-level mapping. ▪ Reads mapping files, connects to given directory, reads existing data, processes this data based on instructions in the object-class and attribute-mapping files, and creates an output ldif. **Note:** All mappings file must be present in *install_dir*\identity|access\oblix\tools\migration_tools\obmigratedata
Path	Component_install_dir\identity|access\oblix\tools\migration_tools\obmigratedata
Command Line	Run obmigratedata.exe with the following parameters. obmigratedata -f ConfigFileName -i install_dir where ConfigFileName is the full path of a file that provides all initially required information so this utility can connect to a given directory server. Additionally, this file contains other information such as the object-class mapping file name, log file name, name of the file giving a list of binary attributes, and so on. Also: *install_dir* is the target installation directory for this component.
Other Files Used	▪ The object class mapping file defined in the input config file ▪ The attribute mapping file(s) as mentioned in the object class mapping file ▪ The file listing binary attributes (file name is mentioned in the input config file) ▪ The message catalog obmigratedatamsg.lst, while printing to the console or writing to a file: *install_dir*\identity|access\oblix\tools\migration_tools\obmigratedata\obmigratedatamsg.lst

Table C–5 (Cont.) Data Upgrades with obmigratedata

Description	Function
Output	This utility creates an output ldif file whose name is mentioned in the input config file.
Log File	Generates the log file: *install_dir*\identity|access\oblix\tools\migration_tools\obmigratedata The name of the log file is mentioned in the input config file. For example, migration_log_file.lst, which typically contains: ▪ Old and new DNs of entries migrated by this utility ▪ Success/failure messages for selected migration ▪ Other error messages if any

Web Server Upgrade: obmigratews

Along with Policy Manager, WebPass, and WebGate enhancements might come the need for changes in the supporting Web server configuration file. During the upgrade process, you are asked about automatic Web server configuration file updates. Oracle recommends that you update the Web server configuration file automatically, though you can do this manually following the upgrade.

The obmigratenp utility calls obmigratews to complete the Web server configuration update by passing a map file and other parameters to obmigratews. The map file is named and located as follows:

*Component_fromrelease_to_torelease*_ws_WebserverType.lst
install_dir\identity|access\oblix\tools\migration_tools

For example:

am_520_to_600_ws_nsapi.lst

Also, obmigratenp copies the file generated by obmigratews to the original Web server configuration file. Thus the Web server configuration file gets the required changes for the newer release of the component. See Table C–6 for more information.

Table C–6 Web Server Configuration Upgrades with obmigratews

Description	Function
obmigratews.exe	▪ Reads the input map file, modifies content of this file using input values of old and new installation directories. ▪ Modifies the given input Web server configuration file according to the content created using the map file. ▪ Writes the Web server configuration to a new output file whose name is passed to this utility as one of the parameters.
Path	Component_install_dir\identity|access\oblix\tools\migration_tools\obmigratews
Command Line	Run obmigratews without any parameters. This command prints usage along with the meaning of all input parameters.
Other Files Used	To print messages to the console or while writing to a log file, reads the message catalog: *install_dir*\identity|access\oblix\oblix\tools\migration_tools\obmigratewsmsg.lst
Output	This utility creates a modified release of the Web server configuration file.

Table C–6 (Cont.) Web Server Configuration Upgrades with obmigratews

Description	Function
Log File	Generates the log file: *install_dir*\identity|access\oblix\tools\migration_tools\obmigratews.log

Component-Specific Upgrades

Every component needs special treatment during the upgrade to accommodate specific registry changes, modifying specific files, and the like. As a result, `obmigratenp.exe` calls the appropriate utility depending upon the component selected for the upgrade. Typical actions taken during this sequence include:

- Copy/modify specific files
- Modify existing component specific registry entry
- Copy specific plug-ins

Each component-specific utility is described as follows:

- Identity Server: obMigrateNetPointOis
- WebPass: obMigrateNetPointWP
- Policy Manager: obMigrateNetPointAM
- Access Server: obMigrateNetPointAAA
- WebGate: obMigrateNetPointWG
- Software Developer Kit (SDK): obMigrateNetPointASDK

Identity Server: obMigrateNetPointOis

To accomplish a Identity Server upgrade, the obmigratenp tool calls the obMigrateNetPointOis tool. See Table C–7 for more information.

Table C–7 Identity Server Upgrade with obMigrateNetPointOis

Description	Function
obMigrateNetPointOis.exe	▪ Upgrades the existing registry entry for the Identity Server to reflect the newer Oracle Access Manager release. ▪ Modifies the PPP catalog file, if required, to ensure it is usable with the newer Oracle Access Manager release. ▪ Encrypts the password written in password.xml, when upgrading from Oracle Access Manager 5.2. ▪ Deletes install_dir\identity\oblix\tools\setup\uninstall_info.txt, if present, and creates it again with proper information on Windows systems.
Path	install_dir\identity\oblix\tools\migration_tools\obMigrateNetPointOis
Command Line	Run obMigrateNetPointOis without any parameters. This command prints usage along with the meaning of all input parameters.
Other Files Used	To print messages to the console or while writing to a log file, reads the message catalog: *install_dir*\identity\oblix\oblix\tools\migration_tools\obMigrateNetPointOismsg.lst

Table C–7 (Cont.) Identity Server Upgrade with obMigrateNetPointOis

Description	Function
Output	▪ A new flag (`encoding`) is added to the oblixpppcatalog.lst file automatically to ensure backward compatability with earlier plug-ins. A backward-compatible Identity Server continues to send data to earlier plug-ins in Latin-1 encoding (earlier plug-ins will set data in Latin-1 encoding; new plug-ins will set data in UTF-8 encoding). ▪ Modifies the registry entry for the Identity Server. ▪ Modifies the PPP catalog file. ▪ Modifies password.xml. ▪ Creates proper uninstall_info.txt.
Log File	Generates the log file: *install_dir*\identity\oblix\tools\migration_tools\obMigrateNetPointOis.log. Typically this file contains: ▪ Parameters passed to this utility. ▪ Status of each action taken by this utility.

WebPass: obMigrateNetPointWP

To accomplish a WebPass upgrade, obmigratenp calls obMigrateNetPointWP. See Table C–8 for more information.

Table C–8 WebPass Upgrade with obMigrateNetPointWP

Description	Function
obMigrateNetPointWP.exe	▪ Upgrades the existing registry entry for the WebPass to reflect the newer Oracle Access Manager release. ▪ When upgrading from Oracle Access Manager 5.2, encrypts the password written in password.xml. ▪ On Windows systems, deletes the file uninstall_info.txt, if present, and creates it again with proper information: *install_dir*\identity\oblix\tools\setup\uninstall_info.txt
Path	*install_dir*\identity\oblix\tools\migration_tools\obMigrateNetPointWP
Command Line	Run obMigrateNetPointWP without any parameters to print usage and the meaning of all input parameters.
Other Files Used	To print messages to the console or while writing to a log file, reads the message catalog: *install_dir*\identity\oblix\tools\migration_tools\obMigrateNetPointWPmsg.lst
Output	▪ Modifies the registry entry for the WebPass. ▪ Modifies password.xml.
Log File	Generates the log file: *install_dir*\identity\oblix\tools\migration_tools\obMigrateNetPointWP.log

Policy Manager: obMigrateNetPointAM

To accomplish an Policy Manager (formerly known as the Access Manager component) upgrade, obmigratenp calls obMigrateNetPointAM. See Table C–9 for more information.

Table C–9 Policy Manager Upgrade with obMigrateNetPointAM

Description	Function
obMigrateNetPointAM.exe	▪ Upgrades the existing registry entry for the Policy Manager to reflect the newer release. ▪ When upgrading from release 5.2, encrypts the password written in password.lst. ▪ Modifies install_ dir\access\oblix\data\common\ldapuserdbparams.lst if required. ▪ Copies custom plug-ins from renamed source directory to target directory
Path	*install_dir*\access\oblix\tools\migration_ tools\obMigrateNetPointAM
Command Line	Run obMigrateNetPointAM without parameters to print usage.
Other Files Used	To print messages to the console or while writing to a log file, reads the message catalog: *install_dir*\access\oblix\oblix\tools\migration_ tools\obMigrateNetPointAMmsg.lst
Output	▪ Modifies the registry entry for the Policy Manager. ▪ Modifies password.xml. ▪ Copies custom plug-ins to target directory.
Log File	Generates the log file: install_dir\access\oblix\tools\migration_ tools\obMigrateNetPointAM.log

Access Server: obMigrateNetPointAAA

To accomplish an Access Server upgrade, the obmigratenp utility calls the obMigrateNetPointAAA utility. See Table C–10 for more information.

Table C–10 Access Server Upgrade with obMigrateNetPointAAA

Description	Function
obMigrateNetPointAAA.exe	▪ Upgrades the existing registry entry for the Policy Manager to reflect the newer release. ▪ When upgrading from release 5.2, encrypts the password written in password.lst. ▪ Modifies install_ dir\access\oblix\data\common\ldapuserdbparams.lst if required. ▪ Copies custom plug-ins from renamed source directory to target directory
Path	*install_dir*\access\oblix\tools\migration_ tools\obMigrateNetPointAAA
Command Line	Run obMigrateNetPointAAA without parameters to print usage.
Other Files Used	To print messages to the console or while writing to a log file, reads the message catalog: *install_dir*\access\oblix\oblix\tools\migration_ tools\obMigrateNetPointAAA.lst

Table C–10 (Cont.) Access Server Upgrade with obMigrateNetPointAAA

Description	Function
Output	▪ A new parameter "IsBackwardCompatible" Value="true" is set in the Access Server globalparams.xml file automatically during an upgrade. A backward-compatible Access Server continues to send (and receive) data to earlier custom authentication and authorization plug-ins in Latin-1 encoding (earlier custom plug-ins will set data in Latin-1 encoding; new plug-ins will set data in UTF-8 encoding). ▪ Modifies the registry entry for the Access Server. ▪ Modifies password.xml. ▪ Copies custom plug-ins to target directory.
Log File	Generates the log file: `install_dir\access\oblix\tools\migration_tools\obMigrateNetPointAAA.log`

WebGate: obMigrateNetPointWG

To accomplish an WebGate upgrade, obmigratenp calls obMigrateNetPointWG. See Table C–11 for more information

Table C–11 WebGate Upgrade with obMigrateNetPointWG

Description	Function
obMigrateNetPointWG.exe	▪ Upgrades the existing registry entry for the WebGate to reflect the newer Oracle Access Manager release. ▪ Encrypts the password written in password.lst, when upgrading from Oracle Access Manager 5.2.
Path	*install_dir*`\access\oblix\tools\migration_tools\obMigrateNetPointWG`
Command Line	Run obMigrateNetPointWG without parameters to print usage.
Other Files Used	To print messages to the console or while writing to a log file, reads the message catalog: *install_dir*`\access\oblix\tools\migration_tools\obMigrateNetPointWGmsg.lst`
Output	▪ Modifies the registry entry for the WebGate. ▪ Modifies password.lst.
Log File	Generates the log file: *install_dir*`\access\oblix\tools\migration_tools\obMigrateNetPointWG.log`

Software Developer Kit (SDK): obMigrateNetPointASDK

To accomplish a Software Developer Kit upgrade, obmigratenp calls obMigrateNetPointASDK. See Table C–12 for more information.

Table C–12 SDK Upgrade with obMigrateNetPointASDK

Description	Function
obMigrateNetPointASDK.exe	▪ Upgrades the existing registry entry for the Access Manager SDK to reflect the newer release. ▪ Encrypts the password written in password.lst, when upgrading from release 5.2.

Table C–12 (Cont.) SDK Upgrade with obMigrateNetPointASDK

Description	Function
Path	*install_dir*\access\oblix\tools\migration_tools\obMigrateNetPointASDK
Command Line	Run as obmigrateAccessSDK -fromver <oldVer> -tover <newVer> -srcdir <dir> -dstdir <dir>
Other Files Used	To print messages to the console or while writing to a log file, reads the message catalog: *install_dir*\oblix\tools\migration_tools\obMigrateNetPointASDKmsg.lst
Output	■ Modifies the registry entry for the Access Manager SDK. ■ Modifies password.lst.
Log File	Generates the log file: *install_dir*\oblix\tools\migration_tools\obMigrateNetPointASDK.log

D

Manual Schema and Data Upgrades

This chapter provides information about the tools and utilities that are called into operation during the upgrade process.

Topics in this chapter include:

- About Upgrading Schema and Data Manually
- About Upgrading Schema and Data Manually
- About Upgrading Data Manually
- Upgrading Data Manually
- Sample Default obmigratenpparams.lst File
- Sample data_520_to_600_xxx.lst

See also: Appendix C, "Upgrade Process and Utilities"

About Upgrading Schema and Data Manually

Oracle recommends that you upgrade the schema and data automatically, as described in Part II. However, errors occur during the upgrade process, you might need to use these instructions to perform an upgrade from one release to another manually.

Completing manual upgrades of the schema and data includes the use of specific utilities provided by Oracle Access Manager. For more information about these utilities, see Appendix C.

In examples in this chapter, release 5.2 is mentioned for illustration only. If you are starting the upgrade from a release earlier than 6.1.1, see "Indirect Upgrade Paths" on page 1-30.

Upgrading the Schema Manually

When upgrading your schema manually, you need to select the appropriate schema file for your directory server and the specific release you are upgrading from and to, as shown in Table D–1.

Note: You might notice gaps in the from and to releases in Table D–1. This occurs when there is no schema or data update for the specific release. For example, there were no schema changes from release 6.0.0 to 6.1.0 and as a result there are no files named ...600_to_610_ schema_ ....

Table D–1 Schema Files

Directory Type	Schema Files
Active Directory	osd_520_to_600_schema_ad.ldif policy_520_to_600_schema_ad.ldif user_520_to_600_schema_ad.ldif osd_610_to_650_schema_ad.ldif policy_610_to_650_schema_ad.ldif user_610_to_650_schema_ad.ldif osd_650_to_700_schema_ad.ldif policy_650_to_700_schema_ad.ldif user_650_to_700_schema_ad.ldif osd_700_to_1014_schema_ad.ldif policy_700_to_1014_schema_ad.ldif user_700_to_1014_schema_ad.ldif
ADAM	osd_650_to_700_schema_adam.ldif policy_650_to_700_schema_adam.ldif user_650_to_700_schema_adam.ldif osd_700_to_1014_schema_adam.ldif policy_700_to_1014_schema_adam.ldif user_700_to_1014_schema_adam.ldif
IBM SecureWay	osd_520_to_600_schema_ibm.ldif policy_520_to_600_schema_ibm.ldif user_520_to_600_schema_ibm.ldif osd_610_to_650_schema_ibm.ldif policy_610_to_650_schema_ibm.ldif osd_650_to_700_schema_ibm.ldif policy_650_to_700_schema_ibm.ldif user_650_to_700_schema_ibm.ldif osd_700_to_1014_schema_ibm.ldif policy_700_to_1014_schema_ibm.ldif user_700_to_1014_schema_ibm.ldif
Novell e-Directory	osd_520_to_600_schema_nds.ldif policy_520_to_600_schema_nds.ldif user_520_to_600_schema_nds.ldif osd_610_to_650_schema_nds.ldif policy_610_to_650_schema_nds.ldif osd_650_to_700_schema_nds.ldif policy_650_to_700_schema_nds.ldif user_650_to_700_schema_nds.ldif osd_700_to_1014_schema_nds.ldif policy_700_to_1014_schema_nds.ldif user_700_to_1014_schema_nds.ldif
Oracle Internet Directory	osd_700_to_1014_schema_oid.ldif policy_700_to_1014_schema_oid.ldif user_700_to_1014_schema_oid.ldif
Siemens DirX	osd_700_to_1014_schema_dirx.ldif policy_700_to_1014_schema_dirx.ldif user_700_to_1014_schema_dirx.ldif

Table D–1 (Cont.) Schema Files

Directory Type	Schema Files
Sun 4.x and 5.x	osd_520_to_600_schema_ns.ldif policy_520_to_600_schema_ns.ldif user_520_to_600_schema_ns.ldif osd_610_to_650_schema_ns.ldif policy_610_to_650_schema_ns.ldif osd_650_to_700_schema_ns.ldif policy_650_to_700_schema_ns.ldif user_650_to_700_schema_ns.ldif osd_700_to_1014_schema_ns.ldif policy_700_to_1014_schema_ns.ldif user_700_to_1014_schema_ns.ldif
Oracle Virtual Directory Server (VDS)	user_700_to_1014_schema_vde.ldif

To upgrade the schema manually

1. Navigate to the upgrade directory:

   ```
   IdentityServer_install_dir\identity\oblix\tools\migration_tools
   ```

2. Locate the appropriate schema file for the directory server and specific *fromrelease_to_release*.

3. Invoke the schema upgrade tool `ds_conf_update` using the command here.

   For example:

   ```
   IdentityServer_install_dir\identity\oblix\tools\ldap_tools
   \ds_conf_update -f schema_file
   ```

   where *schema_file* is the name of the schema file as shown in the samples in Table D–1.

4. Respond to prompts for various options, such as host, port, userid, and password.

   Any errors produced while running this tool are printed to stdout. You can use this tool for any directory server that is compatible with Oracle Access Manager 10.1.4.

About Upgrading Data Manually

Oracle Access Manager includes several files that are called and used during the upgrade from earlier releases to 10.1.4. You can copy and use these files as a template to display or suppress the prompts you see and respond to during the upgrade. For example, you can allow the prompts to enable automatic data upgrades or you can suppress the prompts to enable manual upgrade.

The template in "Sample Default obmigratenpparams.lst File" on page 12 determines which data upgrade prompts you see during the upgrade from Oracle Access Manager 5.2 to 10.1.4.

```
\IdentityServer_install_dir\identity\oblix\tools
\migration_tools\obmigratenpparams.lst
```

Included in this file are sections for upgrades from each major release to the next major release starting with release 5.2 and continuing through release 10.1.4. A complete,

annotated version of the obmigratenpparams.lst file is shown in "Sample Default obmigratenpparams.lst File" on page 12.

WARNING: The order of parameters in the file might not indicate the upgrade order.

The appropriate value must be supplied for each parameter in the file. For True/False values:

- A value of True triggers the automatic data upgrade prompt and program.
- A value of False suppresses the data upgrade prompt and program; you can use this when you want a manual data upgrade.

WARNING: Although not recommended, you can suppress automatic upgrades of the Oracle Access Manager configuration data and user data, as described in "Suppressing Automatic Data Upgrades" on page 5. In that case, you must manually upgrade the configuration data and user data as described in "Upgrading User Data Manually" on page 10.

Upgrading Data Manually

Oracle recommends that you upgrade the schema and data automatically. However, when you must upgrade the schema and data manually use the overview here as a guide.

Task overview: Upgrading data manually includes

1. Suppressing Automatic Data Upgrades.
2. Upgrading the Configuration Tree Manually.
3. Removing Obsolete Schema Elements for Release 6.5 and 7.0, if you want.
4. Uploading the Generated LDIF.
5. Upgrading User Data Manually.

WARNING: Oracle recommends that you upgrade the schema and data automatically.

When you choose manual data upgrades, two files provide parameters for the configuration data and user data in the directory:

install_dir\identity\oblix\tools\migration_tools\obmigratedata

data_520_to_600_osd.lst—drives the manual upgrade of the Oracle Access Manager configuration data, for example:

```
osd_migration:true
policy_migration:true
wf_migration:true
user_migration:false
```

Note: A value of True upgrades data. A value of False suppresses the upgrade.

data_520_to_600_user.lst—drives the upgrade of user data, which occurs only during the upgrade from Oracle Access Manager 5.2.x to 6.0.0, for example:

```
osd_migration:false
policy_migration:false
wf_migration:false
user_migration:true
```

Both the osd.lst and user.lst files contain similar information. However, procedures must be completed for both user data and configuration data and a specific value must be provided for each parameter in the files. See Table C–7 on page C-17. An annotated example is shown in "Sample data_520_to_600_xxx.lst" on page D-16. See also, "Data Upgrade: obmigratedata" on page C-14.

In addition to the two .lst files mentioned earlier, Oracle Access Manager 10.1.4 provides the following files:

- **data_610_to_650_multi_lang.lst**—multi_lang_migration:true
- **data_610_to_650_osd.lst**—osd_migration:true
- **data_610_to_650_psc.lst**—psc_migration:*true*
- **data_650_to_700_osd.lst**—osd_migration:true and wf_migration:true
- **data_650_to_700_psc.lst**—psc_migration:*true*
- **data_700_to_1014_osd.lst**—osd_migration:true
- **data_700_to_1014_psc.lst**—psc_migration:true

Suppressing Automatic Data Upgrades

If you intend to upgrade data manually, you need to suppress automatic data upgrades.

To suppress automatic data upgrades

1. Copy the file obmigratenpparams.lst and rename the original to retain it.

   For example:

   ```
   IdentityServer_install_dir\identity\oblix\tools
   \migration_tools\obmigratenpparams.lst
   ```

2. Edit the `ois` section of the copy and set the values shown in bold, next, to "false" to prohibit automatic data upgrades.

   For example:

   ```
   ois
   BEGIN:vCompoundList
    520_to_600:
    BEGIN:vNameList:
     kMigrateData:false
     kMigrateSchema:false
     kMigratePublisher:false
   ```

Note: See "Sample Default obmigratenpparams.lst File" on page 12 for sections on individual upgrades from one major release to the next. For example, from 520_to_600, and so on.

3. Complete a manual data upgrade as described in "Upgrading the Configuration Tree Manually" on page 6.

Upgrading the Configuration Tree Manually

You begin upgrading data manually by upgrading the configuration data tree. The following commands provide an example only. Your environment might vary.

To upgrade the configuration tree manually

1. Copy the data_fromrelease_to_release_osd.lst file and rename it to retain the original.

   For example:

   From

   ```
   \install_dir\identity\oblix\tools\migration_tools\obmigratedata
   \data_520_to_600_osd.lst
   ```

   To

   ```
   \install_dir\identity\oblix\tools\migration_tools\obmigratedata
   \config_data_520to600_osd.lst
   ```

2. Edit the file to provide the information for your environment based on the annotated sample in "Sample data_520_to_600_xxx.lst" on page 16.

3. Confirm that the configuration tree and data parameter values are true.

   ```
   osd_migration:true
   policy_migration:true
   wf_migration:true
   ```

4. Confirm that the user data migration parameter value is false.

   ```
   user_migration:false
   ```

5. Back up (export) the old configuration tree to an LDIF.

6. Locate the obmigratedata tool, then upgrade the configuration tree by running obmigratedata and specifying the name of your updated file. For example:

   ```
   \IdentityServer_install_dir\identity\oblix\tools
   \migration_tools\obmigratedata\obmigratedata.exe
   run obmigratedata.exe -f config_data_520to600_osd.lst -I install_dir
   ```

   This program generates an LDIF based on the options selected in FunctionalityTBMigrated. The resulting LDIF file will be named as specified by the outputFileName parameter.

7. Delete the existing configuration tree after the OSD upgrade completes.

8. **From 6.5 to 10.1.4**—Before continuing with step 9 when upgrading the Identity Server and Policy Manager, you can proceed to "Removing Obsolete Schema Elements for Release 6.5 and 7.0" next.

9. **All Upgrades**—Complete the upgrade of configuration data with:

- Uploading the Generated LDIF
- Upgrading User Data Manually

Removing Obsolete Schema Elements for Release 6.5 and 7.0

Oracle provides cleanup files for use during the incremental upgrade sequence between release 6.5 and 7.0. There are no cleanup files for any directory servers for the incremental upgrade sequence between release 7.x and 10.1.4.

You can skip this procedure if your starting release is 7.0 or if you do not want to remove the obsolete schema from the directory server.

During an upgrade from release 6.5 to 10.1.4, you can use the following procedures to clean up the obsolete schema elements from the directory server. If you choose to do this, it must be done after the configuration tree is deleted in the manual upgrade flow:

- During Identity Server upgrades
- During Policy Manager upgrades

After schema cleanup, LDIF files are available for you to upload to the directory server. Schema files for the configuration schema and the policy schema are separate. As a result, there are two scenarios to consider when you clean up the obsolete schema:

- Are configuration and policy data stored in same directory server?
- Are configuration and policy data stored in different directory servers?

Table D–2 shows configuration data cleanup files for specific directory server types.

Table D–2 Configuration Data Cleanup Files

Directory Type	Schema Cleanup Files
Active Directory	osd_650_to_700_schema_delete_ad.ldif
ADAM	osd_650_to_700_schema_delete_adam.ldif
IBM SecureWay	osd_650_to_700_schema_delete_ibm.ldif
Novell e-Directory	osd_650_to_700_schema_delete_nds.ldif
Oracle Internet Directory	Support for Oracle Internet Directory was introduced with Oracle COREid release 7.0.4 (also available as part of Oracle Application Server 10g Release 2 (10.1.2)). Therefore, there are no obsolete schema entries to be deleted and no such files for Oracle Internet Directory.
Sun 4.x 5.x **Note**: 10.1.4 does *not* support Sun 4.x directory servers. See "Sun Directory Server Considerations and Preparation" on page 5-15.	osd_650_to_700_schema_delete_ns.ldif

Table D–3 shows the policy data cleanup files for specific directory server types.

Table D–3 Policy Data Cleanup Files

Directory Type	Schema Cleanup Files
Active Directory	policy_650_to_700_schema_delete_ad.ldif
ADAM	policy_650_to_700_schema_delete_adam.ldif
IBM SecureWay	policy_650_to_700_schema_delete_ibm.ldif
Novell e-Directory	policy_650_to_700_schema_delete_nds.ldif

Table D–3 (Cont.) Policy Data Cleanup Files

Directory Type	Schema Cleanup Files
Oracle Internet Directory	Support for Oracle Internet Directory was introduced with Oracle COREid release 7.0.4 (also available as part of Oracle Application Server 10g Release 2 (10.1.2)). Therefore, there are no obsolete schema entries to be deleted and no such files for Oracle Internet Directory.
Sun 4.x 5.x **Note**: Oracle Access Manager 10.1.4 does *not* support Sun 4.x directory servers. See "Sun Directory Server Considerations and Preparation" on page 5-15.	policy_650_to_700_schema_delete_ns.ldif

Depending upon your directory server and starting release, you can complete the procedures here more than once:

- Cleaning Up Obsolete Elements During Identity Server Upgrades
- Cleaning Up Obsolete Elements During Policy Manager Upgrades

Cleaning Up Obsolete Elements During Identity Server Upgrades

Use the following procedure to remove obsolete elements during Identity Server upgrades from release 6.5 to 7.0.

To remove obsolete elements during Identity Server upgrades

1. Navigate to the upgrade directory:

   ```
   IdentityServer_install_dir/identity/oblix/tools/migration_tools
   ```

2. Locate the appropriate file for your directory server, as specified in Table D–2, so that you can provide this name in step 3.
3. Take the appropriate action for your environment:
   - **Same Directory Server**—If configuration data and policy data are in the same directory server, invoke the schema upgrade tool `ds_conf_update` using the command:

     ```
     IdentityServer_install_dir/identity/oblix/tools/ldap_tools
     /ds_conf_update -f schema_file
     ```

     where *schema_file* is the name of the schema cleanup file from Table D–2.
   - **Different Directory Server**—If configuration and policy data are in different directory servers, invoke `ds_conf_update` twice: once for the configuration schema and a second time for the policy schema as follows:

     ```
     IdentityServer_install_dir/identity/oblix/tools/ldap_tools
     /ds_conf_update -f identity/oblix/tools/migration_tools
     ```

     where *schema_file* is the name of the appropriate schema cleanup file from Table D–2.
4. Respond to prompts for various options, such as host, port, userid, and password.
5. Continue the upgrade with "Uploading the Generated LDIF" on page 9.

Cleaning Up Obsolete Elements During Policy Manager Upgrades

Use the next procedure to remove obsolete elements during Policy Manager upgrades from release 6.5 to 7.0.

To remove obsolete elements during Policy Manager upgrades

1. Navigate to the upgrade directory:

   ```
   PolicyManager_install_dir/identity/oblix/tools/migration_tools
   ```

2. Locate the appropriate schema file for the directory server as specified in Table D–3.

3. Take the appropriate action for your environment:

   - **Same Directory Server**—If configuration data and policy data are in the same directory server, invoke the schema upgrade tool `ds_conf_update` using the command:

     ```
     PolicyManager_install_dir/identity/oblix/tools/ldap_tools
     /ds_conf_update -f schema_file
     ```

     where *schema_file* is the name of the policy schema cleanup file from Table D–3.

   - **Different Directory Server**—If configuration and policy data are in different directory servers, invoke the schema upgrade tool `ds_conf_update` twice: once for the configuration schema and a second time for the policy schema as follows.

     ```
     PolicyManager_install_dir/identity/oblix/tools/ldap_tools
     /ds_conf_update -f schema_file
     ```

     where *schema_file* is the name of the configuration/policy schema cleanup file from Table D–3 or Table D–2.

4. Respond to prompts for various options such as host, port, userid, and password.

Note: The tool might generate errors of type Attribute/Object does not exist. These can occur when LDIF files contain a list of all obsolete schemas from Oracle Access Manager release 3.6 which might not be present in your directory server.

Uploading the Generated LDIF

After upgrading the configuration tree and optionally removing obsolete schema elements, you are ready to upload the generated LDIF.

To upload the generated LDIF

1. Run ldapmodify to upload the generated LDIF. For example:

   ```
   \IdentityServer_install_dir\identity\oblix\tools\ldap_tools\ldapmodify
   run ldapmodify.exe -f generated_ldif
   ```

   This program prompts for various options, such as host, port, userid, and password.

2. Upgrade user data, as described in "Upgrading User Data Manually" on page 10.

3. Repeat earlier steps using the next highest data_*fromrelease*_to_*release*_osd.lst file, until you have upgraded all data to release 10.1.4.

Upgrading User Data Manually

Release numbers used here are simply for illustration. If you have an earlier release than 6.1.1, be sure to contact Oracle Support before upgrading: http://www.oracle.com/support/contact.html

User data upgrades are required *only* while making a move, either a direct or an intermediate move, from Oracle Access Manager 5.2.x to Oracle Access Manager 6.x.

To upgrade the user data manually

1. Copy the data_*fromrelease*_to_*release*_user.lst file and rename it to retain the original.

   For example:

   From

   ```
   \IdentityServer_install_dir\identity\oblix\tools
   \migration_tools\obmigratedata\data_520_to_600_user.lst
   ```

   To

   ```
   \install_dir\identity\oblix\tools\migration_tools\obmigratedata
   \config_data_520to600_user.lst
   ```

2. See Table D–4 as you edit the keys in the file to provide the information for your environment based on the annotated samples here.

   A complete, ***annotated*** version of the data_520_to_600_xxx.lst file is shown in "Sample data_520_to_600_xxx.lst" on page 16. Both the osd.lst and user.lst files contain similar information.

3. Confirm that the Oracle Access Manager configuration tree and data parameter values are false.

   ```
   osd_migration:false
   policy_migration:false
   wf_migration:false
   ```

4. Confirm that the user data upgrade parameter value is true.

   ```
   user_migration:true
   ```

   Note: Although a user-data upgrade does not do anything with the configuration data tree, it is a good idea to complete step 5.

5. Back up the configuration tree.

6. Upgrade user data by running obmigratedata.exe and specifying the name of your updated file. For example:

   ```
   run obmigratedata.exe -f config_data_520to600_user.lst
   ```

Table D–4 Keys to Add or Edit

Key	Description
hostname: *host name*	Directory server host
portNo: *port number*	Directory server port

Table D–4 (Cont.) Keys to Add or Edit

Key	Description
bindDN: *DS credentials*	The DN of the directory server administrator account. This can be found in *installdir*/oblix/config/ldap/AppDB.xml.
password: *encrypted password*	Password of the directory server administrator account. This can be found in *installdir*/oblix/config/ldap/AppDB.xml.
directoryType: NS | AD | NDS | IBM	The type of directory server you are running
directoryMode: SSL | OPEN	The mode of the directory server you are using. Values can be either SSL or Open.
Oblixnode: ou=Oblix | o=Oblix	RDN of the Oracle Access Manager configuration tree
groupOC: *name of Group object class*	Example: group or groupOfUniqueNames
PersonOC: *name of Person object class*	Example: user or inetOrgPerson
oldVersion: *release number*	Exact release number of the Oracle Access Manager 5.2 system. This can be found in ./oblix/config/np52_is.txt. Example: 5.2, 5.2.1.12
oldVersionSearchBase: *searchbase*	The searchbase to use. Typically, this is the global searchbase.
binAttrFileName:at_520_to_600_binary.lst	Accept this file as shown. It contains important information for the upgrade program.
objclassMapFileName:oc_520_to_600_map.lst	Accept this file as shown. It contains important information for the upgrade program.
logFileName: *filename*	Name of the file to receive logging information during the conversion process.
outputFileName: *filename*	Name of the LDIF file to receive the converted data.
missedSuppliedAttrsDetailsFileName: *filename*	Name of the file to receive workflows containing Provisioned attributes in Oracle Access Manager 5.2. These workflows must be modified manually in the applet to associate the appropriate subflow with them.
WFDefContainer:	DN of the workflow definitions container. Example: obcontainerID=workflowDefinitions,OU= oblix,DC=company,DC=com
WFInstanceContainer	DN of the workflow instance container. Example: obcontainerId=workflowInstances, OU=oblix,DC=company,DC =com
FunctionalityTBMigrated BEGIN:vNameList	
osd_migration: true | false	Perform data upgrades on the configuration tree. **Note:** If you are running data upgrades because of errors in an earlier run: ▪ During the Identity Server upgrade, ensure that values of osd_migration and wf_migration match (true). policy_migration value should be "false". ▪ During Policy Manager upgrades, ensure that values of osd_migration and wf_migration match (false) while policy_migration value is "true".
policy_migration: true | false	Refer to details for osd_migration.

Table D–4 (Cont.) Keys to Add or Edit

Key	Description
wf_migration: true | false	Perform data upgrades on workflow containers specified earlier. **Note:** If you are running data upgrades manually because workflows are on a separate directory server and you want to upgrade them: ▪ During Identity Server, ensure that osd_migration value is "false"; wf_migration value is "true"; policy_migration value is "false". An output LDIF file is generated with workflow definition and instance containers, and migrated definitions and instances. ▪ After Identity Server upgrade, remove the Workflow definition and instance containers from the directory server where they are present and upload the generated output LDIF file there. ▪ During the Policy Manager upgrade, there is nothing to do because the directory server contains only workflows and instances.
user_migration: true | false	Perform data upgrades on User entries (non-Oracle data). Between release 5.2 and 10.1.4, the Challenge Phrase Response encryption format is changed from RC-4 to RC-6. User data upgrade is performed inline by default. The user entries are modified directly without generating an intermediate LDIF.
END:vNameList	
Additional_DS_Info:	If you are upgrading user data and you have multiple user directories, you can specify the additional directory servers in this section.
BEGIN:vCompoundList	
user_migration_ds_1:	For additional user directory servers, the format is user_migration_ds_n Where n is 1, 2, 3, and so on.
BEGIN:vCompoundList	
hostname: *host name*	Directory server host
portNo: *port number*	Directory server port
bindDN: *DS credentials*	The DN of the user data directory server administrator account, which can be found in *installdir*/oblix/config/ldap/AppDB.xml. **Note:** If you have user data stored separately from configuration data, the AppDB.xml file might not contain the appropriate bind DN and encrypted password for the user data directory.
password: encrypted password	The Password of the user data directory server administrator account, which can be found in *installdir*/oblix/config/ldap/AppDB.xml.
directoryType: NS | AD | NDS | IBM	The type of directory server you are running
directoryMode: SSL | OPEN	The mode of the directory server you are using: Values can be either SSL or Open.
oldVersionSearchBase: *searchbase*	The searchbase to use. Typically, this is the global searchbase. **Note:** Every directory server in "Additional DS" in the config.lst file once had the searchbase given with keyword 'oldVersionSearchbase' . However, with 10.1.4, there is no 'oldVersionSearchBase' keyword present in additional directory server sections. Instead, the keyword is 'searchbase'. The value of this keyword need not always be the global searchbase. One additional directory server (for example, user_migration_ds_1) represents one directory-profile from the configuration tree. The 'searchbase' keyword from this section will give you the 'Namespace' covered by this directory-profile.
END:vCompoundList	
END:vCompoundList	

Sample Default obmigratenpparams.lst File

```
BEGIN:vCompoundList
```

```
am: Policy Manager Parameters
BEGIN:vCompoundList
  kMigrateLicense:false
  520_to_600:
  BEGIN:vNameList:
    kMigrateWS:true
    kMigrateData:false
    kMigrateSchema:true
  END:vNameList
  600_to_610:
  BEGIN:vNameList:
    kMigrateWS:false
    kMigrateData:false
    kMigrateSchema:false
  END:vNameList
  610_to_650:
  BEGIN:vNameList:
    kMigrateWS:true
    kMigrateData:true
    kMigrateSchema:true
  END:vNameList
       650_to_700:
       BEGIN:vNameList:
          kMigrateWS:true
          kMigrateData:true
          kMigrateSchema:true
       END:vNameListr
              700_to_1014:
       BEGIN:vNameList:
          kMigrateWS:false
          kMigrateData:true
          kMigrateSchema:true
       END:vNameListr
     END:vCompoundList

     wg: (WebGate)
     BEGIN:vCompoundList
       520_to_600:
       BEGIN:vNameList:
         kMigrateWS:true
       END:vNameList
       600_to_610:
       BEGIN:vNameList:
         kMigrateWS:false
       END:vNameList
       650_to_700:
       BEGIN:vNameList:
         kMigrateWS:true
       END:vNameList
              700_to_1014:
       BEGIN:vNameList:
                kMigrateWS:true
       END:vNameList
     END:vCompoundList

     wp: (webPass)
     BEGIN:vCompoundList
       520_to_600:
       BEGIN:vNameList:
         kMigratePublisher:true
```

```
    END:vNameList
    600_to_610:
    BEGIN:vNameList:
      kMigratePublisher:false
    END:vNameList
    610_to_650:
    BEGIN:vNameList:
      kMigratePublisher:false
    END:vNameList
    650_to_700:
    BEGIN:vNameList:
      kMigrateWS:true
    END:vNameList
          700_to_1014:
    BEGIN:vNameList:
    END:vNameList
  END:vCompoundList

  aaa: (Access Server) Authentication, Authorization, Auditing Parameters
  BEGIN:vCompoundList
    520_to_600:
    BEGIN:vNameList:
      kMigrateData:true
      kMigrateSchema:true
    END:vNameList
    600_to_610:
    BEGIN:vNameList:
      kMigrateData:false
      kMigrateSchema:false
    END:vNameList
    610_to_650:
    BEGIN:vNameList:
      kMigrateSchema:false
               kMigrateData:true
    END:vNameList
          700_to_1014:
    BEGIN:vNameList:
    END:vNameList
  END:vCompoundList

  bea:
  BEGIN:vCompoundList
    600_to_610:
    BEGIN:vNameList:
      kMigrateASDK:true
    END:vNameList
    650_to_700:
    BEGIN:vNameList:
      kMigrateASDK:true
    END:vNameList
  END:vCompoundList

idlk:
BEGIN:vCompoundList
    kMigrateLicense:false
END:vCompoundList

ois: Identity Server Parameters: True triggers automatic data migration
BEGIN:vCompoundList
    kMigrateLicense:false
```

```
  kMigrateASDK:true
520_to_600:
BEGIN:vNameList:
  kMigrateData:true
  kMigrateSchema:true
  kMigratePublisher:true
END:vNameList

600_to_610:
BEGIN:vNameList:
  kMigrateASDK:true
  kMigrateData:false
  kMigrateSchema:false
  kMigratePublisher:false

  kASDKSubDir:/AccessServerSDK

END:vNameList

610_to_650:
BEGIN:vNameList:
            kMigrateASDK:true
  kMigrateSchema:true
  kMigrateData:true
  kMigratePublisher:false

  kASDKSubDir:/AccessServerSDK

END:vNameList

650_to_700:
BEGIN:vNameList:
  kMigrateASDK:true
  kMigrateData:true
  kMigrateSchema:true
  kMigratePublisher:false

  kASDKSubDir:/AccessServerSDK

 END:vNameList

      700_to_1014:
   BEGIN:vNameList:
   kMigrateASDK:true
   kMigrateData:true
   kMigrateSchema:true
   kMigratePublisher:false

   kASDKSubDir:/AccessServerSDK
   END:vNameList

  END:vCompoundList

     was:
     BEGIN:vCompoundList
       kMigrateASDK:true
       600_to_610:
       BEGIN:vNameList:
         kMigrateASDK:true
       END:vNameList
```

```
          650_to_700:
          BEGIN:vNameList:
            kMigrateASDK:true
          END:vNameList
        END:vCompoundList

END:vCompoundList
```

Sample data_520_to_600_xxx.lst

Again, release numbers shown here are for illustration only. If your starting release is earlier than 6.1.1, be sure to contact Oracle Support before upgrading: http://www.oracle.com/support/contact.html

Both the osd.lst and user.lst files contain similar information. For additional details, see Table C–7. User migration occurs only during the upgrade from Oracle Access Manager 5.2.x to Oracle Access Manager 6.0.0. When you have ADAM as the directory server with Oracle Access Manager 6.5.1 or later, the directory type to be used is ADAM.

```
BEGIN:vCompoundList

  hostName:<hostName>
  portNo:<portNo>
  bindDN:<bindDN>
  password:<password>  Copy encrypted credentials from
\COREid\identity\oblix\config\ldap\AppDB.xml
  directoryMode:<directoryMode> Open or SSL
  directoryType:<directoryType> NS or AD or NDS or IBM

  oldConfigDN:<oldConfigDN> o=company,c=us
  oldVersionSearchbase:<oldVersionSearchbase>Global Searchbase

  binAttrFileName:at_520_to_600_binary.lst
  objclassMapFileName:oc_520_to_600_map.lst

  logFileName:output_520_to_600_osd.log Okay to change
  outputFileName:output_520_to_600_osd.ldif Okay to change
  missedSuppliedAttrsDetailsFileName:output_520_to_600_supplied_osd.txt

  oblixnode:o=oblix For AD use ou=oblix
  groupOC:<groupOC> Your Group
  personOC:<personOC>
  doUTFConversion:<doUTFConversion> True or False

  oldVersion:5.2.1.7 Must be specific
  newVersion:6.0.0 Use proper Release
  encryptionType:Oblix Changes the encryption scheme from RC4 to RC6; use Oblix
unless you have a customized encryption scheme

  #We want to know wf-containers names Workflow definition containers
  WFDefContainer:<wfdefcontainer>
  WFInstanceContainer:<wfdefcontainer>

  FunctionalityTBMigrated: In the following parameters, True migrates
                           automatically; False does not
  BEGIN:vNameList

  osd_migration:true Configuration tree migration (True or False)
  policy_migration:true
```

```
 wf_migration:true

 user_migration:false (True migrates data, False does not)

END:vNameList

oblixdeletedobjects:
BEGIN:vCompoundList
      ad:
      BEGIN:vList
           0ADEL:
           CN=Deleted Objects
      adam:
      BEGIN:vList
           0ADEL:
           CN=Deleted Objects
      END:vList
END:vCompoundList

END:vCompoundList
```

E

Upgrading Sun Web Server Version 4 to Version 6 on Windows 2000

If your earlier Oracle Access Manager environment includes Sun (previously iPlanet) Web server that has been discontinued, you can use the example here to upgrade to a supported Sun Web server release.

> **Note:** Specific release numbers are used only to illustrate the sequence of tasks. Refer to your vendor documentation for complete details about administering your directory server release. Specific details of the intermediate upgrade from earlier Oracle Access Manager releases to release 6.1.1 are outside the scope of this manual. Before you start upgrading from an Oracle Access Manager release *earlier* than 6.1.1, contact Oracle Support at `http://www.oracle.com/support/contact.html`.

Upgrading Sun Web Server version 4.x to version 6

The new Web server release should be in a separate area of the Windows 2000 file system. Be sure that the Web server 4.1 service is stopped and that the service control window is closed. Otherwise, the 4.1 service will be disabled and marked for deletion, and the new service will not be created. In this state, neither the 4.1 nor the 6.0 Admin Console can operate the server.

> **Note:** This procedure provides details for only Windows 2000 and Sun Web server version 4.1 to 6.0 upgrades. This is an example only. For the latest support information, see the Oracle Technology Network:
>
> `http://www.oracle.com/technology/software/products/ias/files/idm_certification_101401.html`

To upgrade Sun (iPlanet) version 4.x Web Server to Sun version 6

1. Install a Sun Web server release 6 on the same Windows 2000 computer that is currently hosting iPlanet 4.1 and the earlier release of Oracle Access Manager.
2. Make a copy of the earlier magnus.conf and obj.conf files for future reference.

3. Stop Sun Web server 4 using either the Services Window or the Sun Web Server Administration Console, then close the service control window.
4. Open the Sun Web server 6 Administration Console, then click the Migrate Server link.
5. In the Sun 6.0 Admin Console, enter the Server Root for the Sun Web server 4 and click the Search button.

   The list of server instances under the root node appears.
6. Select the instance you want to migrate, then click the Migrate button.
7. Select the Document Root option, then click Migrate. For example:

   Use the new server's document root, Migrate

   Note: If you choose the same document root as the old server, migration will create some incorrect entries in your configuration file. For example, if your Web server contains entries for WebGate, the server's document root will be changed to the WebGate directory and accessing the root using `http://server:port/` will show you a directory listing with webgate.dll as the only file. More details about correcting the document root are given later.

   The migration starts and status messages appear. The old configuration is assimilated into a newly created instance for Sun 6.0.
8. Close this browser window and continue with "Configuring the New Web Server Instance".

Configuring the New Web Server Instance

The following things need to be done manually:

- Configuring magnus.conf
- Configuring obj.conf

Configuring magnus.conf

You need to define the logs/access path in magnus.conf for the newly installed Web server instance, as described in the procedure here.

To configure the new Web server instance in magnus.conf

1. In the config directory of the migrated instance (6.0 instance area), locate the magnus.conf file.
2. Search for logs/access in magnus.conf; the path still refers to the old area.
3. In the magnus.conf, update the logs/access path appropriately.

   For example, suppose your 4.1 area is D:\NSWS\Server4, and the 6.0 area is G:\iPlanet6WS, you need to make the following change:

   From

```
Init fn=flex-init access="D:/NSWS/Server4/https-hostname/logs/access"
format.access="%Ses->client.ip% - %Req->vars.auth-user% [%SYSDATE%]
\"%Req->reqpb.clf-request%\" %Req->srvhdrs.clf-status%
%Req->srvhdrs.content-length%"
```

To

```
Init fn=flex-init access="G:/iPlanet6WS/https-hostname/logs/access"
format.access="%Ses->client.ip% - %Req->vars.auth-user% [%SYSDATE%]
\"%Req->reqpb.clf-request%\" %Req->srvhdrs.clf-status%
%Req->srvhdrs.content-length%"
```

Note: In this newly created 6.0 Web server, the access log location is defined as a variable in server.xml. For example: <VARS accesslog="G:/iPlanet6WS/https-hostname/logs/access" />.

If you use this method to add this variable to server.xml, you would have to replace the line in magnus.conf as follows:

From

```
Init fn=flex-init access="D:/NSWS/Server4/https-hostname/logs/access"
format.access="%Ses->client.ip% - %Req->vars.auth-user% [%SYSDATE%]
\"%Req->reqpb.clf-request%\"
%Req->srvhdrs.clf-status% %Req->srvhdrs.content-length%"
```

To

```
Init fn=flex-init access="$accesslog"
format.access="%Ses->client.ip% - %Req->vars.auth-user%
[%SYSDATE%] \"%Req->reqpb.clf-request%\"
%Req->srvhdrs.clf-status% %Req->srvhdrs.content-length%"
```

4. Continue with "Configuring obj.conf".

Configuring obj.conf

In the migrated obj.conf file (in the config directory), the document-root directives are all set improperly. For example, suppose the following section appears in the obj.conf file for your Web server 4.x instance before the migration. Note that the values of the various document-root(s) differ. For example, there is a document root for the Web server (D:/NSWS/Server4/docs) and others for individual objects, shown in bold:

Sample obj.conf 4.x before Migration to 6.0

```
NameTrans fn="NSServletNameTrans" name="servlet"
NameTrans fn="pfx2dir" from="/servlet" dir="D:/NSWS/Server4/docs/servlet"
name="ServletByExt"
NameTrans fn=pfx2dir from=/ns-icons dir="D:/NSWS/Server4/ns-icons"
name="es-internal"
NameTrans fn=pfx2dir from=/mc-icons dir="D:/NSWS/Server4/ns-icons"
name="es-internal"
NameTrans fn="pfx2dir" from="/help" dir="D:/NSWS/Server4/manual/https/ug"
name="es-internal"
NameTrans fn="pfx2dir" from="/manual" dir="D:/NSWS/Server4/manual/https"
name="es-internal"
NameTrans fn=document-root root="D:/NSWS/Server4/docs"
PathCheck fn=nt-uri-clean
PathCheck fn="check-acl" acl="default"
...
...
<Object name="access_lost_pwd_mgmt">
NameTrans fn="document-root" root="G:/52/webpass/access/oblix/apps/lost_pwd_
```

```
mgmt/bin"ObjectType fn="type-by-extension"
ObjectType fn="force-type" type="text/html"
Service fn="OBlost_pwd_mgmt_Service" method="(POST|GET)"
</Object>
# Oblix Access Manager Objects #AMOBJECTS
# Oblix WebGate Objects start #WGOBJECTS
<Object name="access_web_gate">
NameTrans fn="document-root"
root="G:/52/webpass/access/oblix/apps/webgate/bin"ObjectType
fn="type-by-extension"
ObjectType fn="force-type" type="text/html"
Service fn="OBWebGate_Control" method="(POST|GET)"
</Object>
```

During migration you were asked to choose to continue with the old document root or a new Web server document root. When you chose a new document root, a new location (for example, G:/iPlanet6WS/docs) is assigned to each document-root in the obj.conf file. Thus the section of the obj.conf file shown earlier would look something like this in the 6.0 release after migration.

Sample obj.conf after Migration to 6.0

```
NameTrans fn="NSServletNameTrans" name="servlet"
NameTrans fn="pfx2dir" from="/servlet" dir="D:/NSWS/Server4/docs/servlet"
name="ServletByExt"
NameTrans fn=pfx2dir from=/ns-icons dir="D:/NSWS/Server4/ns-icons"
name="es-internal"
NameTrans fn=pfx2dir from=/mc-icons dir="D:/NSWS/Server4/ns-icons"
name="es-internal"
NameTrans fn="pfx2dir" from="/help" dir="D:/NSWS/Server4/manual/https/ug"
name="es-internal"
NameTrans fn="pfx2dir" from="/manual" dir="D:/NSWS/Server4/manual/https"
name="es-internal"
NameTrans fn=document-root root="G:/iPlanet6WS/docs"PathCheck fn=nt-uri-clean
PathCheck fn="check-acl" acl="default"
…
…
<Object name="access_lost_pwd_mgmt">
NameTrans fn="document-root" root="G:/iPlanet6WS/docs"ObjectType
fn="type-by-extension"
ObjectType fn="force-type" type="text/html"
Service fn="OBlost_pwd_mgmt_Service" method="(POST|GET)"
</Object>
# Oblix Access Manager Objects #AMOBJECTS
# Oblix WebGate Objects start #WGOBJECTS
<Object name="access_web_gate">
NameTrans fn="document-root" root="G:/iPlanet6WS/docs"
ObjectType fn="type-by-extension"
ObjectType fn="force-type" type="text/html"
Service fn="OBWebGate_Control" method="(POST|GET)"
</Object>
```

You use the next procedure to validate or correct these.

To configure the new Web server instance in obj.conf

1. In the config directory of the migrated instance (6.0 instance area), locate the obj.conf file.
2. Locate and verify the document roots point to the release 6 Web server instance.

Note: The following line in obj.conf might still refer to the old location:

```
NameTrans fn="pfx2dir" from="/servlet"
dir="D:/NSWS/Server4/docs/servlet" name="ServletByExt"
```

In the newly created release 6.0 Web server, this entry is as follows:

```
NameTrans fn="pfx2dir" from="/servlet" dir="$docroot/servlet"
name="ServletByExt"
```

when the variable document root is defined in server.xml, as shown in step 3.

3. Locate and verify that the variable document root is defined in server.xml as follows.

   For example

```
-<VSCLASS id="defaultclass" objectfile="obj.conf" rootobject="default"
acceptlanguage="off">
  <VARS docroot="g:/iPlanet6WS/docs" />
-<VS id="https-hostname" connections="group1" mime="mime1"
urlhosts="lucerne.persistent.co.in" aclids="acl1">
  <VARS webapps_file="web-apps.xml" webapps_enable="on" />
  <USERDB id="default" database="default" />
  </VS>
  </VSCLASS>
```

   Alternatively, you can change obj.conf without updating server.xml by replacing the line from obj.conf by the following one -

```
NameTrans fn="pfx2dir" from="/servlet" dir="G:/iPlanet6WS/docs/servlet"
name="ServletByExt"
```

4. Search the migrated obj.conf for any mention of the old install area (in this example, D:/NSWS/Server4) to ensure that the v 6.0 instance of the Web server does not refer to the old install area in any way.

Troubleshooting

For information about troubleshooting this process, see "Troubleshooting Sun Web Server Upgrades" on page G-14.

F

Planning and Tracking Summaries

This appendix organizes planning details and deliverables, and tracking summaries, into tables that you can use as you prepare for and upgrade your deployments. Planning deliverables include documentation that you prepare where you have defined and recorded a detailed plan that identifies how the upgrade process is to be performed within each of your deployments. Whether you are performing an in-place upgrade or you are using the zero downtime upgrade method, the details that you need to collect for each component and the deployment are the same. Topics in this appendix include:

About Planning for the Upgrade

Before you start any upgrade activity, Oracle recommends that you review all information related to the upgrade method that you have chosen:

- Chapter 1 provides an overview of upgrade tasks and planning activities. It includes the following topics:
  - About Upgrading, Upgrade Methodologies, and Upgrade Packages
  - Typical Deployment Scenarios
  - In-Place Upgrade Task Overview
  - In-Place Upgrade Planning and Deliverables
  - Planning Considerations for System Downtime During In-Place Upgrades
  - Planning Considerations for Extranet and Intranet Deployments
  - Upgrade Paths

  Note: If you are using the zero downtime upgrade method, see also Chapter 15.

- Chapter 2 introduces upgrade concepts, strategies, and processing methods. Topics in this chapter include
  - Upgrade Terms and Concepts
  - About Upgrading the Oracle Application Server
  - Backup and Recovery Strategies
  - Zero Downtime Upgrade Start Methods
  - In-Place Upgrade Start Methods
  - Upgrade Event Modes
  - Support Deprecated
  - Upgrade Strategies When Support is Changed or Deprecated

  Note: If you are using the zero downtime upgrade method, see also Chapter 15.

- Chapter 3 introduces both the automated processes that are initiated when you start a component upgrade and manual tasks that you must perform

  Note: If you are using the zero downtime upgrade method, see also Chapter 15.

Any details that you can access and print in your earlier installation will save you time and eliminate the possibility of errors. For example, consider printing directory server profiles and DB instance profiles, as well as COREid Server, WebPass, Access Server, and WebGate configuration pages. You might want to create and fill in your own documentation while collecting information. In this case, you can use the summaries in this appendix as a guide. Which ever method you choose, your planning

deliverables provide a point of reference for the information that you collect and use during the upgrade.

> **Note:** Be sure to store printed information and other recorded details about your installation in a secure location.

For more information, see "In-Place Upgrade Planning and Deliverables" on page 1-12 or "Developing a Plan for a Zero Downtime Upgrade" on page 15-37.

The tables in this appendix are provided to help you see the details needed and track the progress of tasks that are completed as you and your team perform upgrade activities in your enterprise. You will find information about how to perform each task in chapters within this manual. Most items in the summary are links to more information.

Summary of General Details Needed for Upgrade Planning

Table F–1 summarizes the general information that you need to collect when planning for an upgrade.

Table F–1 Details for Your Overall Deployment

Task	Subtask	Overall Deployment Summary
0	0.1	**Deployment Name**: _____ **Deployment Type** (circle all that apply): Identity System Only Joint Identity and Access System Intranet Deployment Extranet Deployment Development Test/Demo QA Production Other Master Administrator for this deployment:_____ Deterministic test script developed by:_____ Date of the last validation of system operation:_____
	0.2	**Total number of each component in this environment**: Identity Servers:_____ WebPass Instances:_____ Independently installed SDKs:_____ Identity customizations:_____ **If Joint Identity and Access System, enter, total number of**: Policy Managers (formerly known as Access Manager component):_____ Access Servers:_____ WebGates:_____ Custom AccessGates:_____ Access customizations:_____ Integration connectors:_____ _____
	0.3	**Total number of (and potential downtime windows for)**: Directory Instances for Identity Servers only:_____ Potential downtime windows:_____ **If Joint Identity and Access System**: Directory Instances for Policy Managers only:_____ Potential downtime windows:_____ Directory Instances used by both Identity Servers and Policy Managers:_____ Potential downtime windows:_____
	0.4	**Applications that depend on this deployment, owners, and potential downtime windows**: _____ _____ _____ _____ _____ _____ _____

Table F–1 (Cont.) Details for Your Overall Deployment

Task	Subtask	Overall Deployment Summary
	0.5	Change control procedures:_____ _____ Scheduled maintenance windows:_____ _____ Off hours operation windows:_____ _____
	0.6	**Potential Identity System Downtime Estimates**: Preparing for the Identity Schema and Data Upgrade:_____ Directory Server Backups:_____ File System Backups:_____ Schema Upgrade:_____ Data Upgrade:_____ Identity Server Component Upgrades:_____ WebPass Instance Upgrades:_____ Identity System Customization Upgrades:_____ Identity System Customization Redeployment:_____ Identity System Customization After Upgrading:_____ Identity System Upgrade Validation:_____
	0.7	**Potential Access System Downtime Estimates**: Preparing for the Access Schema and Data Upgrade:_____ Directory Server Backups:_____ File System Backups:_____ Schema Upgrade:_____ Data Upgrade:_____ Policy Manager Component Upgrades:_____ Access Server Component Upgrades:_____ WebGate Component Upgrades:_____ Access System Customization Upgrades:_____ Access System Customization Redeployment:_____ Access System Customization After Upgrading:_____ Access System Upgrade Validation:_____

Summary of Information Needed for Directory Server Instances

Table F–2 summarizes the information that you need for each directory server instance in your existing Oracle Access Manager installation.

Table F–2 Details for Directory Instances

Task	Subtask	Directory Instance Details
1	1.1	Directory server type:_____ Directory server version:_____ Directory server patch level:_____
	1.2	Directory Server Details Directory server DNS host name or IP address:_____ Directory server port #: _____ Root bind DN for Oracle Access Manager:_____ Root password_____ Searchbase_____ Configuration base_____ Directory server security mode Open SSL Disjoint searchbase_____
	1.3	Directory Server/RDBMS Profiles (for more information, see specific summary pages for each) _____ _____ _____ _____ _____ _____
	1.4	Master/replica configuration details: _____ _____ _____ _____
	1.5	Types of data in the directory server (circle all that apply): User Data Configuration Data Policy Data
	1.6	Person Object Class_____ Group Object Class_____ User full name attribute:_____ User login ID attribute:_____ Password attribute:_____
	1.7	User full name attribute:
	1.8	User login ID attribute:
	1.9	Password attribute:

Summary of DIT and Object Definition Details

Table F–3 summarizes information that you need to collect about the DIT and object definitions. For more information, see Planning Deliverables on page 1-17. If you are performing a zero downtime upgrade, see

Table F–3 DIT and Object Definition Details

Task	Subtask	DIT and Object Definition Details
2	2.1	Directory server DNS host name or IP address:_____ Directory server port #: _____
	2.2	DIT and schema objects used in Oracle Access Manager_____
	2.3	Object definition details for all objects managed through Oracle Access Manager:

Summary of Directory Server/RDBMS Profile Details

Table F–4 summarizes information that you need to collect about each directory server or RDBMS profile. Consider printing this information from your existing installation.

Table F–4 Details for Directory Server/RDBMS Profiles for Oracle Access Manager

Task	Subtask	Directory Server/RDBMS Profile Details
3	3.1	Directory server DNS host name or IP address:_____ _ Directory server port #: _____
	3.2	Directory Server Profile Profile Name_____:_____ Namespace (searchbase): _____ Directory Type:_____ Dynamic Auxiliary Classes
	3.3	Operations (circle all that apply) Search Operations: Search Entries Authenticate Users Read Operations: Read Entry Write Operations: Create Entry Modify Entry Delete Entry Change Password
	3.4	Used by components (record all that apply) All Identity Servers:_____ _____ _____ Access Servers_____ _____ _____ Policy Managers (formerly Access Managers)_____ _____ _____
	3.5	Write Operations: Create Entry Modify Entry Delete Entry Change Password
	3.6	Database Instances (for more information, see specific summary pages for each) _____ _____ _____ _____ _____ _____ _____ _____
	3.7	Maximum Active Servers:_____ Failover Threshold:_____ Sleep for seconds:_____ Max. Session Time (minutes):_____

Summary of Database Instance Profile Details

Table F–5 summarizes information that you need to collect for each database instance profile associated with a directory server instance. Consider printing this information from your existing installation.

Table F–5 Details for DB Instance Profiles

Task	Subtask	DB Instance Profile Details
4	**4.1**	Directory Server Instance Name_____ Computer Name hosting the directory instance_____ Port Number: _____ Root DN:_____ Root DN Password:_____ Time Limit:_____ Size Limit:_____ Flags: SSL Referral Fast Bind (AD only) Secure Port Number_____ Initial Connections:_____ Maximum Connections:_____

Summary of Details Needed for Earlier Identity Servers

Table F–6 summarizes information that you need to collect about each Identity Server.

Table F–6 Details for Existing Identity Servers

Task	Subtask	Existing Identity Server Details
		Prepare for Identity Server Upgrade in Environment: Total Number of Identity Servers in this environment:
5		**Identity Server Details** Installation directory of this Identity Server _____ Exact Patch Level_____ Operating System and Patch Level_____ Installation directory for the associated WebPass_____
	5.1	Default Locale (Administrator Language) Languages Language Packs
	5.2	Transport security mode between the Identity Server and WebPass: Open Simple Cert
	5.3	Unique Identity Server ID of this instance:_____ Host name of the computer where the Identity Server is installed_____ Port number for Identity Server/WebPass communication_____
	5.4	Is this the master Identity Server? (There can be only one installed to update the schema/data) Directory server type_____ _____ For more information for this Directory Instance, see summary____ _____
	5.5	Security mode between directory server and Identity Server: SSL Open
		If SSL, path to the Root CA certificate:
		Simple mode only Global Access Protocol pass phrase
		Cert Mode Only Certificate PEM pass phrase:_____ Path of the certificate request file:_____ Path of the certificate file:_____ Path of the key file:_____ Path of the chain file:_____
	5.6	(**Windows only**) Unique Identity Server service name that will differentiate this instance in the Services window if you install several instances of Identity Server):
	5.7	Auditing configuration _____ _____

Table F–6 (Cont.) Details for Existing Identity Servers

Task	Subtask	Existing Identity Server Details
	5.8	Password policy configuration _____
	5.9	Any customizations (Identity Event plug-ins, styles, Portal Inserts and the like)? See summary pages: _____ _____
	5.10	File-based changes (globalparams.xml, and the like)? _____ _____

Summary of Details Needed for Earlier WebPass Instances

Table F–7 summarizes information that you need to collect for each WebPass, some of which can be printed from the Identity System Console.

Table F–7 Details for Existing WebPass Instances

Task	Subtask	Existing WebPass Details
6		**Prepare for WebPass Instances Upgrade in Environment:** Total Number of WebPass Instances in this environment:
	6.1	**WebPass Instance Details** Installation directory of this WebPass Instance _____ Exact Patch Level_____ Operating System and Patch Level_____ WebPass hostname:_____ ■ Installed for Web server instance:_____ ■ Web Server Type:_____ ■ Web Server Release:_____ ■ Exact Web Server Patch Level_____ ■ Absolute path to the Web server configuration file_____ ■ User name (UNIX only):_____ ■ Group (UNIX only):_____
	6.2	Default Locale (Administrator Language) Languages Language Packs Same Language Packs as the Identity Server
	6.3	Transport security mode between the Identity Server and WebPass: Open Simple Cert
		Simple mode only Global Access Protocol pass phrase
		Cert mode only Certificate PEM phrase:_____ Path of the certificate request file:_____ Path of the certificate file:_____ Path of the key file:_____ Path of the chain file:_____
	6.4	WebPass ID used by Oracle Access Manager to identify the instance:

Table F–7 (Cont.) Details for Existing WebPass Instances

Task	Subtask	Existing WebPass Details
	6.5	DNS host name of the Identity Server with which this WebPass communicates:_____ _ Installation directory for the associated Identity Server_____ Identity Server Port # for communication with WebPass:
	6.6	Any customizations? _____ _____
	6.7	File-based changes? _____

Summary of Details Needed for Earlier Policy Manager Instances

Table F–8 summarizes information that you need to collect for each existing Policy Manager (formerly known as the Access Manager component).

Table F–8 Details for Existing Policy Managers

Task	Subtask	Existing Policy Manager Details
7		**Prepare for Policy Manager Upgrade in Environment:** Total Number of Policy Managers in this environment:
	7.1	**Policy Manager Instance Details** Installation directory of this Policy Manager Instance _____ Exact Patch Level_____ Operating System and Patch Level_____ Policy Manager hostname:_____ ▪ Installed for Web server instance:_____ ▪ Web Server Type:_____ ▪ Web Server Release:_____ ▪ Exact Web Server Patch Level_____ ▪ Absolute path to the Web server configuration file_____ ▪ Web server user name (UNIX only):_____ ▪ Web server group (UNIX only):_____
	7.2	Default Locale (Administrator Language) Languages Language Packs
	7.3	Transport security mode between the Policy Manager and Access Servers: Open Simple Cert
		Simple mode only Global Access Protocol pass phrase:

Table F–8 (Cont.) Details for Existing Policy Managers

Task	Subtask	Existing Policy Manager Details
		Cert mode only Certificate PEM phrase:_____ Path of the certificate request file:_____ Path of the certificate file:_____ Path of the key file:_____ Path of the chain file:_____
	7.4	Is this the master Policy Manager for the schema/data upgrade? Yes No Where is policy data stored? - User data directory server - Configuration data directory server - Separate directory server Directory server type_____ _____ Searchbase where user data is stored:_____ Configuration DN:_____ Policy base:_____ For more information for this Directory Instance, see summary____ _____
		If the security mode between the directory server and the Policy Manager is SSL, the path to the SSL certificate is:_____
	7.5	Person object class name:
	7.6	Policy Manager policy domain root:
	7.7	Configured authentication schemes? Yes No If Yes, select authentication scheme or schemes: **Authentication Schemes** - Basic Over LDAP - Client Certificate - Anonymous - Oracle Access and Identity - Oracle Access and Identity for AD Forests - Others _____ _____ _____ _____ _____

Table F–8 (Cont.) Details for Existing Policy Managers

Task	Subtask	Existing Policy Manager Details
	7.8	Configure Oracle Access Manager-related policy domains? Yes No If Yes, select policy domains: **Policy Domains** - Identity Domain (a default) - Access Domain (a default) Others _____
	7.9	Configured policies to protect Oracle Access Manager-related URLs? Yes No Details_____ .
	7.10	Any customizations?
	7.11	File-based changes?

Summary of Details Needed for Earlier Access Servers

Table F–9 summarizes information that you need to collect for each earlier Access Server. Consider printing some of this information from the Access System Console.

Table F–9 Details for Existing Access Servers

Task	Subtask	Access Server Details
8		**Access Server Details** Total number of Access Servers
	8.1	**Access Server Instance Details** Installation directory of this Access Server Instance _____ Exact Patch Level_____ Operating System and Patch Level_____
	8.2	**Access Server Details in the System Console** Access Server name_____ Access Server host name_____ Port # the Access Server listens to_____ Transport security between Access Server and associated WebGate: Open Simple Cert Associated WebGate ID_____ Access Management flag On Off
	8.3	Default Locale (Administrator Language) Languages Language Packs
	8.4	Which directory server stores the configuration data? Same as Policy Manager directory server? Yes No Configuration DN_____ If no, see summary for directory server instance_____ Host computer_____ Port number_____ Root DN_____ Root DN password_____ Directory type_____ Security mode between the configuration data directory server and the Access Server: Open SSL
	8.5	Which directory server stores the policy data?_____ Policy base_____ For more information about the directory server instance, see the summary for_____ _____
	8.6	Save PEM phrase in a password file? (Simple and Cert modes only): Yes No
		Simple mode only Global Access Protocol pass phrase:_____ Password file_____

Table F–9 (Cont.) Details for Existing Access Servers

Task	Subtask	Access Server Details
		Cert mode only Certificate PEM phrase:_____ Password file_____ Path of the certificate request file:_____ Path of the certificate file:_____ Path of the key file:_____ Path of the chain file:_____
	8.7	Auditing configuration _____ _____
	8.8	Any customizations (plug-ins, AccessGates, and the like), see summary pages: _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
	8.9	File-based changes? _____ _____

Summary of Details Needed for Earlier WebGates/AccessGates

Table F–10 summarizes information that you need to collect about each WebGate/AccessGate. Consider printing some of this information from the Access System Console.

Table F–10 WebGate/AccessGate Details

Task	Subtask	WebGate/AccessGate Details
9		**Prepare for WebGate/AccessGate Upgrade in Environment:** Total Number of WebGates in this environment:_____ Total number of custom AccessGates in this environment:_____
	9.1	**WebGate/AccessGate Instance and Web Server Details** Installation directory of this Instance _____ Exact Patch Level_____ Operating System and Patch Level_____ ■ Installed for Web server instance:_____ ■ Web Server Type:_____ ■ Web Server Release:_____ ■ Exact Web Server Patch Level_____ ■ Absolute path to the Web server configuration file_____ ■ Web server user name (UNIX only):_____ _ ■ Web server group (UNIX only):_____ _
	9.2	**WebGate/AccessGate Details in the Access System Console** WebGate ID_____ WebGate hostname:_____ WebGate port:_____ WebGate password_____ Transport security between the Access Server and WebGate: Open Simple Cert Preferred http host_____ HTTP cookie domain:_____ Cache timeout_____
	9.3	Associated with Access Server ID_____ Access Server DNS hostname_____ Port number on which Access Server listens_____ Priority_____ Number of connections_____
	9.4	Default Locale (Administrator Language) Languages Language Packs
	9.5	Transport security mode between the Access Server and WebGate/AccessGate: Open Simple Cert
		Simple mode only Global Access Protocol pass phrase_____

Table F–10 (Cont.) WebGate/AccessGate Details

Task	Subtask	WebGate/AccessGate Details
		Cert mode only Certificate PEM phrase:_____ Path of the certificate request file:_____ Path of the certificate file:_____ Path of the key file:_____ Path of the chain file:_____
	9.6	Virtual IP and DNS aliases used to reference the WebPass or Web server farm protected with WebGate_____
	9.7	Any customizations?
	9.9	File-based changes?

Summary of Details for Integration Components and Independently Installed SDKs

Table F–11 summarizes information that you need to collect about Oracle Access Manager integration connectors for third-party products as well as independently installed software developer kits (SDKs).

Table F–11 Details for Integration Connectors and Independently Installed SDKs

Task	Subtask	Integration Connectors and Independently Installed SDK Details
10		**Prepare for Upgrade in Environment:** Total Number of Integration Connectors in this environment:_____ Types of Integration Connectors in this environment:_____ _____ _____ Total number of independently installed SDKs in this environment:_____
	10.1	**Integration Connector/SDK Instance and Web/App/Portal Server Details** Installation directory of this Connector/SDK _____ Exact Patch Level_____ Operating System and Patch Level_____ ■ Installed for Web/App/Portal server instance:_____ ■ Web/App/Portal server Type:_____ ■ Web/App/Portal server Release:_____ ■ Exact Web/App/Portal server Patch Level_____ ■ Absolute path to the Web/App/Portal server configuration file_____ ■ User name (UNIX only):_____ _ ■ Group (UNIX only):_____ _
	10.2	Default Locale (Administrator Language) Languages Language Packs

Summary of Details Needed for Customizations

Table F–12 summarizes the information you need for each customization. For more information, see "Items that You Must Manually Upgrade" on page 3-9.

Table F–12 Details for Existing Customizations

Task	Subtask	Details of Existing Customizations
11	11.1	Installation directory of the Customization _____ Operating System and Patch Level_____ Other Oracle Access Manager components on this computer? Yes No Identity Server WebPass Policy Manager Access Server WebGate
	11.2	Workflows _____ _____ _____ _____ _____ _____ _____ _____
	11.3	Access Control Lists (ACLs) _____ _____ _____ _____
	11.4	Custom Identity Event plug-ins:_____ _____ _____ _____ _____
	11.5	PresentationXML customizations _____ _____ _____
	11.6	Styles and XSL stylesheet customizations: _____ _____ _____ _____
	11.7	IdentityXML clients and applications: _____ _____ _____ _____

Table F–12 (Cont.) Details for Existing Customizations

Task	Subtask	Details of Existing Customizations
	11.8	Portal Inserts: _____
	11.9	Customized Authentication plug-ins: _____
	11.10	_____ Customized Authorization plug-ins: _____
	11.11	_____ Access Manager API clients: _____

Summary of Schema and Data Preparation Tasks

Table F–13 can help you track the progress of preparing for the schema and data upgrade. The summary includes links to schema and data preparation information in Chapter 5, and to component preparation in Chapter 8.

Unless explicitly stated, all tasks must be performed for both the in-place upgrade or the zero downtime upgrade. For more information about schema and data upgrade when using the zero downtime method, see "Schema and Data Upgrades with the Zero Downtime Upgrade Method" on page 15-9.

Table F–13 Summary for Schema and Data Preparation

Done	Summary of Schema and Data Preparation Tasks	Details
	Deployment Name:_____ **Task owner**:_____	
	Developing Strategies for Upgrading in a Replicated Environment	on page 5-4
	Configuring the Challenge/Response Phrase at the Object Class Level	on page 5-7
	Configuring Unique Namespaces for Directory Connection Information	on page 5-7
	Directory instances involved are described on (identify source)_____ _____ Preparing Your Directory Instances for the Schema and Data Upgrade ▪ Preparing a Directory Server When Its Release is Deprecated ▪ Changing the Directory Server Search Size Limit Parameter ▪ Directory-specific procedures in Preparing Your Directory Instances for the Schema and Data Upgrade	 on page 5-9 on page 5-9 on page 5-10 on page 5-9
	Backing Up Existing Oracle Access Manager Data: ▪ Backing up the Earlier Oracle Access Manager Schema ▪ Backing up Oracle Access Manager Configuration and Policy Data ▪ Backing Up User and Group Data ▪ Backing Up Workflow Data ▪ Archiving Processed Workflow Instances	on page 5-16 on page 5-17 on page 5-17 on page 5-17 on page 5-18 on page 5-19
	Backing Up Existing Directory Instances	on page 5-19
	In-Place Upgrade: Preparing Host Computers for Master Components	on page 5-21

Table F–13 (Cont.) Summary for Schema and Data Preparation

Done	Summary of Schema and Data Preparation Tasks	Details
	In-Place Upgrade: Adding An Earlier Identity System to Use as a Master for the In-place Method	on page 5-22
	▪ Defining Additional Instances in the Existing System Console	on page 5-23
	▪ Installing the Master COREid Server Instance	on page 5-25
	▪ Installing the Master WebPass	on page 5-26
	▪ Setting Up the Master Identity System for the In-place Schema and Data Upgrade	on page 5-27
	Joint Identity and Access System Deployments Only After performing all Identity System schema and data preparation tasks described in this table and in Chapter 5, "Preparing for Schema and Data Upgrades", perform remaining tasks in this table.	
	In-Place Upgrade: Adding an Earlier Access Manager to Use as a Master for the In-Place Method	on page 5-28
	▪ Installing the Master Access Manager for the In-place Schema and Data Upgrade	on page 5-29
	▪ Setting Up the Master Access Manager for the In-place Method	on page 5-31
	Finishing Preparation for the In-Place Schema and Data Upgrade includes topics in Chapter 8, "Preparing Components for the Upgrade"	on page 5-34
	▪ Preparing Release 6.x Environments	on page 8-7
	▪ Preparing Multi-Language Installations	on page 8-7
	▪ Backing Up the Existing Component Installation Directory	on page 8-8
	▪ Backing Up the Existing Web Server Configuration File	on page 8-8
	▪ Backing Up Windows Registry Data	on page 8-9
	▪ Stopping Servers and Services	on page 8-9
	▪ Logging in with Appropriate Administrative Rights	on page 8-10

Summary of Upgrading Schema and Data: In-Place Upgrade Method

Table F–14 is provided to help you track the progress of upgrading the schema and data when you are using the in-place upgrade method. Identity System details are described in Chapter 6. If you have a joint Identity and Access System deployment, procedures for the Access System are described in Chapter 7.

Note: If you are performing a zero downtime upgrade, skip this topic and instead see "Upgrading the Schema During a Zero Downtime Upgrade" on page 16-63.

Table F–14 Summary for In-Place Schema and Data Upgrade

Done	Summary of the Schema and Data Upgrade: In-Place Upgrade Method	Details
	Deployment Name:_____ **Task owner**:_____	
	Prerequisites, all preparation tasks in Summary of Schema and Data Preparation Tasks	on page 5-1
	Upgrading Identity System Schema and Data In Place ▪ Upgrading the Schema and Data In Place with the Master Identity Server ▪ Upgrading the Master WebPass ▪ Verifying the Identity System Schema and Data Upgrade ▪ Uploading Directory Server Index Files ▪ Backing Up Upgraded Identity Data	on page 6-1 on page 6-3 on page 6-13 on page 6-16 on page 6-17 on page 6-22
	Joint Identity and Access System Deployments Only After performing all Identity System schema and data upgrade tasks described in this table and in Chapter 6, perform remaining tasks in this table as described in Chapter 7, "Upgrading Access System Schema and Data In Place". Upgrading Access System Schema and Data In Place ▪ Upgrading the Schema and Data with the Master Access Manager Component ▪ Uploading Directory Server Index Files ▪ Verifying the Access Schema and Data Upgrade ▪ Creating a Temporary Directory Profile For Access System Upgrades ▪ Backing Up Upgraded Policy Data	on page 7-1 on page 7-3 on page 7-9 on page 7-9 on page 7-10 on page 7-12

Summary of Component Preparation Tasks

Table F–15 is provided to help you track the progress of activities that you and your team perform when preparing for the component upgrade. Procedures are described in Chapter 8. Most procedures apply equally to Identity System-only deployments and to joint Identity and Access System deployments. All procedures apply equally to both the in-place upgrade method and the zero downtime upgrade method. Additional procedures are required for the zero downtime upgrade method, as described in "Summary of a Zero Downtime Upgrade Tasks" on page F-29.

Table F–15 Summary of Component Preparation Tasks

Done	Summary of Component Preparation Tasks	Details
	Deployment Name:_____ **Task owner**:_____	
	Checking Compatibility with Previous Releases	on page 8-1
	Copying Custom Identity Event Plug-ins	on page 8-2
	Preparing Earlier Customizations	on page 8-2
	Preparing the Default Logout in the Policy Manager	on page 8-3
	Preparing Host Computers Changing Read Permissions on Password Files	on page 8-3 on page 8-3
	Preparing Release 6.x Environments	on page 8-4
	Preparing Multi-Language Installations	on page 8-7
	Backing Up File System Directories, Web Server Configurations, and Registry Details ▪ Backing Up the Existing Component Installation Directory ▪ Backing Up the Existing Web Server Configuration File ▪ Backing Up Windows Registry Data	on page 8-7 on page 8-8 on page 8-8 on page 8-9
	Stopping Servers and Services	on page 8-9
	Logging in with Appropriate Administrative Rights	on page 8-10

Summary of In-Place Upgrade Tasks

Table F–16 can help you track the progress of your in-place upgrades. Identity System procedures are described in Chapter 9. Access System procedures are described in Chapter 10. If you are using the zero downtime upgrade method, you can skip this topic and instead see "Summary of a Zero Downtime Upgrade Tasks" on page F-29.

Table F–16 Summary of In-Place Upgrade Tasks

Done	Summary of In-Place Upgrade Tasks	Details
	Deployment Name:_____ **Task owner**:_____	
	Prerequisites, all tasks in Summary of Component Preparation Tasks	
	Upgrading Remaining Identity Servers In Place	on page 9-3
	Upgrading Remaining WebPass Instances In Place	on page 9-8
	Validating the In-place Identity System Upgrade	on page 9-11
	Backing Up Upgraded Identity Component Information	on page 9-12
	Joint Identity and Access System Deployments Only Include After performing all Identity System upgrade tasks described in this table and in Chapter 9, perform remaining tasks in this table as described in Chapter 10, "Upgrading Access System Components In Place".	
	Upgrading Remaining Policy Managers In Place	on page 10-2

Table F–16 (Cont.) Summary of In-Place Upgrade Tasks

Done	Summary of In-Place Upgrade Tasks	Details
	Upgrading Access Servers In Place	on page 10-6
	Upgrading WebGates In Place	on page 10-9
	Backing Up Upgraded Access System Component Directories	on page 10-13

Summary of a Zero Downtime Upgrade Tasks

Table F–17 can help you track the progress your zero downtime upgrade. All procedures are described in chapters located in Part VI.

Table F–17 Summary of Zero Downtime Upgrade Tasks

	Summary of Tasks for a Zero Downtime Upgrade
	Deployment Name:_____ **Task owner**:_____
1	Study every detail about the zero downtime upgrade method before you start
2	**Developing a Plan for a Zero Downtime Upgrade**, for specific details that you need to gather, see: ■ Summary of General Details Needed for Upgrade Planning ■ Summary of Information Needed for Directory Server Instances ■ Summary of DIT and Object Definition Details ■ Summary of Directory Server/RDBMS Profile Details ■ Summary of Database Instance Profile Details ■ Summary of Details Needed for Earlier Identity Servers ■ Summary of Details Needed for Earlier WebPass Instances ■ Summary of Details Needed for Earlier Policy Manager Instances ■ Summary of Details Needed for Earlier Access Servers ■ Summary of Details Needed for Earlier WebGates/AccessGates ■ Summary of Details for Integration Components and Independently Installed SDKs ■ Summary of Details Needed for Customizations ■ See also "Developing a Plan for a Zero Downtime Upgrade"

Table F–17 (Cont.) Summary of Zero Downtime Upgrade Tasks

	Summary of Tasks for a Zero Downtime Upgrade
3	**Preparing the Original Installation for a Zero Downtime Upgrade**, Chapter 16 ■ Bringing Host Computers to Oracle Access Manager 10.1.4 Support Levels ■ Adding New Hardware or Earlier Instances to Your Deployment ■ Adding Profiles for Planned COREid Server Clones in the System Console ■ Adding Profiles for Planned WebPass Clones in the System Console ■ Associating WebPass Clone Profiles with COREid Server Clone Profiles ■ Adding New Directory Server Profiles for Cloned COREid Servers ■ Adding a Profile for Access Server Clones ■ Creating New Directory Server Profiles for Access System Clones ■ Associating Original WebGates with Access Server Clones
4	**Cloning Earlier Components for a Zero Downtime Upgrade**, Chapter 16 ■ Setting Up the File System and Creating Clone Instances ■ Creating A New Web Server Instance for Cloned Web Components
5	**About Destination Creation and Obtaining Tools for a Zero Downtime Upgrade**, Chapter 16, is performed on demand during other operations, as follows: ■ Destination Creation: Extracting 10g (10.1.4.0.1) Libraries and Files ■ Obtaining Tools: Applying Release 10.1.4 Patch Set 1 (10.1.4.2.0)
6	**Copying Configuration and Policy Data to a New Branch in the LDAP Directory Server**, Chapter 16
7	**Configuring Cloned Components and Services**, Chapter 16, includes: **Identity System Only**: ■ Configuring Cloned COREid Server Services and Details ■ Configuring Cloned WebPass Instances to Operate with Cloned COREid Servers ■ Setting Up the Cloned COREid System to Use the New Branch **Joint Identity and Access System Deployments** also includes: ■ Setting Up Cloned Access Managers to Use the New Branch ■ Configuring Cloned Access Servers
8	**Optional**: **Isolating Environments**, Chapter 16.
9	**Upgrading the Schema During a Zero Downtime Upgrade**, Chapter 16: ■ Upgrading the Identity System Schema ■ Upgrading the Access System Schema
10	**Validating Successful Operations in Your Environment**, Chapter 16, is repeated after various tasks during a zero downtime upgrade and consists of: ■ Validating Identity System Operations ■ Validating Access System Operations

Table F–17 (Cont.) Summary of Zero Downtime Upgrade Tasks

	Summary of Tasks for a Zero Downtime Upgrade
11	**Upgrading Cloned Components** **Upgrading the Cloned Identity System**, Chapter 16, includes: ■ Turning Off the Access Server Cache Flush if you have a joint Identity and Access System ■ Preparing Cloned Identity System Components for the Upgrade ■ Upgrading Cloned COREid Servers ■ Upgrading Cloned WebPass Instances ■ Renaming Audit Files After Upgrading Identity System Clones ■ Validating the Upgraded Cloned Identity System ■ Backing Up Upgraded Identity System Clones **Identity System Only:** Perform manual tasks as described in row 12. **Joint Identity and Access System:** Proceed to upgrading the cloned Access System **Upgrading the Cloned Access System**, Chapter 16, includes: ■ Preparing Cloned Access System Components for the Upgrade ■ Upgrading Cloned Access Manager Instances ■ Upgrading Cloned Access Servers ■ Validating the Upgraded Cloned Access System ■ Backing Up Upgraded Access System Clones ■ Perform manual tasks as described in row 12.
12	**Perform Manual Tasks to Finish the Clone System Upgrade** **Identity System Only:** ■ Chapter 11, "Upgrading Integration Components and an Independently Installed SDK" ■ Chapter 12, "Upgrading Your Identity System Customizations" ■ Perform validation activities as described in row 12. **Joint Identity and Access System:** ■ Chapter 11, "Upgrading Integration Components and an Independently Installed SDK" ■ Chapter 12, "Upgrading Your Identity System Customizations" ■ Chapter 13, "Upgrading Your Access System Customizations" ■ Perform validation activities as described in row 13.
13	Validating Successful Operations, Chapter 16, includes: **Identity System Only:** ■ Validating the Upgraded Cloned Identity System with upgraded customization and plug-ins ■ Backing Up Upgraded Identity System Clones, including upgraded customizations and plug-is ■ Proceed to reconciling changes to original data in row 13 **Joint Identity and Access System:** ■ Validating the Upgraded Cloned Access System ■ Backing Up Upgraded Access System Clones ■ Proceed to reconciling changes to original data in row 14
14	**Retrieving Changes in the Original Branch Before Upgrading Originals**, Chapter 17
15	**Reconfiguring Domain Name Systems (DNS) to Use Upgraded Clones**, Chapter 17

Table F–17 (Cont.) Summary of Zero Downtime Upgrade Tasks

	Summary of Tasks for a Zero Downtime Upgrade
16	**Upgrading Original Components** **Upgrading Your Original Identity System**, Chapter 17 ■ Turning Off the Access Server Cache Flush if you have a joint Identity and Access System ■ Preparing Original Identity System Components for the Upgrade ■ Upgrading Original COREid Servers that are Associated with a Single WebPass ■ Configuring Upgraded Original COREid Servers ■ Upgrading An Original Associated WebPass Instance ■ Configuring the Upgraded Original WebPass for Upgraded COREid Servers ■ **Identity System Only:** Perform activities in Setting Up the Upgraded Original Identity System when all Web components are at the same Oracle Access Manager release level Proceed to validating the upgraded Identity System in row 17 ■ **Joint Identity System and Access System:** Perform the following activities before upgrading a second WebPass or setting up the upgraded original Identity System Adding a Temporary Directory Profile for Original Access System Upgrades Setting Up the Upgraded Original Identity System **Upgrading Your Original Access System**, Chapter 17 ■ Preparing Original Access System Components for the Upgrade ■ Creating Individual Profiles for WebGates that Share a Profile ■ Upgrading An Original Access Manager Instance ■ Setting Up the Upgraded Original Access Manager when all Web components are at the same Oracle Access Manager release ■ Configuring Original Access Servers to Use the New Branch ■ Upgrading Original Access Server Instances ■ Upgrading Original WebGates ■ Proceed to validating successful operations in row 17
17	**Validating the Entire Upgraded Original Environment**, Chapter 17 **Identity System Only:** ■ Validating the Upgraded Original Identity System ■ Backing Up the Upgraded Original Identity System ■ Proceed to row 18 **Joint Identity and Access System:** ■ Validating the Upgraded Original Access System ■ Backing Up the Upgraded Original Access System ■ Proceed to row 18
18	**Starting On-the-fly User Data Migration**
19	**Reconfiguring Domain Name Systems to Use the Upgraded Original Deployment**. **Optional**: **Removing the Cloned System After Upgrading Originals**

Summary for Integration Connector/SDK Upgrade Tasks

Table F–18 can help you track the progress your integration connector or independently installed SDK upgrades (or both). The procedures are described in Chapter 11, "Upgrading Integration Components and an Independently Installed SDK".

Note: In an Identity System-only deployment, there will be no integration connectors to upgrade. When you have a joint Identity and Access System deployment, you must upgrade integration connectors before independently installed SDKs for the Access System.

Table F–18 Summary of Integration Connector/Independently Installed SDK Upgrade Tasks

Done	Summary of Integration Connector/Independently Installed SDK Upgrade Tasks	Details
	Deployment Name:_____ **Task owner**:_____	
	Prerequisites, all tasks in Summary of In-Place Upgrade Tasks	
	Identity System-Only Deployments	
	Upgrading Independently Installed Software Developer Kits	on page 11-4
	Backing Up Upgraded Integration Connector or SDK Data	on page 11-7
	Joint Identity and Access System Deployments Only	
	Upgrading Third-Party Integration Connectors	on page 11-4
	Upgrading Independently Installed Software Developer Kits	on page 11-4
	Backing Up Upgraded Integration Connector or SDK Data	on page 11-7

Summary for Customization Upgrade Tasks

Table F–19 can help you track the progress of customization upgrades in your environment. Specific Identity System procedures are described in Chapter 12, "Upgrading Your Identity System Customizations". Access System procedures are described in Chapter 13, "Upgrading Your Access System Customizations".

Table F–19 Summary for Customization Upgrade Tasks

Done	Summary of Customization Upgrade Tasks	Details
	Deployment Name:_____ **Task owner**:_____	
	Prerequisites, all tasks in: ▪ Summary of In-Place Upgrade Tasks ▪ Summary for Integration Connector/SDK Upgrade Tasks	
	Identity System-Only Deployments	
	Upgrading Auditing and Access Reporting for the Identity System	on page 12-2
	Combining Challenge and Response Attributes on a Panel	on page 12-8
	Confirming Identity System Failover and Load Balancing	on page 12-9
	Migrating Custom Identity Event Plug-Ins	on page 12-10
	Ensuring Compatibility with Earlier Portal Inserts	on page 12-11
	Incorporating Customizations from Release 6.5 and 7.x	on page 12-12
	Incorporating Customizations from Releases Earlier than 6.5	on page 12-14
	Validating Identity System Customization Upgrades	on page 12-24
	Other Customizations (see summary pages)_____ _____ _____ _____	
	Backing Up Upgraded Identity System Customizations	on page 12-24
	Access System Customizations Only	

Table F–19 (Cont.) Summary for Customization Upgrade Tasks

Done	Summary of Customization Upgrade Tasks	Details
	Upgrading Auditing and Reporting for the Access Server	on page 13-2
	Confirming Access System Failover and Load Balancing	on page 13-3
	Upgrading Forms-based Authentication	on page 13-4
	Recompiling and Redesigning Custom Authentication and Authorization Plug-Ins	on page 13-5
	Associating Release 6.1.1 Authorization Rules with Access Policies	on page 13-6
	Assuring Proper Authorization Failure Re-directs After Upgrading from 6.1.1	on page 13-7
	Updating the ObAMMasterAuditRule_getEscapeCharacter in Custom C Code	on page 13-7
	Validating Access System Customization Upgrades	on page 13-8
	Other Customizations (see summary pages)_____ _____ _____ _____	
	Backing Up Upgraded Access System Customizations	on page 13-8

Summary of Validating the Entire Upgrade

Table F–20 can you track the progress your validation activities. Specific procedures are described in Chapter 14, "Validating the Entire System Upgrade". If you are using the zero downtime upgrade method, see various topics on"Summary of a Zero Downtime Upgrade Tasks" on page F-29.

Table F–20 Summary for Validating All Upgrades

Done	Summary for Validating All Upgrades	Details
	Deployment Name:_____ **Task owner**:_____	
	Prerequisites, all tasks in: ▪ Summary of In-Place Upgrade Tasks ▪ Summary for Integration Connector/SDK Upgrade Tasks ▪ Summary for Customization Upgrade Tasks	
	Identity System-Only Deployments	
	Validating the Identity System Upgrade	on page 14-1
	Reverting Identity Server Backward Compatibility	on page 14-8

Table F–20 (Cont.) Summary for Validating All Upgrades

Done	Summary for Validating All Upgrades	Details
	Joint Identity and Access System Deployments After performing all Identity System upgrade tasks described in this table, perform remaining tasks in this table to validate the upgraded Access System upgrade.	
	Validating Access System Upgrades	on page 14-2
	Deleting the Temporary Directory Server Profile	on page 14-7
	Reverting Access Server Backward Compatibility	on page 14-9
	After validation, consider the following tasks.	
	Acquiring and Using Multiple Languages	on page 4-11
	Preparing Upgraded Environments for 10g (10.1.4.3) Language Packs	on page 14-3
	NPTL Requirements and Post-Installation Tasks	on page G-10

G

Troubleshooting the Upgrade Process

In addition to the guidelines and techniques presented throughout this guide, this chapter provides troubleshooting details that you can employ during or after the upgrade process. Topics include:

Accessing Log Files

During each component upgrade, one or more log files might be produced to inform you if any problem should arise. If a log file is created, a message during the upgrade process indicates the name and location of each log file created. In general, you can find upgrade log files in:

Log File Path:

Component_install_dir\identity|access\oblix\tools\migration_tools*toolname*.log

where *Component_install_dir* is the directory where the specific component is installed; identity|access represents the system to which the component belongs (Identity System or Access System, respectively); and *toolname* represents the name of the utility that produced the log. For example, the following log files might be generated:

General Log Files

obmigratenp.log (generated by the main tool obmigratep which calls the other tools)

obmigratefiles.log (generated by the obmigratefiles tool that reads a given map-file and copies files from source directory to target directory based upon the mapping list)

obmigrateparamsg.log (generated by the obmigrateparamsg tool which performs the parameter and message catalog upgrade)

obmigrateds.log (generated by the obmigrateds tool which performs the schema and data upgrade)

Component-specific Log Files

obmigrateNetPointOIS.log (Identity Server)
obmigrateNetPointWP.log (Webpass)
obmigrateNetPointAM.log (Policy Manager)
obmigrateNetPointAAA.log (Access Server)
obmigrateNetPointWG.log (WebGate)

Zero Downtime Mkbranch Log File

makebranch.log (Identity Server and Policy Manager)

Each log file contains information about a particular activity that occurs during the component upgrade. For example, a separate log file might be generated for file upgrades, or message and parameter upgrades, or the Oracle Access Manager schema upgrade to name a few.

In general, log files include the following information that you can use to troubleshoot specific problems:

- A snapshot of the steps being executed by the respective tool is recorded to help you identify any failure points.
- Any argument details passed while the tool is executing the tool is logged to help you detect any incorrect values that were passed. This can also help if you need to execute the tool manually.

- Return code details are logged to help you identify any error being returned. You can communicate the specific error to Oracle Support for analysis.
- During parameter and message catalog upgrades (performed by the obmigrateparamsg tool) a corresponding log file (obmigrateparamsg.log) shows all files that have got upgraded. This helps you identify any missing files to detect any loss of customizations.
- Component-specific log files show the changes that were completed for that specific component. Changes include any component-specific configuration file and registry changes occurring during the upgrade. This helps you identify any upgrade failures for the respective component.

For information about specific log files, their content, and the tools that generate them see Appendix C, "Upgrade Process and Utilities".

Additionally, the following files are created to log any ldap specific errors:

- During Identity Server data migration, error_output_*fromversion*_to_*toversion*_osd.ldif file is created in the *IdentityServer_install_dir*\identity\oblix\tools\migration_tools\obmigratedata directory.
- During Policy Manager data migration, error_output_*fromversion*_to_*toversion*_psc.ldif file is created in the *PolicyManager_install_dir*\access\oblix\tools\migration_tools\obmigratedata directory

Accessing Data Issues

If you receive a "Cannot find <person> Object Class" error after upgrading the schema and data, the problem might be that the master Access Manger component used to upgrade the schema and data did not use the same transport security as the original component.

If the original Access Manager component is installed and configured using SSL-enabled communication with the directory server, then the master component that you add to upgrade the Access System schema and data must also use SSL-enabled communication with the directory server.

For more information, see "Adding an Earlier Access Manager to Use as a Master for the In-Place Method" on page 5-28.

Access Server Not Processing Earlier WebGate Data Properly

If you have a newly installed Access Server that does not appear to process information from an earlier WebGate, there might be a backward compatibility problem.

Upgraded Access Servers are automatically enabled for backward compatibility with earlier WebGates. However, a new 10.1.4 Access Server does not provide backward compatibility. If you install a 10.1.4 Access Server in an environment that includes earlier WebGates, you must manually set the `"IsBackwardCompatible" Value="true"` in the newly installed Access Server globalparams.xml to enable communication with earlier plug-ins and interfaces, as well as earlier WebGates and custom AccessGates. See also "Access Server Backward Compatibility" on page 4-40.

Auditing and Access Reporting Issues

If you had auditing and access reporting configured in your earlier environment, you need to perform specific steps to ensure you can continue using this function.

Otherwise, you might notice that some language characters (for example, Chinese or Japanese) in audit records are not being inserted correctly.

The steps you need to take to accommodate globalization changes, even when you have an English only environment, depends on the type of database you are using.

> **Note:** Simply upgrading or altering existing database instances and tables is not supported and could result in permanent truncation and loss of existing data.

In addition, when upgrading the master Identity Server and the schema and data from any release earlier than 700 the audit file name is changed by prefixing the path to the master Identity Server. If your deployment includes multiple Identity Servers, the audit file name for each will be prefixed by the same Identity Server installation directory path as the Identity Server from which the data upgrade is performed. The result is that your original configuration is lost during the Identity Server upgrade.

The following task overview provides details that you need to correct audit and access reporting issues.

Task overview: Correcting auditing and access reporting issues

1. If your environment includes an Oracle database instance for auditing, you can check to ensure that your database character set is AL32UTF8.
2. Review and complete all steps in "Upgrading Auditing and Access Reporting for the Identity System" on page 12-2.
3. Review and complete all steps in "Renaming Audit Files After Upgrading the Schema and Data" on page 6-21.

> **Note:** If you are using the zero downtime upgrade method, see "Renaming Audit Files After Upgrading Identity System Clones" on page 16-88.

4. Review and complete all steps in "Upgrading Auditing and Reporting for the Access Server" on page 13-2.

Authentication Failures

Users with non Latin-1 login IDs might not be able to log in successfully when using a custom form. This problem can occur when you have internationalized data in your custom login forms, but you have not updated the login HTML encoding to UTF-8.

As discussed in Chapter 4, "System Behavior and Backward Compatibility", in 10.1.4, form-based authentication supports non-ASCII login credentials (username/password). When you use form-based authentication with 10.1.4 WebGates, you must ensure that character set encoding for the login form is set to UTF-8.

> **Note:** Basic Authentication fails with non-ASCII login credentials. Use form-based authentication for non-ASCII login credentials. Use Basic Authentication with ASCII login credentials.

To correct problems with form-based authentication, see "Upgrading Forms-based Authentication" on page 13-4.

Authorization Failure Re-direct Problems After Upgrading from 6.1.1

Problem: Authorization failure redirects might not work as expected after upgrading from release 6.1.1.

Cause: A new authorization inconclusive state was introduced in release 7.x (apart from authorization success and failure states).

Solution: In the Authorization Rule, be sure to specify an explicit Deny rule and change `Allow takes precedence` to `Yes` under the General panel. For more information, see "Assuring Proper Authorization Failure Re-directs After Upgrading from 6.1.1" on page 13-7.

Challenge and Response Phrase Issues

Problem: If your earlier environment has the challenge phrase and response attributes on separate panels, then the response attribute will not be displayed in the Profile page.

Cause: In earlier releases, the challenge phrase and response attributes were allowed on different panels of the Profile page of the User Manager, Group Manager, and Organization Manager. In 10.1.4, however, both the challenge phrase and response attributes must be on the *same* panel.

Solution: You need to update your panel definitions to include the response attribute on the same panel as the challenge attribute. For more information, see "Combining Challenge and Response Attributes on a Panel" on page 12-8.

> **See Also:** "Multiple Values in Challenge Phrase and Response Attributes" on page 4-24 and "Halting On-the-fly User Data Migration at First Login Temporarily" on page 5-19.

Challenge Response Might Not Convert Properly

If you choose to manually migrate data during an upgrade (exporting user data from old instance into new instance which is not recommended), the Challenge Response for lost password management might not convert properly. As a result, some users will not be able to use the lost password feature. For example, when providing a correct response on the Lost Password Management page the user cannot reset the password. Also some users might not be able to set new responses, basically it will complain that the old response is not correct.

The Challenge Response value is encrypted with the shared secret in the CPResponseEncryptionKey node, using the RC6 encryption algorithm. The Challenge Response encryption key contains the attributes:

DN:

```
cn=CPResponseEncryptionKey,obcontainerId=encryptionKey,o=Oblix,<container>

Attribute: obSecretSize
Attribute: obSharedSecret
```

where Attribute: obSharedSecret is a binary attribute.

> **Note:** If the configuration tree moved or a different directory server is used in the upgraded environment, the shared secrets might not match.

To ensure the Challenge Phrase Response is properly converted

1. Use caution with the shared secret, which cannot be copied and pasted.
2. Manually document the shared secret in your original configuration tree and add it to the 10.1.4 configuration tree.

For more information, see "Encryption Schemes and the Shared Secret" on page 3-9 and "Checking Compatibility with Previous Releases" on page 8-1.

Compatibility of Earlier Plug-ins in the Upgraded Environment

If your earlier customized plug-ins are not operating as expected after the upgrade when working with internationalized data (that is, non latin-1 data), you need to redesign these to ensure they can process UTF-8 encoded data. To send or receive internationalized data, earlier custom plug-ins must be redesigned to use UTF-8 encoding.

Also, on Solaris and Linux, plug-ins earlier than release 7.x must be re-compiled using the GCC v3.3.2 C++ compiler, regardless of the compiler that might be provided with the Operating System.

> **Note:** Release 7.0 plug-ins as well as earlier plug-ins implemented as executables or those using a scripting language (such as perl) do not require recompiling after the upgrade. However, to send and receive internationalized data, earlier plug-ins should be redesigned to communicate using UTF-8 encoding.

To ensure compatibility of your earlier plug-ins in the upgraded environment, see:

- Migrating Custom Identity Event Plug-Ins
- Recompiling and Redesigning Custom Authentication and Authorization Plug-Ins

Customized Styles, Images, and JavaScript

Broken images or the incorrect appearance of a customized Graphical User Interface (GUI) or JavaScript errors is an indication that earlier customizations have not been manually incorporated into the upgraded environment.

As discussed earlier, customized .XSL style files, images, and JavaScript files are not migrated during the upgrade. If your previous installation includes significant changes to earlier XSL stylesheets, or if you use a style other than the Oracle Access Manager default Classic Style, you need to manually include those changes in 10.1.4 stylesheets, images, and JavaScript files.

> **WARNING: If you simply copy earlier stylesheets, you might receive stylesheet bug reports or experience unpredictable behavior when using new features designed to work with new stylesheets.**

For details about migrating customized styles, images, and JavaScript (including message handling), see details in Chapter 12, "Upgrading Your Identity System Customizations".

Deleting the vpd.properties File

If previous installations and upgrades have left behind a vpd.properties file, you might have trouble when you specify the installation directory. This can occur if a component installation terminates (or is terminated by you) after component files were extracted to the designated installation directory and you simply remove the installation directory without running the Uninstaller. In this case, you are left with an inconsistent vpd.properties file.

Before starting an upgrade you need to remove this file.

To remove the vpd.properties file

1. Locate the vpd.properties file. For example:
   - **On Windows NT**: vpd.properties file is located in c:\WINNT.
   - **On UNIX**: The vpd.properties file is located in the home directory of the user running the installer
2. Delete it.

Ensuring Compatibility with Earlier Portal Inserts

After the upgrade if you notice that your portal inserts are not working as expected, you need to ensure that your portal insert URLs have been manually updated for UTF-8 encoding. Also, to use internationalized data in PresentationXML requests, these requests must indicate UTF-8 encoding.

Oracle Access Manager 10.1.4 cannot detect query string character encoding and assumes it to be UTF-8. The 10.1.4 Identity Server cannot process Latin-1 data from earlier Portal Inserts. After upgrading to 10.1.4), you must change the encoding of the query string in earlier Portal Inserts from Latin-1 to UTF-8.

To ensure compatibility with portal inserts in your environment, see "Ensuring Compatibility with Earlier Portal Inserts" on page 12-11.

Failover and Load Balancing Issues in Upgraded Environments

You should not experience any problems in this area following an upgrade. Refer to following discussions for more information:

- Confirming Identity System Failover and Load Balancing
- Confirming Access System Failover and Load Balancing

Identity Server Not Processing Data from Earlier Plug-ins

If you have a newly installed Identity Server that does not appear to process information from an plug-in, there might be a backward compatibility problem.

Upgraded Identity Servers are automatically enabled for backward compatibility with earlier plug-ins. However, if you install a new 10*g* (10.1.4.0.1) Identity Server in an upgraded environment you must manually set the `encoding` flag in the Identity Server oblixpppcatalog.lst to enable communication with earlier plug-ins and

interfaces. See also "Identity Server Backward Compatability" on page 4-33 on page 4-40.

IdentityXML Calls Fail After WebGate Install

IdentityXML calls require authentication credentials. If there is no WebGate protecting WebPass, then the basic credential mechanism is used. This takes the form of username and password embedded in the SOAP request itself. However, when a WebGate is installed later, then the IdentityXML calls must be changed to use an SSO token-based authentication.

The IdentityXML calls need to be changed to first obtain an OBSSOCookie, and then pass that token into all the subsequent calls. An example of how to do this is shown in the *Oracle Access Manager Developer Guide*. Look for details on code examples of deployed IdentityXML functions, and the ObSSOCookie Example.

Language Issues

Oracle Access Manager 10*g* (10.1.4.3) supports only 10*g* (10.1.4.3) Language Packs. A 10.1.4 environment includes at least the English language and perhaps one or more non-English Language Packs.

After upgrading to 10.1.4 using either method described in this book, you must remove 10*g* (10.1.4.0.1) Language Packs before applying the 10*g* (10.1.4.3) patch set. After applying the 10*g* (10.1.4.3) patch set you can install 10*g* (10.1.4.3) Language Packs.

For more information, see:

- "Language Packs" on page 3-11
- "Acquiring and Using Multiple Languages" on page 4-11
- "Preparing Multi-Language Installations" on page 8-7
- "Preparing Upgraded Environments for 10g (10.1.4.3) Language Packs" on page 14-3

LDAP Add Errors in a Replicated Environment

If you are upgrading from Oracle Access Manager 5.2.x on Windows 2000 SP3, you might receive LDAP add errors during the upgrade. If you receive these errors, you might need to set the replication agreements for the computers.

To you receive LDAP add errors in your Windows environment

1. Install the Support Tools from the Windows 2000 CD.
2. Run the `dcdiag` program, optionally using the `/v` command-line option.
3. Under the Replication test, check for failures.
4. If failures are reported, use the next procedure to troubleshoot LDAP add errors.

To troubleshoot LDAP add errors in a forest

1. Confirm that the clocks are synchronized for the domain controllers.
2. On the command line for all domain controllers in the forest, enter the following:

```
net time /setsntp:machine name
```

Use the same computer name so there is minimal clock skew.

3. Set the group policy for replication:
   a. Open the Users and Computers tool.
   b. Go to Domain Controllers, right click, and select Properties.
   c. Under the Group Policy tab, select Default Domain Controllers Policy, select Computer Configuration, then click Windows Settings.
   d. Select Security Settings, select Local policies, then click User Rights Assignment.
   e. From the right hand side, select Access this computer from the network.
   f. Add ENTERPRISE DOMAIN CONTROLLERS to the access list.
4. Do a replication using the Sites and Services tool:
   1. Go to Sites, select Default-First-site-name, then select Servers.
   2. Select the server name.
   3. Select NTDS settings.
   4. Right click <automatically generated> on the right hand side, and select replicate now.
   5. Enter the `dcdiag` program again on the command line to see if the replication test is now working.

After performing these steps, the schema migration should work properly.

Manual Schema Upload Fails

If you attempt to upload and use the full schema installation files for any directory during the upgrade (instead of using release-specific delta files for an existing schema), the operation will fail. This is because the schema already exists and the files used to upgrade an existing schema provide only the difference between the existing schema and the next release.

For example, suppose you have an installation with ADAM as the directory. If you attempt to upload and install the complete (new installation) schema file (ADAM_oblix_schema_add.ldif andADAM_user_schema_add.ldif) rather than release-specific delta-content files (osd_650_to_700_schema_adam.ldif and policy_650_to_700_schema_adam.ldif) the process will fail. This is because the schema already exists.

Guidelines

- Oracle recommends that you accept automatic schema and data upgrades.
- If you must manually update the schema and data (for ADAM, for example), use only those release-specific delta-content files provided to upgrade your directory schema.

Mime_types -related Customizations Not Retained

You might notice that your mime_types-related customizations are not reflected in the attribute configuration applet in the System Console.

When upgrading, multiple entries with the same ParamName in mime_types (.xml and .lst) files are not retained:

IdentityServer_install_dir/identity/oblix/apps/admin/bin/mime_types.xml
IdentityServer_install_dir/identity/oblix/apps/admin/bin/mime_types.lst

WebPass_install_dir/identity/oblix/apps/admin/bin/mime_types.xml
WebPass_install_dir/identity/oblix/apps/admin/bin/mime_types.lst

The .xml version of the file is used by the Identity Server. The .lst version of the file is used by the WebPass Java applet. Both versions of the file must match. Both versions of the file must reside in the *IdentityServer_install_dir* and in the *WebPass_install_dir*.

For example, if your original mime_types.xml file in *IdentityServer_install_dir*/identity/oblix/apps/admin/bin/mime_types.xml contains the following NameValPair ParamNames:

```
<NameValPair ParamName="application/postscript" Value="ai1"/>
<NameValPair ParamName="application/postscript" Value="eps1"/>
<NameValPair ParamName="application/postscript" Value="ps1"/>
```

the following entries will occur in the newly upgraded file:

```
<NameValPair ParamName="application/postscript" Value="ai1"/>
(CORRECT)
<NameValPair ParamName="application/postscript" Value="eps"/>
(INCORRECT)
<NameValPair ParamName="application/postscript" Value="ps"/>
(INCORRECT)
```

For existing user entries, the MIME type is stored along with the user entry in the directory. As a result, there is no impact on existing user entries and Oracle Access Manager installations after the upgrade.

Note: Both .lst and .xml versions of the file are needed. You might remove MIME types that are no longer needed or add new MIME types to be associated with the particular attribute for further use. Simply edit the mime_types.lst and .xml files for the Identity Server, then copy these into the *WebPass_install_dir* to replace the earlier version.

To ensure MIME type files are accurate and available in the upgraded environment

1. Edit the Identity Server mime_types.lst file if needed to remove MIME types that are no longer needed or add new MIME types to be associated with the particular attribute for further use.
2. Edit the Identity Server mime_types.xml file to match your edited mime_types.lst file.
3. Copy both Identity Server mime_types files (.lst and .xml) in to the *WebPass_install_dir* to replace the earlier version.

NPTL Requirements and Post-Installation Tasks

Oracle Access Manager uses either Native POSIX Thread Library (NPTL) or LinuxThreads. The default mode is LinuxThreads.

LinuxThreads: To support the default, the start_ois_server and start_access_server will start in LinuxThreads mode. In this case, the variable LD_ASSUME_KERNEL is

automatically set to 2.4.19. The message "Using Linux Threading Library." appears in the console and in the server's oblog file.

NPTL: If you start the server with the start_ois_server_nptl or start_access_server_nptl scripts, NPTL mode is used. You can also restart the server with restart_ois_server_nptl or restart_access_server_nptl scripts. In this case, the message "Using NPTL Threading Library." appears in the console and in the server's oblog file.

> **Note:** On Linux, Oracle Access Manager Web components for Oracle HTTP Server 11g use only NPTL; you cannot use the LinuxThreads library. In this case, do not set the environment variable LD_ASSUME_KERNEL to 2.4.19.

The NPTL-ready scripts include:

- Identity Server: start_ois_server_nptl and restart_ois_server_nptl
- Access Server: start_access_server_nptl and restart_access_server_nptl

> **Note:** Standard stop scripts and the following standard setup scripts will operate successfully whether you use LinuxThreads or NPTL: start_setup_ois, start_setup_webpass, start_setup_access_manager, start_configureAAAServer, stop_snmp_agent, start_configureWebGate, and start_configureAccessGate.

The setup script for the SNMP agent, start_snmp_agent, includes an entry for LD_ASSUME_KERNEL. When using NPTL with Oracle Access Manager, you must remove or comment out the LD_ASSUME_KERNEL=2.4.19 environment variable from the following file:

SNMP Agent: start_snmp_agent

> **Note:** Oracle Access Manager servers can run using NPTL while Oracle Access Manager Web components use LinuxThreads (and vice versa). When installing Oracle Access Manager Web components or third-party connectors for use with NPTL, there is no need to set the environment variable LD_ASSUME_KERNEL to 2.4.19.

Use the following procedure as a guide when using or modifying scripts for NPTL and Oracle Access Manager.

To use NPTL with Oracle Access Manager

1. Use NPTL versions of start scripts for the Identity Server and Access Server stored in:

   IdentityServer_install_dir/identity/oblix/apps/common/bin/start_ois_server_nptl

   AccessServer_install_dir/access/oblix/apps/common/bin/start_access_server_nptl

2. SNMP Agent: Perform the following steps to remove or comment out the LD_ASSUME_KERNEL=2.4.19 environment variable from the start_snmp_agent script.

a. Locate the start_snmp_agent script in the following path:

SNMP_install_dir/oblix/apps/agent/bin/start_snmp_agent

b. In a text editor, remove or comment out the following line:

```
LD_ASSUME_KERNEL =2.4.19
```

c. Save the file.

d. Repeat for each SNMP Agent in your deployment.

3. Use standard setup and stop scripts:

start_setup_ois
start_setup_webpass
start_setup_access_manager
start_configureAAAServer
start_configureWebGate
start_configureAccessGate
stop_ois_server
stop_access_server
stop_snmp_agent

4. Web Components or Third-party Connectors Using NPTL: Do not set the environment variable LD_ASSUME_KERNEL to 2.4.19 when using NPTL with Oracle Access Manager.

Page Not Found Error While Accessing the Access or Identity URL

Problem:

A "Page not found." error occurs after upgrading an older WebGate to 10.1.4.

Cause:

Occasionally, earlier Access Servers do not completely shutdown. Upgrading an older Access Server that has processes running results in issues when upgrading older WebGates to 10.1.4. To avoid issues before upgrading, see "Stopping Servers and Services" on page 8-9.

Solution:

Stop the associated Access Servers, terminate any still-running processes (for example, on Solaris platforms use the `kill -9` command), then restart the Access Servers.

Searches Are Slow

If you do not upload the indexes for iPlanet and NDS directories, the product will work. However, searching will be inefficient and impact performance.

For details, see "Uploading Directory Server Index Files" on page 6-17.

Simple Mode Password File Not Converted During Upgrade

If the earlier Access Server is in Simple mode before the upgrade, during the upgrade to 10.1.4 the password.lst file is not converted to password.xml. The result is that the Access Server cannot be started in the Services Window unless you use the command-line parameters to convey the passphrase on startup. Also, after upgrading

a WebGate in Simple mode and starting the Web server, the following error might appear:

```
"Exception thrown during WebGate initialization"
Error^Oracle AccessGate API is not initialized.
```

The initial Access System page appears. However, clicking on any link results in a "Server error" in the browser (no error number) with the error echoed to the console. The system cannot be accessed.

The upgraded area does not have the updated password.xml file.

Note: In releases before 10.1.4, the password file is named and formatted as password.lst. Starting with release 10*g* (10.1.4.0.1), the password file is named and formatted as password.xml

---

The following information is a workaround for this problem when the same Simple mode password is being used in the Identity System. In this case, you can copy the password.xml file from the upgraded Identity Server to the upgraded Access Server and WebGate as described in the following procedure.: "Workaround when the same Simple mode password is used in the Identity System". You will be asked about the password immediately after selecting Simple mode.

However, if the password is not the same on the Identity Server as it is on the Access Server, skip to the following procedures. Again, you will be asked about the password immediately after selecting Simple mode:

- Workaround when the Simple mode password is different on the Identity System and Access Server
- Workaround when the Simple mode password is different on the Identity System and WebGate

Workaround when the same Simple mode password is used in the Identity System

1. If the same Simple mode password is being used in the Identity System, copy the password.xml file as follows:

   From: <*upgraded_IdentityServer_install_dir*>/oblix/config/password.xml
   To: <*upgraded_AccessServer_install_dir*>/oblix/config /password.xml
and
   To: <*upgraded_WebGate_install_dir*>/oblix/config/password.xml

2. Start the Access Server.
3. Restart the WebGate Web server.

If the Access System Simple mode password is not the same as the Identity System Simple mode password, you must change the password using the following tools and procedures.

<*AccessServer_install_dir*>/access/oblix/tools/configureAAAServer
<*WebGate_install_dir*>/access/oblix/tools/configureWebGate

Workaround when the Simple mode password is different on the Identity System and Access Server

1. Go to the folder where configureAAAserver is located. For example:

```
AccessServer_install_dir\access\oblix\tools\configureAAAServer
```

2. Run the following executable:

   ```
   configureAAAServer chpasswd AccessServer_install_dir
   ```

3. Responds to prompts as directed on the screen.
4. Restart the Access Server.

Workaround when the Simple mode password is different on the Identity System and WebGate

1. Go to the directory:

   WebGate_install_dir\access\oblix\tools\configureWebGate

   where *WebGate_install_dir* is the directory in which WebGate is installed.

2. Run the following command:

   ```
   configureWebGate -i WebGate_install_dir -t WebGate -k
   ```

   The -k option results in only prompts for the password for Simple or Cert mode transport security.

3. Respond to prompts on the screen.
4. Restart the WebGate Web server.

For more information about the configureAAAServer and configureWebGate tools, see the *Oracle Access Manager Access Administration Guide*.

Troubleshooting Sun Web Server Upgrades

The release numbers in this discussion are for illustration only and related to the information in Appendix E, "Upgrading Sun Web Server Version 4 to Version 6 on Windows 2000". Specific details of the intermediate upgrade from earlier Oracle Access Manager releases to release 6.1.1 are outside the scope of this manual. Before you start upgrading from a release *earlier* than Oracle Access Manager 6.1.1, contact Oracle Support at http://www.oracle.com/support/contact.html.

There are several potential issues that might occur after upgrading to Sun release 6.0 Web server and upgrading to the Oracle Access Manager 7.0 Identity System.

During the upgrade, the following entries are added to obj.conf:

```
NameTrans fn="pfx2dir" from="/identity/oblix" dir="G:/70/webpass/identity/oblix"
name="idoblix"
…
…
<Object name="idoblix">
PathCheck file=".nsconfig" fn="load-config" descend="1"
</Object>
```

However, in the Oracle Access Manager 5.2 Identity System installed on a version 4.1 Web server, the obj.conf does *not* contain the entries underlined earlier. Even when the version 4 Web server is migrated to release 6 and Oracle Access Manager is upgraded to release 7.0, these entries are not included in obj.conf.

- **If you have enabled cgi for the 4.1 iPlanet instance**, the URL prefix and script directory settings are carried over exactly during migration. If this directory is under the version 4.1 document root, you might want to change this directory by:

  - Either using the release 6.0 Web server Admin Console (Class manager > Programs)
  - Or by hand editing the appropriate line in obj.conf

  For example, an example line in the 6.0 obj.conf is shown next:

```
NameTrans fn="pfx2dir" from="/cgi-bin" dir="D:/NSWS/Server4/docs/cgi-bin"
name="shellcgi"
```

  Note: It is a good idea to search the migrated obj.conf for the old install area (in this case D:/NSWS/Server4) to make sure that the 6.0 instance of the server does not refer to the old install area in any way.

- I**n the file jvm12.conf in the Web server config directory**, the following line can be found after migration. This property contains references to the old (4.1) bits and is not correctly migrated:

  ```
  jvm.classpath=D:/NSWS/Server4/plugins/samples/servlets/beans.10/SDKBeans10.jar;
  D:/NSWS/Server4/plugins/samples/servlets/beans/SDKBeans.jar;D:/NSWS/Server4/bin
  /https/jar/Bugbase.jar;D:/NSWS/Server4/bin/https/jar/Calljsac.jar
  ```

  This line should be replaced by the following:

  ```
  jvm.classpath=G:/iPlanet6WS/plugins/servlets/examples/legacy/beans.10/SDKBeans
  10.jar
  ```

  Note: The other jars are not to be included in the release 6.0 Web server configuration and have been intentionally left out.

- **Any files or folders that were in your old document-root** need to be copied manually to the same structure in the new document-root. This is important if you want the new Web server instance to behave exactly as the old one.
- **As noted earlier, both Admin Consoles (version 4.1 and version 6.0) can operate the server**, which work using the 6.0 binaries. The Admin Consoles simply use the Windows NT service to start/stop the server.

  From the 4.1 Console, if you delete the old instance the result is deleting the service and the version 4.1 files. If this happens, even the 6.0 Console cannot operate the instance, because the service has been deleted. Since this is not desirable, the following steps are required:

  a. Stop the server (from either the version 4.1 or the release 6.0 console or using the NT service).

  b. If you want to preserve the logs and the like, back up the old logs directory manually.

  c. Delete the version 4.1 instance directory manually.

  d. Restart the version 4.1 Admin Console.

  Note: The upgraded server is no longer available for the version 4.1 Admin Console to manage.

This completes the process.

Users Cannot Log In

If you do not upload appropriate indexes for Oracle Internet Directory after the schema and data upgrade, users will not be able to login.

For details, see "Uploading Directory Server Index Files" on page 6-17.

Users Who Do Not Satisfy a Large Group Dynamic Filter Are Part of the Group

Problem

A large group dynamic filter that is working in the original installation (6.5) is not working properly when imported "as is" into a 10.1.4 environment. The filter comes as part of the group and is defined with a long list queries. However, users who do not satisfy this filter might still become part of the group.

Solution When Dynamic Filter Size is Greater than 4k

After the Access Server upgrade, you must apply the latest patch and then add a new parameter, `DynamicGroupFilterMaxSize`, to the Access Server globalparams.xml. The value you set for this parameter must exceed the maximum filter length.

The default value is 4096. You can increase the value up to 4,294,967,295. Oracle Access Manager increases the filter size while evaluating dynamic groups. This evaluation occurs on the fly and will occur as soon as you add the parameter and value and restart the Access Server. For more information about this parameter, see the chapter on parameters in the *Oracle Access Manager Customization Guide*.

The following procedure walks you through the solution.

To increase the value of the dynamic filter size

1. Upgrade the Access Server using either the in-place method or the zero downtime method.
2. In-Place Method:
   - Apply Release 10.1.4 Patch Set 1 (10.1.4.2.0), as described in *Oracle Access Manager Patch Set Notes Release 10.1.4 Patchset 1 (10.1.4.2.0) For All Supported Operating Systems, and then proceed as for*
   - Apply Release 10.1.4 Patch Set 2 (10.1.4.3.0), as described in *Oracle Access Manager Patchset Notes Release 10.1.4 Patchset 2 (10.1.4.3.0) For All Supported Operating Systems.*
3. Zero Downtime Method: Apply the Release 10.1.4 Patch Set 2 (10.1.4.3.0), as described in *Oracle Access Manager Patchset Notes Release 10.1.4 Patchset 2 (10.1.4.3.0) For All Supported Operating Systems.*
4. Locate the globalparams.xml file in the following path:

   AccessServer_install_dir/access/oblix/apps/common/bin/globalparams.xml
5. Add the `DynamicGroupFilterMaxSize` parameter to the file with a value that exceeds the maximum dynamic group filter size. For example:

```
<SimpleList>
  <NameValPair ParamName="DynamicGroupFilterMaxSize" Value="7900" />
</SimpleList>
```

6. Save the file.

7. Restart the Access Server.
8. Repeat for all Access Servers.

WebSphere Application Server 6.1 Registrytester File is Missing

Before you enable the NetPointWASRegistry, you need to run the registryTester program to ensure that the NetPointWASRegistry is registered and can successfully connect to the Identity System. A file required to run the registrytester was available in the *WAS_install_dir*. Today, however, the file is not bundled with the Oracle Access Manager Connector for WebSphere. As a result, you cannot run the registrytester with the Oracle Access Manager Connector for WebSphere 6.1.

Workaround: Copy the sas.jar from an external source (WebSphere Application Server 6.0 installation directory, for example), then set the classpath accordingly. For example:

```
set CLASSPATH=.:${CLASSPATH}:${INSTALL_DIR}/oblix/lib/NetPointWASRegistry.jar
:${INSTALL_DIR}/oblix/lib/jobaccess.jar
:${WAS_INSTALL_DIR}/lib/wssec.jar
:${WAS_INSTALL_DIR/lib/sas.jar
:${WAS_INSTALL_DIR}/lib/j2ee.jar
:${WAS_INSTALL_DIR}/java/jre/lib/security.jar
:${WAS_INSTALL_DIR}/java/jre/lib/xml.jar
```

Weblogic Connectors Simple Mode Password File is Not Migrated

For Weblogic and WebSphere connectors running in simple mode, when you upgrade Oracle COREid Release 7.0.4 connector for Weblogic that is running in Simple mode to 10.1.4, the password.xml file is not migrated. In this case, you are prompted for the NetPoint Transport Password in addition to a user name and password when starting the Weblogic (or WebSphere) server.

Workaround: Before starting the upgrade, you need to add the following to the asdk_base_files.lst file in the directory *connector_ install_dir*/NetPointSecuProvForWeblogic/oblix/tools/migration_tools. After receiving the message that migration completed successfully, copy the file NetPointProvidersConfig.properties and mbean.jar from the upgraded directory to the Weblogic Portal Domain.

```
file:/oblix/config/password.lst
```

1. Before starting the upgrade, add the following to the asdk_base_files.lst file in the directory *connector_ install_dir*/NetPointSecuProvForWeblogic/oblix/tools/migration_tools

   ```
   file:/oblix/config/password.lst
   ```

2. Start upgrading from Oracle COREid Release 7.0.4 to 10.1.4 and also upgrade the Access Server SDK.
3. After receiving the message that migration completed successfully, copy the file NetPointProvidersConfig.properties and mbean.jar from the upgraded directory to the Weblogic Portal Domain.
4. Restart WebLogic.

For more information, see "Finishing the Integration Connector Upgrade" on page 11-4.

WebSphere Application Server and Portal Server Upgrades

During installation of the integration connector for WebSphere Application Server and Portal Server, you are asked to provide the WebSphere classes directory path so the following files are added:

jobaccess.jar and NetPointWASRegistry.jar

However, during the upgrade of the integration connector for WebSphere Application Server and Portal Server, you are not asked for this directory. Instead, you need to manually copy the three files (listed in the following example) into the directory following the upgrade, then restart the Websphere Application Server and the Portal Server.

jobaccess.jar
NetPointWASRegistry.jar
NetPointCMR.jar

There is no NetPointCMR.jar in a release 6.5 installation.

For more information, see "Upgrading Third-Party Integration Connectors" on page 11-1.

Zero Downtime Upgrade Issues

This section discusses issues that are specific only to performing an upgrade using the zero downtime method. If you did not use the zero downtime upgrade method, you can skip this section. Topics here include:

- Creating a New Branch During Zero Downtime Upgrade when the a DN Contains a Space
- Generating a New Registry Key To Use When Rolling Back an Original Instance Upgrade
- No Registry Key for Upgraded Web Component Clones with IIS v5

Creating a New Branch During Zero Downtime Upgrade when the a DN Contains a Space

If the old configuration or policy DN includes a space, you must apply Bundle Patch 10.1.4.2.0-BP04 (or a later 10.1.4.2 bundle patch) to avoid a potential problem when creating the new branch.

When Bundle Patch 10.1.4.2.0-BP04 is applied to the 10*g* (10.1.4.2.0) clone of the first installed Identity Server (and the 10*g* (10.1.4.2.0) clone of the first installed Access Manager), the Mkbranch tool can replace the old configuration or policy DN with the new one even if the old one includes a space.

For more information, see "Creating and Populating a New `oblix` Branch" on page 16-37.

Generating a New Registry Key To Use When Rolling Back an Original Instance Upgrade

This topic explains how to reinstate the Windows registry entry when you are rolling back after upgrading original component instances that are installed on a Windows platform. This topic is not relevant for other platforms.

To help ensure and streamline the roll back procedure, Oracle recommends that you back up the Windows registry entry for each original instance immediately before you start upgrade activities for the instance. As a result, before you rename the original file system path to create a source for the zero downtime upgrade, you must back up the original Windows registry entry. In fact, Step 1 of each upgrade procedure directs you to perform specific preparation tasks that are described in detail in Chapter 8. Backing up file system directories, Web server configuration files, and Windows registry details are among those tasks.

The following approaches are available to reinstate the original registry entry when you roll back:

- Recommended: Back up the original registry entry before you rename the original instance file system path to create an upgrade source.

  Oracle recommends that you export registry details for the instance (whether clone or original) before starting upgrade activities for each instance. This enables you to import the registry entry if you decide to roll back to the original release.

- Alternative: Reinstall the original instance during the rollback task.

  If you do not have a backup registry entry to import during a rollback, there is no automated way to reinstate the entry. In this case, you must start the original component installation anew. After the registry entry is created, you will end the installation process and then copy original configuration details from the source that was renamed before the upgrade. For details, see the following procedure.

The following procedure describes how to use the alternative approach when you do not have a back up copy of the original registry entry. This procedure provides sample path names, including:

- Original Instance (also the upgrade destination): *np611*\ois_01\identity
- Source (renamed original): *np611*\ois_01\identity_source

To generate a Windows registry entry if you don't have a backup copy to import when rolling back to an original instance

1. Confirm that the clone setup is running and providing service to your customers with original WebGates.
2. Stop the original servers.
3. Confirm that the source path that was created for the instance upgrade differs from the original path.

   Source: *np611*\ois_01\identity_source

4. Remove (or rename) the destination file system that was created for the original instance (the 10*g* (10.1.4.0.1) component libraries and files with Release 10.1.4 Patch Set 1 (10.1.4.2.0) applied).

   Delete (or Rename) Destination: *np611*\ois_01\identity

5. Start re-installing the original component release to create the registry entry as follows:

   a. Locate and launch the original component installer on the computer that is hosting the renamed source. For example: NetPoint6_EN_sparc-s2_COREid_Server.

   b. Specify the same installation path that the original instance had. For example: *np611**ois_01*.

c. Proceed with Step 5 or Step 6 based on the type of component you are installing.

6. **COREid or Access Server**:
   a. Provide the same transport security details as the original instance.
   b. Provide the same configuration details as the original instance (the original COREid or Access Server name, host name, and port) to create the registry entry.
   c. When you are informed that the service name exists, click Cancel to end the installation process.
   d. Proceed to Step 7.
7. **WebPass, Access Manager, or WebGate**: After libraries and files are extracted, Cancel the installation. The registry entry and new directories are created.
8. **All Components**: Proceed with caution as you replace the freshly installed file system with the renamed source:
   a. From the freshly installed file system, delete the fresh \identity (or \access) folder and all subdirectories. For example:

      Delete From Freshly Installed File System: \identity (or \access)

   b. From the renamed source, copy the \identity (or \access folder and all sub directories. For example:

      Copy From Renamed Source: \identity_source

   c. To the freshly installed file system, add the copied folder. For example:

      Add to Fresh File System: \identity_source

   d. In the freshly installed file system, rename the copied folder to match the original name, if needed. For example:

      Change in Fresh File System: \identity_source

      To: \identity
9. **Access Server**: Proceed with caution as you copy the backup Access Server \config directory and add this to the freshly installed Access Server file system. For example:
   a. Locate and copy the backup Access Server \config directory that was made before the original instance was reconfigured. For example:

      Copy From: *backup_aaa*\config

   b. To the newly renamed Access Server file system, add the copied \config folder. For example:

      Add to Fresh File System: *np611*\access\oblix\config
10. **WebPass, Access Manager, or WebGate**: Reinstate the original Web server configuration files using the back up copy that was made before the instance upgrade. For example:
    a. Remove (or rename) the upgraded Web server configuration file for original components.
    b. Reinstate the back up copy of the Web server configuration file that contains entries for the earlier Web component (made before you upgraded the original instance).

c. Restart the Web server instance.

11. **COREid or Access Server**: Restart the Service.
12. When all original components are started, test the original setup to ensure that it is fully operational.

No Registry Key for Upgraded Web Component Clones with IIS v5

Issue: Windows Registry is not updated for upgraded cloned Web components

After upgrading a cloned COREid Server and successfully starting the service, the Windows Registry is updated with details for the upgraded clone. However, the Registry is not updated after upgrading a cloned WebPass (or Access Manager) when Microsoft IIS 5.0 is the Web server. Instead, the component is upgraded to release 10.1.4 and the earlier Registry key is removed but there is no new entry under a 10.1.4 key.

Cause:

The transfilter for the 10*g* (10.1.4.2.0) patched Web component was not registered when copying the component to create a clone. As a result, the location is not available in the Registry editor.

Workaround: Perform the following steps

1. Stop the upgraded clone COREid Server service.
2. Stop the IIS v5 Web server that is running with the upgraded Web component.
3. Rename the original COREid Server directory. For example:

   From: *np611\ois_01*\identity

   To: *orig_np611\ois_01\identity_1014*
4. Rename the original Web component directory.

   From: *np611\webcomponent_01*\identity

   To: *orig_np611\webcomponent_01\identity_1014*
5. Install the 10*g* (10.1.4.0.1) Identity Server and WebPass and apply the 10*g* (10.1.4.2.0) patch set, as follows:
   - Use instructions in "About Destination Creation and Obtaining Tools for a Zero Downtime Upgrade" on page 16-28 as a guide.
   - Specify the original COREid Server installation directory as the destination for the 10*g* (10.1.4.0.1) Identity Server. For example:

     Destination: *np611\ois_01*\identity
   - Apply the 10*g* (10.1.4.2.0) patch set to the 10*g* (10.1.4.0.1) Identity Server as described in the *Oracle Access Manager Patch Set Notes Release 10.1.4 Patchset 1 (10.1.4.2.0) For All Supported Operating Systems*
   - Specify the original (now renamed) WebPass installation directory as the destination for the 10.1.4.0.1 WebPass.For example:

     Destination: *np611\webcomponent_01*\identity
   - Apply the 10*g* (10.1.4.2.0) patch set to the 10*g* (10.1.4.0.1) WebPass as described in the *Oracle Access Manager Patch Set Notes Release 10.1.4 Patchset 1 (10.1.4.2.0) For All Supported Operating Systems*.

6. Proceed with remaining zero downtime upgrade tasks for your environment, as described in Chapter 15.

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