Sun Java™ System

Sun Java Enterprise System
Upgrade Guide for Microsoft Windows

2005Q4

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Preface

The *Sun Java™ Enterprise System Upgrade Guide for Microsoft Windows* contains the information you need to upgrade Sun Java™ Enterprise System (Java ES) software in a Windows Operating System. The Guide covers upgrade from Java ES 2005Q1 (Release 3) to Java ES 2005Q4 (Release 4).

This preface contains the following sections:

- "Who Should Use This Book"
- "How This Book Is Organized"
- "Typographic Conventions"
- "Related Documentation"
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Who Should Use This Book

This book is intended for system administrators, or software technicians who wants to upgrade Java ES software.

This guide assumes you are familiar with the following:

- Installation of enterprise-level software products
- Java ES components currently deployed in your environment
- System administration and networking on your supported Java ES platform

How This Book Is Organized

This guide includes the following chapters:

- Chapter 1, "Planning for Upgrades," provides information for planning the upgrade of the Sun Java™ Enterprise System (Java ES) software to Java ES 2005Q4 (Release 4).

- Chapter 2, "Upgrading Java ES Shared Components," provides information on upgrading shared components for Sun Java™ Enterprise System (Java ES) 2005Q4 release.

- Chapter 3, "Directory Server and Administration Server," describes the upgrading procedure for Directory Server and Administration Server.

- Chapter 5, "Web Server," describes the upgrading procedure for Web Server.

- Chapter 10, "Directory Preparation Tool," describes the upgrading procedure for Directory Preparation Tool.

- Chapter 11, "Messaging Server," describes the upgrading procedure for Messaging Server.

- Chapter 12, "Calendar Server," describes the upgrading procedure for Calendar Server.

Typographic Conventions

Typeface[*]	Meaning	Examples
AaBbCc123	API and language elements, HTML tags, web site URLs, command names, file names, directory path names, onscreen computer output, and sample code.	Edit your `.login` file. Use `ls -a` to list all files. `% You have mail.`
AaBbCc123	What you type, when contrasted with on-screen computer output.	`% ` **`su`** `Password:`
AaBbCc123	Book titles, new words or terms, words to be emphasized. A placeholder in a command or path name to be replaced with a real names or values.	Read Chapter 6 in the *User's Guide*. These are called *class* options. You *must* be superuser to do this. To delete a file, type `rm` *filename*.

[*]. The settings on your browser might differ from these settings.

Related Documentation

The `http://docs.sun.com` web site enables you to access the Sun technical documentation online. You can browse the archive or search for a specific book title or subject.

Books in This Documentation Set

The Sun Java Enterprise System manuals are available as online files in Portable Document Format (PDF) and Hypertext Markup Language (HTML) formats. Both formats are readable by assistive technologies for users with disabilities. The Sun™ documentation web site can be accessed here:

`http://docs.sun.com`

The Sun Java Enterprise System documentation includes information about the system as a whole and information about its components. This documentation can be accessed here:

`http://docs.sun.com/prod/entsys.05q1`

The following table lists the system-level manuals in the Sun Java Enterprise System documentation set. The left column provides the name and part number location of each document and the right column describes the general contents of the document.

Table 1   Books in the Java Enterprise System Documentation Set

Document or Book Title	Description
Java Enterprise System Release Notes http://docs.sun.com/doc/819-0057	Contains the latest information about the Java Enterprise System, including known problems. In addition, components have their own release notes.
Java Enterprise System Documentation Roadmap http://docs.sun.com/doc/819-0055	Provides descriptions of the documentation related to Java Enterprise System. Includes links to the documentation associated with the components.
Java Enterprise System Technical Overview http://docs.sun.com/doc/819-0061	Introduces technical concepts and terminology used in Java Enterprise System documentation. Describes the Java Enterprise System, its components, and role in supporting distributed enterprise applications. Also covers life-cycle concepts, including an introduction to system deployment.
Java Enterprise System Deployment Planning Guide http://docs.sun.com/doc/819-0058	Provides an introduction to planning large-scale deployments based on Java Enterprise System. Presents some basic concepts and principles of deployment planning and introduces a number of processes that you can use as a starting point when designing enterprise-wide deployments.
Sun Java Enterprise System User Management Guide http://docs.sun.com/doc/817-5761	Guides you through the process of optimizing user management.
Java Enterprise System Deployment Example Series: Evaluation Scenario http://docs.sun.com/doc/819-0059	Provides a series of examples for multiple evaluation scenarios.
Java Enterprise System Deployment Example Series: Small Scale Communications Scenario http://docs.sun.com/doc/819-0060	Provides a series of deployment scenarios for multiple system requirements.
Java Enterprise System Installation Guide http://docs.sun.com/doc/819-0056	Guides you through the process of installing your Java Enterprise System. Shows you how to select the components that you want to install, how to configure the components that you install, and how to verify that the software you install functions properly.
Java Enterprise System Upgrade and Migration Guide http://docs.sun.com/doc/819-0062	Guides you through the upgrade and migration process from the previous versions to the newer ones.

Table 1   Books in the Java Enterprise System Documentation Set

Document or Book Title	Description
Java Enterprise System Glossary http://docs.sun.com/doc/816-6873	Defines terms that are used in Sun Java Enterprise System documentation.

Accessing Sun Documentation

For product downloads, professional services, service packs and support, and additional developer information, refer to the following online resources:

*   Download Center
    http://wwws.sun.com/software/download/

*   Professional Services
    http://www.sun.com/service/sunps/sunone/index.html

*   Sun Enterprise Services, Windows Service Packs, and Support
    http://sunsolve.sun.com/

*   Developer Information
    http://developers.sun.com/prodtech/index.html

The following location contains information about Sun Java Enterprise System and its components:

http://wwws.sun.com/software/learnabout/enterprisesystem/

You can view, print, or purchase a broad selection of Sun documentation, including localized versions, at:

http://www.sun.com/documentation

Third-Party Web Sites

Sun is not responsible for the availability of third-party web sites mentioned in this document. Sun does not endorse and is not responsible or liable for any content, advertising, products, or other materials that are available on or through such sites or resources. Sun will not be responsible or liable for any actual or alleged damage or loss caused by or in connection with the use of or reliance on any such content, goods, or services that are available on or through such sites or resources.

Contacting Sun Technical Support

If you have technical questions about this product that are not answered in this document, go to:

http://www.sun.com/service/contacting

Sun Welcomes Your Comments

Sun is interested in improving its documentation and welcomes your comments and suggestions. To share your comments, go to http://docs.sun.com and click Send Comments. In the online form, provide the document title and part number. The part number is a seven-digit or nine-digit number that can be found on the title page of the guide or at the top of the document.

Planning for Upgrades

This chapter provides information used for planning the upgrade of Sun Java™ Enterprise System (Java ES) software to Java ES 2005Q4 (Release 4). It contains the following sections:

- Java ES 2005Q3 (Release 4) Components

- About Java ES Upgrades

- Upgrade Planning

- Java ES Component Dependencies

- General Sequencing Guidelines

Java ES 2005Q3 (Release 4) Components

As an introduction to planning the upgrade of Java ES software, this section reviews the components included in Java ES Release 4. Depending on your upgrade scenario, you might need to upgrade one or more of these components to their Release 4 version.

Java ES components are grouped into different types, as described in the Java Enterprise System Technical Overview (http://docs.sun.com/doc/819-0061). Accordingly, system service components provide the main Java ES infrastructure services, while service quality components enhance those system services. These two types of Java ES components are together referred to here as product components, components that are selectable within the Java ES installer.

Each product component depends on one or more locally shared libraries known as Java ES shared components. Shared components are installed automatically by the Java ES installer during product component installation, depending on the product components that are being installed.

Release 4 Product Components

The Java ES Release 4 product components are shown in the following table, listed alphabetically. For the service quality components among them, the table includes the type of service enhancement they provide.

Table 1-1   Java ES Release 4 Product Components

Product Component	Type	Abbreviation
Access Manager	System service component	AM
Administration Server	Service quality: administrative component	ADS
Application Server	System service component	AS
Calendar Server	System service component	CS
Communications Express	Service quality: access component	CX
Delegated Administration	Service quality: administrative component	DA
Directory Preparation Tool	Service quality: administrative component	DPT
Directory Proxy Server	Service quality: access component	DPS
Directory Server	System service component	DS
High Availability Session Store	Service quality: availability component	HADB
Instant Messaging	System service component	IM
Message Queue	System service component	MQ
Messaging Server	System service component	MS
Portal Server	System service component	PS
Portal Server Secure Remote Access	Service quality: access component	PSRA
Service Registry	System service component	SR
Web Proxy Server	Service quality: access component	WPS
Web Server	System service component	WS

Release 4 Shared Components

Java ES shared components, upon which the product components installed on a single computer depend, cannot be selected or deselected within the Java ES installer. When installing Java ES product components, the Java ES installer automatically installs the shared components needed by the installed product components.

The Java ES Release 4 shared components are listed in the following table.

Table 1-2   Java ES Release 4 Shared Components

Shared Component	Abbreviation
Jakarta ANT Java/XML-based build tool	ANT
Apache Common Logging	ACL
Apache SOAP (Simple Object Access Protocol) Runtime	
Common agent container	CACAO
Common libraries for web services container	
International Components for Unicode	ICU
Java 2 Platform, Standard Edition	J2SE™
JavaBeans™ Activation Framework	JAF
Java Studio Enterprise Web Application Framework	JATO
JavaHelp™ Runtime	JHELP
JavaMail ™ Runtime	JMAIL
Java Architecture for XML Binding Runtime	JAXB
Java API for XML Processing	JAXP
Java API for XML Registries Runtime	JAXR
Java APIs for XML-based Remote Procedure Call Runtime	JAX-RPC
Java Calendar API	JCAPI
Java Dynamic Management™ Kit Runtime Library	JDMK
Java Security Services	JSS
KT Search Engine	KTSE
LDAP C SDK	LDAP C SDK
LDAP Java SDK	LDAP J SDK
Netscape Portable Runtime	NSPR
Network Security Services	NSS
Security Assertions Markup Language	SAML
Simple Authentication and Security Layer	SASL
Simple Network Management Protocol Peer	SNMP
Sun Java Web Console	SJWC
Tomcat servlet JSP container	

Table 1-2   Java ES Release 4 Shared Components

Shared Component	Abbreviation
XML C Library	libxml
Zip Compression Library	ZLIB

Patches for Upgrading Components

The following table lists the patches for the product components and shared components of this release.

Table 1-3   Patches for Upgrading Components

Product Components	Patch IDs
Administration Server	121529-01
Application Server	121528-01
Calendar Server	121526-01
Communications Express	121535-01
Delegated Administrator	121518-01
Directory Preparation Tool	121527-01
Directory Proxy Server	121534-01
Directory Server	121392-02
High Availability Session Store	121531-01
Instant Messaging	121530-01
Message Queue	121533-01
Messaging Server	121525-01
Portal Server	121532-01
Web Server	121524-01
Shared Components	121523-01

About Java ES Upgrades

The upgrade of Java ES software to Release 4, with a few exceptions, is not performed using the Java ES installer or any other system utility. It is performed component-by-component, computer-by-computer, using component-specific upgrade procedures.

The upgrade of a component can range from a major upgrade, which might not be compatible with the previous version of the component, to a fully-compatible upgrade that simply provides bug fixes. Because of dependencies between Java ES components, the nature of the upgrade can impact whether other components need to be upgraded as well.

Product Component Upgrades

Java ES product component upgrades involve two basic operations that mirror the initial installation and configuration of Java ES product components:

- **Installing upgraded software**. The new software can be an enhancement or fixing of existing software, or a replacement of existing software. In general, the new software is achieved through the application of patches to existing software packages or a full re-installation of a component using the Java ES installer.

- **Re-configuration**. Re-configuration encompasses any change in configuration data, user data, or dynamic application data needed to support the upgraded software. A change in data can mean additional data, a change in data format (whether in property files or database schema), or a change in data location. Sometimes re-configuration requires that you perform an explicit procedure and sometimes it takes place automatically without your involvement.

These two aspects of component upgrades are described in this *Upgrade Guide* for each of the Java ES product components.

The *Upgrade Guide* also covers other important aspects of product component upgrades, including:

- dependencies that impact an upgrade

- operations you might need to perform before you upgrade a component

- operations you perform to verify successful upgrade

- operations you perform if you need to roll back an upgrade

Shared Component Upgrades

Java ES shared component upgrades are often a necessary part of upgrading the product components that depend on them.

The upgrading of shared components is typically more straightforward than the upgrading of product components. In general, the upgrade is achieved through the application of patches to existing packages. As compared to upgrading product components, there is normally no re-configuration required, nor pre or post upgrade procedures to be performed.

While shared components can be upgraded one by one, Java ES Release 4 allows you to collectively upgrade a number of shared components in one operation. For more information, see Chapter 2, "Upgrading Java ES Shared Components."

Upgrade Technologies

The upgrade of both the product components and shared components, as described in this Upgrade Guide, involves application of packages to existing software packages. The patching is achieved through Windows installer patching or MSP files. Patches are distributed through the SunSolve web site.

Upgrade Planning

The approach you take to upgrading a deployed Java ES software system to Java ES Release 4 can depend on many factors:

- Your upgrade objectives and priorities

- The scope and complexity of the deployment architecture

- The nature of the dependencies between deployed Java ES components

For example, your Java ES deployment architecture might consist of a single Java ES component running on a single computer, and your upgrade objective is to fix some bug in the previous software release. On the other hand, your Java ES deployment architecture might consist of a number of interdependent Java ES components deployed across a number of different computers, and your upgrade objective is to achieve some new functionality by upgrading the minimum number of components possible to achieve that end with minimal downtime.

These two examples represent upgrade scenarios of very different complexities, requiring substantially different upgrade plans. No one plan works for all deployed Java ES software systems.

In general, the greater the number of Java ES components and the greater the number of computers in your deployment architecture, the more complex will be your upgrade plan.

What is an Upgrade Plan?

An upgrade plan specifies how to approach each stage of the upgrade process. This process involves, at a minimum, the phases shown in the following table.

Table 1-4 Phases in the Upgrade Process

Upgrade Phase	Description
Preparation	You develop an upgrade plan. In it, you specify the Java ES components you need to upgrade and the sequence by which you need to upgrade those components on the various computers in your system. You also plan how to test upgrade procedures in a staging environment before executing them in your production environment. In this step, you also back up your current system and test your ability to restore it to its current configuration.
Execution	You obtain all the necessary packages, patches, and tools needed for the upgrade. You execute the upgrade and re-consideration of your Java ES deployed system in a staging environment. This involves the backup of configuration and application data, the upgrade of system software, and the re-configuration or migration of data to the upgraded system.
Verification	You start up the upgraded software components and perform verification tests as you proceed. If verification is not successful, and problems cannot be resolved within a reasonable time frame, you might be forced to roll back the upgrade and restore the system to its previous state.
Rollback/restoration	You restore the system to its previous state as specified in the preparation phase. You also perform tests to verify that the rollback is successful.

Upgrade Dependencies

One of the main issues in planning the upgrade of any given Java ES component is to understand that component's dependencies on other Java ES components, and whether such other components also need to be upgraded to support the upgrade of the dependent component.

In this respect, there are two types of upgrade dependencies:

- **Hard upgrade dependency**. A hard upgrade dependency is where an upgraded version of a component requires an upgraded version of some component upon which it has a dependency. You cannot successfully upgrade the component without first upgrading the component upon which it depends. In other words, the Release 4 version of the component is not compatible with the Release 3 version of the component upon which it has a dependency.

- **Soft upgrade dependency**. A soft upgrade dependency is where an upgraded version of a component does not require an upgraded version of some component upon which it has a dependency. You can successfully upgrade the component without upgrading the component upon which it depends. In other words, the Release 4 version of the component is compatible with the Release 3 version of the component upon which it has a dependency.

Upgrading a Java ES component requires you to upgrade all the components upon which it has hard upgrade dependencies, but allows you to not upgrade components upon which it has soft upgrade dependencies.

This general rule does not necessarily apply, however, when multiple interdependent components are involved in an upgrade. In such cases, you have to upgrade a component if only one of several other Java ES components has a hard upgrade dependency on that particular component.

Upgrade All

You can upgrade all deployed Java ES components to Release 4. The complexity of this approach also depends on your deployment architecture. In some cases, it simply is not feasible for business reasons to upgrade an entire system at one time.

Table 1-5   Upgrade All

Upgrade Approach	Advantages	Disadvantages
Upgrade All	A consistent version for all components in your deployed system	Maximizes number of components to upgrade

Java ES Component Dependencies

As mentioned in the previous section, an upgrade plan specifies the Java ES components you need to upgrade and the sequence by which you need to upgrade those components. One of the important considerations in an upgrade plan is the dependencies between the various Java ES components in your deployed system.

The sequence by which you perform the component upgrades is affected by the nature of the dependencies between them.

This section provides information about Java ES component dependencies. The following dependency factors impact your upgrade plan.

- Dependencies On Shared Components
- Dependencies On Product Components

Each of these factors is discussed briefly in the following sections.

Dependencies On Shared Components

When upgrading Java ES product components, you have to take into account dependencies these Java ES components have on Java ES shared components. When a product component has a hard upgrade dependency on a shared component, the shared component also must be upgraded.

Shared Component Dependency Matrix

Table 1-6 on page 28 shows the dependencies of Java ES 2005Q4 (Release 4) product components on Java ES shared components. The abbreviations for product components that head the columns of Table 1-6 are taken from Table 1-1 on page 20. The abbreviations for shared components are spelled out in Table 1-2 on page 21.

Four product components are not included in Table 1-6: Directory Proxy Server (DPS), High Availability Session Store (HADB), and Directory Preparation Tool (DPT) have been omitted because they have no dependencies on shared components. Service Registry (SR) and Web Proxy Server are omitted because they are new product components for which there is no previous version from which to upgrade.

Within the matrix of Table 1-6 hard upgrade dependencies for Release 3 to Release 4 upgrades are marked "H," while soft upgrade dependencies are marked "S."

Table 1-6   Shared Component Dependencies of Java ES Release 4 Product Components

Shared Component	AM	ADS	AS	CS	DA	DPS	DS	IM	MQ	MS	PS	PSRA	WS
ANT			S										
ACL	S												
BDB	S												
CACAO								S					
ICU		S	S	S		S	S			H	S		S
IM-SDK								H			S		
J2SE™	S	S	S	S	S	S	S	S	S	S	S	S	S
JAF	S		S					S	S		S	S	
JATO	S		S		S						S		
Java Help ™	S		S						S				
Java Mail ™	S		S					S	S		S	S	
JAXB	S		S										
JAXP	S		S					S	S		S	S	
JAXR	S		S										
JAX-RPC	S		S										
JCAPI								S					
JMDK			S					S					
JESMF								S					
JSS	S	S	S	S	S	S		S			S	S	S
KTSE											S		S
LDAP C SDK		S		S	S	S			H				S
LDAP JSDK	S	S			S	S	S						
MA Core	S										H	H	
NSPR	S	S	S	S	S	S	S	S	S	H	S	S	S
NSS	S	S	S	S	S	S	S	S	S	H	S	S	H
SAAJ	S		S										
SASL	S	S											

The dependencies shown in Table 1-6 for any product component represent both direct and indirect shared component dependencies. In other words, a product component might depend on a specific shared component that, in turn, depends on one or more other shared components. The shared component dependencies shown in Table 1-6 include all such indirect dependencies. The following figure illustrates inter-dependencies among shared components.

Figure 1-1   Shared Component Inter-dependencies
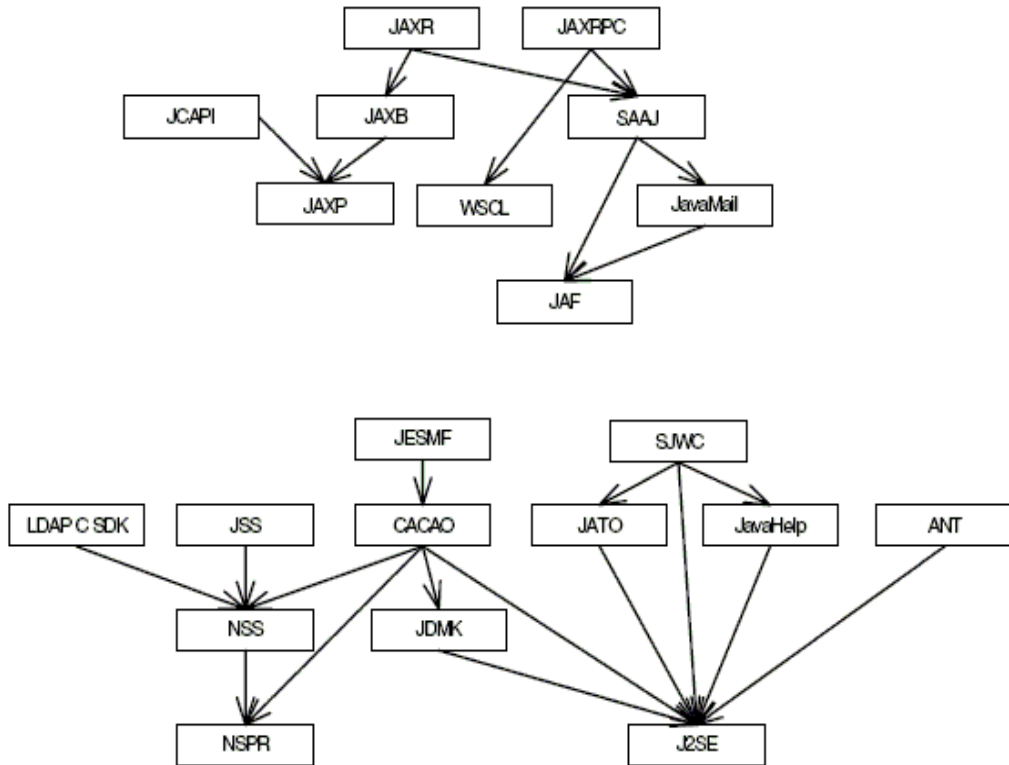
Shared Component Upgrade Guidelines

Table 1-6 lets you determine the shared components to upgrade when upgrading one or more product components on a given computer:

If you are upgrading all product components from Release 3 to Release 4, all the shared components indicated in Table 1-6 for the respective product components should be upgraded.

If no hard upgrade dependencies are involved, you might not upgrade shared components at all. However, as a general rule, it is a good practice to upgrade your underlying Java ES shared component base to the most current versions.

NOTE	The sequence of upgrading shared components can depend upon the shared component inter-dependencies shown in Figure 1-1.
	Also, if you plan to upgrade J2SE to J2SE 5.0, you should upgrade this shared component first. J2SE is the base component for many Java ES components.

For information on how to upgrade shared components, consult Chapter 2, "Upgrading Java ES Shared Components."

Dependencies On Product Components

Dependencies of one product component on another are an important determinant of the Java ES components you need to upgrade and the sequence by which you need to upgrade them. Dependencies on product components fall into two general categories: runtime dependencies and configuration dependencies.

- **Runtime Dependencies.** The functioning of a software system is based on the interactions between its deployed components. The infrastructure dependencies between Java ES components are discussed in the Java Enterprise System Technical Overview. In upgrading any Java ES product component, you must take into account such dependencies. If an upgraded version of one component has a hard upgrade dependency on another component, that dependency implies that the dependent component should only be upgraded after the component upon which it depends is upgraded.

- **Configuration Dependencies**. In many cases a Java ES component must be installed, configured, and running for another component to be configured. For example, a Directory Server configuration directory must be running for you to configure Messaging Server components, or a Directory Server user/group directory must be running for an Access Manager service to be registered. Component upgrade procedures often involve re-configuration of upgraded components or migration of configuration data. In fact, some product components' main function is to provide configuration or administrative support to other components. As a result, configuration dependencies can have a strong impact on the sequence of upgrade procedures.

Table 1-7 shows the dependencies between the Java ES product components listed in Table 1-1 on page 20. Using Table 1-7, you can diagram the chain of dependencies in your upgrade set. The left column lists each product component, the middle column shows its dependencies on other product components, the third characterizes each dependency, and the last column indicates whether or not the respective components must be local.

Table 1-7   Java ES Product Component Dependencies

Product Components	Dependencies	Nature of Dependencies	Must be Local
Access Manager	Directory Sever	To store configuration data and enable lookup of user data	No
	J2EE web container, one of: • Application Server • Web Server	To provide web container runtime services	Yes
Access Manager SDK	Access Manger	To provide Access Manager services	No
	J2EE web container, one of: • Application Server • Web Server	To provide web container runtime services	Yes
Administration Server	Directory Server	To provide configuration directory	No
Application Server	Message Queue	To provide reliable asynchronous messaging	Yes
	Web Server (optional)	To provide load balancing between instances	No

Table 1-7   Java ES Product Component Dependencies

Product Components	Dependencies	Nature of Dependencies	Must be Local
Calendar Server	Directory Server	To store and enable lookup of user data	No
	Directory Preparation Tool	To prepare directory for use by Calendar Server	No
	Access Manager (optional)	To provide a single sign-on	No
	Messaging Server (optional)	To provide email notifications	No
	Delegated Administrator (optional)	To provision users for calendar services	No
Communications Express	J2EE web container, one of: • Application Server • Web Server	To provide web container runtime services	Yes
	Directory Server	To store and enable lookup of user data such as address books	No
	Directory Preparation Tool	To prepare directory for use by Communications Express	No
	Access Manager or Access Manager SDK	To provide authentication and authorization services, single sign-on	Yes
	Messaging Server	To provide web-based access to messaging	No
	Calendar Server	To provide web-based access to calendaring	No

Table 1-7   Java ES Product Component Dependencies

Product Components	Dependencies	Nature of Dependencies	Must be Local
Delegated Administrator	J2EE web container, one of: • Application Server • Web Server	To provide web container runtime services	Yes
	Directory Server	To store user data	No
	Directory Preparation Tool	To prepare directory for use by Delegated Administrator	No
	Access Manager or Access Manager SDK	To provide API needed for user provisioning	Yes
Directory Preparation Tool	Directory Server	To provide user/group directory that it is preparing for use by communications components	Yes
Directory Proxy Server	Administration Server	To configure Directory Proxy Server	No
	Directory Server	To provide access to Directory	No
Directory Server	Administration Server	To provide Directory Server	No
Instant Messaging	J2EE web container, one of: • Application Server • Web Server	To provide web container runtime services	Yes
	Directory Server	To provide access to a directory	No
	Access Manager (optional)	To provide a sign on	No
Message Queue	None		

Table 1-7   Java ES Product Component Dependencies

Product Components	Dependencies	Nature of Dependencies	Must be Local
Messaging Server Store MTA MMP MEM	Directory Server	To store configuration data and enable lookup of user data	No
	Administration Server	To store configuration data in Directory Server configuration directory	Yes
	Directory Preparation Tool	To prepare directory for use by Messaging Server	No
	Access Manager (optional)	To provide a sign-on	No
	Delegated Administrator	To provision users for messaging services	No
Portal Server	J2EE web container, one of: • Application Server • Web Server	To provide web container runtime services	Yes
	Directory Server	To store configuration data and enable lookup of user profiles	No
	Access Manager or Access Manager SDK	To provide authentication and authorization services, single sign-on	Yes
	Communications Express	To provide messaging and calendar channels	No
Portal Server Secure Secure Access	Portal Server	To provide access to portal	Yes
	Access Manager or Access Manager SDK	To provide authentication and authorization services, single sign-on	Yes
Web Server	None		

General Sequencing Guidelines

The factors discussed in the previous sections can all impact which Java ES components you plan to upgrade as well as the order in which you upgrade them. These factors also influence your approach to upgrading Java ES components that are deployed across multiple computers. The specific impact of all these factors depends on your deployment architecture.

Nevertheless a few general sequencing guidelines apply, though not in every case. The following list provides the order in which Java ES components can be successfully upgraded on a single computer or in a deployed system. When performing an upgrade, simply omit those components that are not part of your deployment architecture.

NOTE   The chapters in this Upgrade Guide are arranged according to the order you would normally upgrade Java ES components, as indicated by these sequencing guidelines.

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1. **Shared Components** (See Chapter 2, "Upgrading Java ES Shared Components" on page 39.)

   Shared components should generally be upgraded before the components which depend on them.

2. **Directory Server and Administration Server** (See Chapter 3, "Directory Server and Administration Server" on page 41.)

   Many components store user data or configuration data in Directory Server, so upgrades to Directory Server should generally be performed before upgrading the components that have runtime or configuration dependencies on Directory Server.

3. **Directory Proxy Server** (See Chapter 4, "Directory Proxy Server" on page 51.)

   Directory Proxy Server has a hard upgrade dependency on Directory Server and Administration Server and is therefore upgraded after Directory Server and Administration Server. Other components might access Directory Server through Directory Proxy Server.

4. **Web Server** (See Chapter 5, "Web Server" on page 61.)

   A number of Java ES components require the support of a web container, which, if upgraded, should be upgraded before the components requiring web container services. Normally web container services are provided by Web Server, but if your architecture contains both, upgrade Web Server first.

5. **Message Queue** (See Chapter 6, "Message Queue" on page 67.)

   Message Queue, if upgraded, is best upgraded before Application Server, which requires Message Queue to be Java 2 Enterprise Edition (J2EE) compliant.

6. **High Availability Session Store** (See Chapter 7, "High Availability Session Store" on page 77.)

   High Availability Session Store, if upgraded, is best upgraded before Application Server, which requires High Availability Session Store for high availability.

7. **Application Server** (See Chapter 8, "Application Server" on page 83.)

   Application Server depends on Web Server for its load balancing plug in, so if you are using that capability, Application Server should be upgraded after Web Server.

8. **Access Manager** (See Chapter 9, "Access Manager" on page 91.)

   Access Manager plays a central role in authentication and authorization, including single sign-on, and, if upgraded, should be upgraded before the components that depend on it for those services. In addition, Access Manager requires specific Directory Server schema (Schema 2), which affects how other components use Directory Server.

9. **Directory Preparation Tool** (See Chapter 10, "Directory Preparation Tool" on page 105.)

   Directory Preparation Tool depends on the Directory Server schema and should therefore be run against Directory Server. If upgrading Directory Preparation Tool, it should be upgraded before you upgrade the communications components that depend on Directory Preparation Tool to make changes in the directory: Messaging Server and Calendar Server.

10. **Messaging Server** (See Chapter 11, "Messaging Server" on page 111.)

    Messaging Server, if upgraded, should be upgraded only after the preceding upgrades.

11. **Calendar Server** (See Chapter 12, "Calendar Server" on page 121.)

    Calendar Server, if upgraded, should be upgraded after Messaging Server since some of its functions require Messaging Server support.

12. **Communications Express** (See Chapter 13, "Communications Express" on page 129.)

    Communications Express, if upgraded, depends on many of the preceding components (Calendar Server, Messaging Server, Directory Preparation Tool, Access Manager, Web Server, and Directory Server) and, if upgraded, should be upgraded after them.

13. **Instant Messaging** (See Chapter 14, "Instant Messaging" on page 139.)

    Instant Messaging, if upgraded, can be upgraded at almost any point after Access Manager has been upgraded.

14. **Portal Server** (See Chapter 15, "Portal Server" on page 147.)

    Portal Server, like Communications Express, depends on many of the preceding components, but in particular, it depends on Communications Express to provide messaging and calendar channels, and, if upgraded, should therefore be upgraded after Communications Express

15. **Portal Server Secure Remote Access** (See Chapter 16, "Portal Server Secure Remote Access" on page 157.)

    Portal Server Secure Remote Access, if upgraded, can be upgraded anytime after Portal Server has been upgraded.

16. **Delegated Administrator** (See Chapter 17, "Delegated Administrator" on page 165.)

    Delegated Administrator, if upgraded, can be upgraded and used to provision users any time after Directory Preparation Tool has been upgraded and run against Directory Server. By convention, users are provisioned after other services have been upgraded and started, however, Delegated Administrator can be upgraded before upgrading the communications components that depend on Delegated Administrator for provisioning users.

Upgrading Java ES Shared Components

This chapter provides information on upgrading shared components for Sun Java™ Enterprise System (Java ES) 2005Q4 release.This chapter contains the following sections:

- Upgrade Plan for Shared Components
- General Upgrade Procedure

Upgrade Plan for Shared Components

You are provided with a single patch which contains the patch for all the above specified shared components.

Selective Upgrade is not possible with this Shared Component patch. All the shared components which are installed on the computer will be upgraded. If any additional product components are installed after installing the patch, the shared components patch needs to be run again for upgrading the additional shared components.

General Upgrade Procedure

To upgrade the JES3 shared components to JES4 shared components, follow the steps below,

1. Stop all the services for the product components installed on the computer.

2. Run the `<Patch-id>.exe` for installing the Patch.

3. Start the services which are stopped earlier.

Directory Server and Administration Server

This chapter describes how to upgrade Directory Server and Administration Server components to Java ES Release 4 (2005Q4). These upgrades are documented together because the two components work closely together.

The chapter provides a general overview of upgrade issues and procedures for the different upgrade paths supported by Java ES Release 4. The chapter covers the following:

- Overview of Directory Server and Administration Server Upgrades

- Upgrading Directory Server and Administration Server from Java ES Release 3

Overview of Directory Server and Administration Server Upgrades

This section describes the following general aspects of Directory Server and its associated Administration Server component that impact upgrading to Java ES Release 4:

- About Java ES Release 4

- Java ES Release 4 Upgrade Roadmap

- Directory Server and Administration Server Data

- Compatibility Issues

- Dependencies

About Java ES Release 4

Java ES Release 4 versions of Directory Server and Administration Server represent only minor bug fixes and improvements. There are no new functional capabilities.

Java ES Release 4 Upgrade Roadmap

Table 3-1 shows the supported Directory Server and Administration Server upgrade path to Java ES Release 4.

Table 3-1   Upgrade Paths to Java ES Release 4 Directory Server and Administration Server

Java ES Release	Directory Server and Administration Server Version	General Approach	Re-configuration Required as Part of Upgrade
Release 3	Sun Java System Directory Server 5 2005Q1 Sun Java System Administration Server 5 2005Q1	Direct Upgrade: Apply patches and re-configure configuration directory	Automatic re-configuration of data in configuration directory

Directory Server and Administration Server Data

Directory Server and Administration Server make use of Directory Server itself for storing configuration data. The data is stored in a specific tree structure within the directory. The Directory Server instance hosting the configuration is referred to as the configuration directory.

The configuration directory can be a dedicated Directory Server instance, which is a recommended security practice, or it can also host user identity data or service configuration data. The configuration directory can reside on the same computer as other Directory Server instances and the Administration Server; however in most deployment architectures, the configuration directory is remote from the other components that use it to store configuration information.

The following table shows the type of data that could be impacted by an upgrade of Directory Server and Administration Server, software.

Table 3-2   Directory Server and Administration Server

Type of Data	Location	Usage
Directory Server configuration data	Configuration directory	Configuration of Directory Server

Table 3-2   Directory Server and Administration Server

Type of Data	Location	Usage
Administration Server configuration data	Configuration directory	Configuration of Administration Server

Compatibility Issues

Release 4 Directory Server and Administration Server do not introduce any interface changes. These components are, as a group, backwardly compatible with earlier versions. However, any one of these components is not backwardly compatible with earlier versions of the others; all need to be upgraded as a unit.

Dependencies

Dependencies on other Java ES components can impact the procedure for upgrading and re-configuring Directory Server and Administration Server software. Each of these components has dependencies on Java ES components as follows:

Directory Server. Directory Server has dependencies on specific Java ES shared components (see Table 1-6 on page 28). Directory Server has a dependency on Administration Server, which is used to configure Directory Server replication and other aspects of Directory Server functions.

Administration Server. Administration Server (and the Administration Console user interface) has dependencies on specific Java ES shared components (see Table 1-6 on page 28). Administration Server has a dependency on Directory Server (specifically a configuration directory) where it stores configuration data.

Upgrading Directory Server and Administration Server from Java ES Release 3

This section includes information about upgrading Directory Server, Administration Server from Java ES Release 3 to Java ES Release 4. The section covers the following topics:

*   Introduction

*   Directory Server and Administration Server Upgrade

Introduction

When upgrading Java ES Release 3 Directory Server and Administration Server to Release 4, consider the following aspects of the upgrade process:

- **General Upgrade Approach.** The upgrade is performed by applying patches to the Release 3 version. Re-configuration of Directory Server and Administration Server are achieved by synchronizing the configuration directory with the upgraded software.

- **Upgrade Dependencies**. While Directory Server and Administration Server have dependencies on a number of Java ES shared components (see Table 1-6 on page 28), Release 4 Directory Server and Administration Server are compatible with the Release 3 versions of these shared components. Upgrade of these shared components is therefore optional with respect to upgrade of Directory Server and Administration Server to Release 4.

  Directory Server has a hard upgrade dependency on Administration Server. Both these components should therefore be upgraded together to Release 4.

- **Backward Compatibility**. Release 4 Directory Server and Administration Server, are backwardly compatible with their Release 3 versions.

- **Upgrade Rollback.** A rollback of the Release 4 upgrade is achieved by removing the Release 4 upgrade patches and re-synchronizing the configuration directory with the previous software state.

Directory Server and Administration Server Upgrade

This section describes how to perform an upgrade of Directory Server and Administration Server from Java ES Release 3 to Java ES Release 4. The section covers the following topics:

- Pre-Upgrade Tasks

- Upgrading Directory Server and Administration Server

- Verifying the Upgrade

- Post-Upgrade Tasks

- Rolling Back the Upgrade

Pre-Upgrade Tasks

Before you upgrade Directory Server and Administration Server you should perform the tasks described below.

Verify Current Version Information

You can verify the current version of Directory Server and associated components by restarting the Directory Server service using `restart-slapd.bat`

1. Go to `<Server-Root>\slapd-<hostname>`

2. Run `restart-slapd.bat`

3. Check the startup messages in the Directory Server error log:

   `<Server-Root>\slapd-<hostname>\logs\errors`

Table 3-3   Directory Server Version Verification Outputs

Java ES Release	Directory Server Version Number
Release 3	Sun Java™ System Directory Server/5.2_Patch_3
Release 4	Sun Java™ System Directory Server/5.2_Patch_4

Upgrade Directory Server and Administration Server Dependencies

It is generally recommended that all Java ES components on a computer system (and in a computing environment) be upgraded to Java ES Release 4. However, because Directory Server and Administration Server do not require upgrading Release 3 shared components, this task is optional.

Back Up Directory Server Data

The Directory Server and Administration Server, upgrade process modifies configuration directory data. Therefore, before you upgrade, it is recommended that you back up your configuration directory data using the Directory Server Console or a command-line utility such as `db2bak`.

Obtain Required Configuration Information and Passwords

You should know the Directory Server administrator user ID and password for your currently installed version.

Upgrading Directory Server and Administration Server

This section discusses considerations that impact the upgrade procedure for Directory Server and Administration Server, followed by a description of the procedure itself.

Upgrade Considerations

The upgrade of Directory Server and Administration Server software to Java ES Release 4 takes into account the following considerations:

- Any Java ES components using a Directory Server instance (such as Access Manager, Communications Express, Messaging Server, Portal Server, and so forth) should be shut down before you upgrade that instance. However, most deployment architectures use multiple instances of Directory Server to provide high availability or scalability. In such cases, you can perform a rolling upgrade of Directory Server and the Directory Server clients need not be shut down.

- The upgrade of these components must be done in the following sequence: Administration Server and then Directory Server. This sequence is because the re-configuration data must take place in a particular order.

- The component being upgraded must be shut down when patches are being applied, however the associated configuration directory must subsequently be running to re-configure the component being upgraded.

- In a deployment architecture in which there are multiple instances of Directory Server running on a single computer (all corresponding to the same installed Directory Server image), upgrading the Directory Server image will upgrade all the instances. In such architectures, there is only one Administration Server instance per installed Directory Server image.

- In many deployment architectures the configuration directory is a separate Directory Server instance. It might be local or on a different computer system from where the upgrade is being performed. Similarly, the Administration Server might be local or on a different computer system from where the upgrade of Directory Server is being performed.

- In some deployment architectures Directory Server has been installed standalone by deselecting Administration Server at installation time. In that case, however, the Administration Server upgrade procedure must still be performed, in addition to the Directory Server upgrade procedure, as described in the instructions that follow.

- The Release 4 upgrade patches are shown in the Table 1-3:

Upgrade Procedure

The procedure documented below applies to Directory Server and Administration Server instances residing locally on the computer where the upgrade is taking place.

1. Obtain the required patches, based on Table 1-3.

   Patches can be downloaded from:

   http://sunsolve.sun.com

2. Stop the Administration Console if it is running locally.

3. Shut down all Java ES components dependent on the Directory Server and Administration Server instances that are to be upgraded. This step might depend on how these components are replicated within your deployment architecture.

   Components should be shut down in the following order:

   ❍ Directory Server clients: Access Manager, Communications Express, Messaging Server, Portal Server, and others

   ❍ Directory Proxy Server

   For information about how to shut down a Java ES component, see its respective administration guide.

4. Make sure you have upgraded any Java ES components upon which Directory Server and Administration Server have hard upgrade dependencies (see Upgrade Directory Server and Administration Server Dependencies).

5. Upgrade Administration Server.

   You need to perform this step even if Directory Server had originally been installed in standalone mode on the computer where the upgrade is taking place.

   a. Run the `prepatch.pl` before executing the patch:

      ```
      perl prepatch.pl <Server-Root>
      ```

   b. Apply the patch by double-clicking the `<Patch-id>.exe`

   c. After applying the patch, run the following

      ```
      perl postpatch.pl <Server-Root> <Admin id> <Admin Password>
      ```

6. Upgrade Directory Server.

     a. If you are running Directory Server in standalone mode, without Administration Server, perform the following procedure, otherwise proceed directly to Step 6b.

        I. Change directory to the `serverroot` directory.

        II. Create a configuration directory:

```
admin-serv\config under <Server-Root>
```

        III. Create an `adm.config` file:

        IV. Add the following text

```
isie: cn=Administration Server, cn=Server Group, cn=hostname,
ou=administration_domain, o=NetscapeRoot
```

All on one line where *hostname* is the fully qualified Directory Server host name and *administration_domain* is typically the host's domain name.

     b. Run the prepatch.pl before executing the patch:

```
perl prepatch.pl <Server-Root>
```

     c. Apply the patch by double-clicking the `<Patch-id>.exe`.

     d. After applying the patch, run the following:

```
perl postpatch.pl <Server-Root> <Admin id> <Admin Password>
```

7. Restart all Java ES components in the reverse order they were shut down in .

    ❍ Directory Proxy Server

    ❍ Directory Server clients: Access Manager, Communications Express, Messaging Server, Portal Server, and others.

Verifying the Upgrade

You can verify successful upgrade of Directory Server and associated components by restarting the Directory Server service using `restart-slapd.bat`

1. Go to `<Server-Root>\slapd-<hostname>`

2. Run `restart-slapd.bat`

3. Check the startup messages in the Directory Server error log:

```
<Server-Root>\slapd-<hostname>\logs\errors
```

See for output values.

Post-Upgrade Tasks

There are no post-upgrade tasks beyond the steps described in Upgrade Procedure.

Rolling Back the Upgrade

This section describes considerations that impact the upgrade rollback procedure for Directory Server and Administration Server followed by the procedure itself.

Rollback Considerations

The procedure for rolling back the upgrade to Release 4 of Directory Server and Administration Server is pretty much the reverse of the procedure for upgrading to Release 4. The patches are removed and the configuration directory is re-synchronized.

One special consideration is that when you apply patches, you upgrade the SSL certificate database to a cert8 format. The patch backs up the cert7 data, and then converts it to cert8 format. If you subsequently decide to roll back the upgrade and have added new certificates to the certificate database, you should manually extract these certificates, back out the patches, and then add the certificates back to the previous cert7 format certificate database.

When you roll back an upgrade after having changed the SSL certificate database, you cannot start in SSL mode. To work around this problem, turn off SSL mode, restart Administration Server, Directory Server or Directory Proxy Server, reinstall the certificate, and then enable SSL mode.

Rollback Procedure

1. Stop the Administration Console if it is running locally.

2. Shut down all Java ES components dependent on the Directory Server and Administration Server instances that are to be rolled back. This step depends on how these components are replicated within your deployment architecture.

   Components should be shut down in the following order:

   ❍ Directory Server clients: Access Manager, Communications Express, Messaging Server, Portal Server, and others

   ❍ Directory Proxy Server

3. Roll back the Directory Server upgrade.

   a. Run `prebackout.pl` before uninstalling the patch

      `perl prebackout.pl <Server-Root> <Admin-id> <Admin-Password>`

   b. Remove the patch by running `Uninstall_<Patch-id>.bat`

      c. Run `postbackout.pl` after removing the patch

         `perl postbackout.pl <Server-Root>`

4. Roll back the Administration Server upgrade.

      a. Run `prebackout.pl` before uninstalling the patch

         `perl prebackout.pl <Server-Root>`

      b. Remove the patch by running `Uninstall_<Patch-id>.bat`

      c. Run `postbackout.pl` after removing the patch

         `perl postbackout.pl <Server-Root> <Admin id> <Admin Password>`

5. Roll back upgrades to any Java ES components upon which Directory Server and Administration Server have hard upgrade dependencies.

6. Restart all Java ES components in the reverse order they were shut down in Step 2.

    ❍   Directory Proxy Server

    ❍   Directory Server clients: Access Manager, Communications Express, Messaging Server, Portal Server, and others

Directory Proxy Server

This chapter describes how to upgrade Directory Proxy Server from previous Java ES versions to Java ES 2005Q4 (Release 4): Sun Java System Directory Proxy Server 5 2005Q4.

The chapter provides a general overview of upgrade issues and procedures for the different upgrade paths supported by Java ES Release 4. The chapter covers the following:

- "Overview of Directory Proxy Server Upgrades" on page 51

- "Upgrading Directory Proxy Server from Java ES Release 3" on page 53

NOTE   File locations in this chapter are specified with respect to a directory path referred to as *Server_Root*. At least part of this path might have been specified as an installation directory when Directory Proxy Server was initially installed and configured. If not, a default value was assigned.

The default value of *Server_Root* is `<INSTALL_DIR>/Server_Root`.

Overview of Directory Proxy Server Upgrades

This section describes the following general aspects of Directory Proxy Server that impact upgrading to Java ES 2005Q4 (Release 4):

- About Java ES Release 4

- Java ES Release 4 Upgrade Roadmap

- Directory Proxy Server Data

- Compatibility Issues

- Dependencies

About Java ES Release 4

Java ES Release 4 Directory Proxy Server represents only minor bug fixes and improvements. There are no new functional capabilities.

Java ES Release 4 Upgrade Roadmap

Table 4-1 shows the supported Directory Proxy Server upgrade paths to Java ES Release 4.

Table 4-1   Upgrade Paths to Java ES Release 4:
Sun Java System Directory Proxy Server 5 2005Q4

Java ES Release	Directory Proxy Server Version	General Approach	Re-configuration Required
Release 3	Sun Java System Directory Proxy Server 5 2005Q1	Direct upgrade: Apply patches and re-configure configuration directory.	Automatic re-configuration of data in configuration directory

Directory Proxy Server Data

Directory Proxy Server makes use of Directory Server for storing configuration data. The data is stored in a specific tree structure within the directory. The Directory Server instance hosting the configuration is referred to as the configuration directory.

In most deployment architectures, the configuration directory is remote from the other components that use it to store configuration information.

The following table shows the type of data that could be impacted by an upgrade of Directory Proxy Server software.

Table 4-2   Directory Proxy Server Data Usage

Type of Data	Location	Usage
Directory Proxy Server configuration data	Configuration directory	Configuration of Directory Proxy Server

Compatibility Issues

Java ES Release 4 Directory Proxy Server does not introduce any interface changes and is backwardly compatible with earlier versions.

Dependencies

Dependencies on other Java ES components can impact the procedure for upgrading and re-configuring Directory Proxy Server software. Directory Proxy Server has dependencies on specific Java ES shared components (see Table 1-6 on page 28). Directory Proxy Server provides front-end access to Directory Server and uses Administration Server for configuration purposes. Directory Proxy Server therefore has dependencies on both Directory Server and Administration Server.

Upgrading Directory Proxy Server from Java ES Release 3

This section includes information about upgrading Directory Proxy Server from Java ES 2005 Q1 (Release 3) to Java ES 2005Q4 (Release 4). The section covers the following topics:

- Introduction
- Directory Proxy Server Upgrade

Introduction

When upgrading Java ES Release 3 Directory Proxy Server to Release 4, consider the following aspects of the upgrade process:

- **General Upgrade Approach**. The upgrade is performed by applying patches to the Java ES Release 3 version. Re-configuration of Directory Proxy Server is achieved by automatically synchronizing the configuration directory with the upgraded software.

- **Upgrade Dependencies**. While Directory Proxy Server has dependencies on a number of Java ES shared components (see Table 1-6 on page 28), Java ES Release 4 Directory Proxy Server is compatible with the Release 3 versions of these shared components. Upgrade of these shared components is therefore optional with respect to upgrade of Directory Proxy Server to Release 4.

  Directory Proxy Server has a hard upgrade dependency on both Directory Server and Administration Server. All three components should therefore be upgraded together to Release 4.

- **Backward Compatibility.** Release 4 Directory Proxy Server is backwardly compatible with its Release 3 version.

- **Upgrade Rollback.** A rollback of the Release 4 upgrade is achieved by removing the Release 4 upgrade patches and re synchronizing the configuration directory with the previous software state.

Directory Proxy Server Upgrade

This section describes how to perform an upgrade of Directory Proxy Server from Java ES Release 3 to Java ES Release 4. The section covers the following topics:

- Pre-Upgrade Tasks

- Upgrading Directory Proxy Server

- Verifying the Upgrade

- Post-Upgrade Tasks

- Rolling Back the Upgrade

Pre-Upgrade Tasks

Before you upgrade Directory Proxy Server, you should perform the tasks described below.

Verify Current Version Information

You can verify the current version of Directory Proxy Server using the following commands:

```
cd <Server_Root>/bin/dps/server/bin

ldapfwd -v
```

The output is shown in the following table:

Table 4-3   Directory Proxy Server Version Verification Outputs

Java ES Release	Directory Proxy Server Version Number
Release 3	Sun ONE Directory Proxy Server Version 5.2_Patch_3
Release 4	Sun ONE Directory Proxy Server Version 5.2_Patch_4

Upgrade Directory Proxy Server Dependencies

It is generally recommended that all Java ES components on a computer system (and in a computing environment) be upgraded to Java ES Release 4.

Directory Proxy Server has hard upgrade dependencies on Directory Server and Administration Server, even when they run on remote computers, so these components should be upgraded before upgrading Directory Proxy Server.

Upgrading of Java ES Release 3 shared components upon which Directory Proxy Server depends is optional, but recommended.

You can upgrade Directory Proxy Server dependencies in the following order, all before you upgrade Directory Proxy Server. You can skip any that might already have been upgraded.

- **Shared Components**. Instructions for upgrading Java ES shared components to Release 4 are provided in Chapter 2, "Upgrading Java ES Shared Components" on page 39.

- **Directory Server**. Instructions for upgrading Directory Server to Release 4 are provided in Chapter 3, "Directory Server and Administration Server" on page 41.

Back Up Directory Server Data

The Directory Proxy Server upgrade process modifies configuration directory data. Therefore, before you upgrade, it is recommended that you back up your configuration directory data using the Directory Server Console or a command-line utility such as db2bak.

For more information about backing up Directory Server, see the *Sun Java System Directory Server Administration Guide* (http://docs.sun.com/doc/817-7613).

Obtain Required Configuration Information and Passwords

Directory Proxy Server must run as the same user and group as Directory Server and Administration Server.

Upgrading Directory Proxy Server

This section discusses considerations that impact the upgrade procedure for Directory Proxy Server followed by a description of the procedure itself.

Upgrade Considerations

The upgrade of Directory Proxy Server software to Java ES Release 4 takes into account the following considerations:

- Any Java ES components using a Directory Proxy Server instance (such as Access Manager, Communications Express, Messaging Server, Portal Server, and so forth) should be shut down before you upgrade that instance. However, many deployment architectures use multiple instances of Directory Proxy Server to provide high availability or scalability. In such cases, you can perform a rolling upgrade of Directory Proxy Server and the Directory Proxy Server clients need not be shut down.

- The upgrade of Directory Proxy Server should only be performed after the upgrade of Administration Server and Directory Server because re-configuration must take place in a particular order.

- Directory Proxy Server must be shut down when patches are being applied, however the associated configuration directory must be running to perform re-configuration.

- In a deployment architecture in which there are multiple instances of Directory Proxy Server running on a single computer (all corresponding to the same installed Directory Proxy Server image), upgrading the Directory Proxy Server image will upgrade all the instances. In such architectures, there is only one Administration Server instance per installed Directory Proxy Server image.

- The Release 4 Directory Proxy Server upgrade patches are shown in Table 1-3.

Upgrade Procedure

The procedure documented below applies to Directory Proxy Server instances residing locally on the computer where the upgrade is taking place.

1. Obtain the required patches, based on Table 1-3.

   Patches can be downloaded from:

   http://sunsolve.sun.com

2. Stop the Administration Console if it is running locally.

3. Shut down all Java ES components dependent on the Directory Proxy Server instances that are to be upgraded. This step might depend on how Directory Proxy Server is replicated within your deployment architecture.

   For information about how to shut down a Java ES component, see its respective administration guide.

4. Make sure you have upgraded any Java ES components upon which Directory Proxy Server has hard upgrade dependencies (see "Upgrade Directory Proxy Server Dependencies" on page 55).

5. Upgrade Directory Proxy Server.

   a. Ensure that the configuration directory is running.

      If it is local you might have to start it up. If it is remote, check to make sure it is running.

   b. Run the prepatch.pl before executing the patch:

      perl prepatch.pl <Server-Root>

   c. Apply the patch by double-clicking the <Patch-id>.exe

   d. After applying the patch, run the following:

      perl postpatch.pl<Server_Root> <Admin id> <Admin Password>

6. Restart Directory Proxy Server and all Java ES components dependent on Directory Proxy Server.

   To restart Directory Proxy Server:

   <Server_Root>\dps-*hostName*\restart-dps.bat

Verifying the Upgrade

You can verify successful upgrade of Directory Proxy Server using the following commands:

cd <*Server_Root*\bin\dps\server\bin

ldapfwd -v

See Table 5-3 on page 126 for output values.

Post-Upgrade Tasks

There are no post-upgrade tasks beyond the steps described in "Upgrade Procedure" on page 56.

Rolling Back the Upgrade

This section describes considerations that impact the upgrade rollback procedure for Directory Proxy Server, followed by the procedure itself.

Rollback Considerations

The procedure for rolling back the upgrade to Release 4 of Directory Proxy Server is pretty much the reverse of the procedure for upgrading to Release 4. The patches are removed and the configuration directory is re-synchronized.

One special consideration is that when you apply patches, you upgrade the SSL certificate database to a cert8 format. The patch backs up the cert7 data, and then converts it to cert8 format. If you subsequently decide to roll back the upgrade and have added new certificates to the certificate database, you should manually extract these certificates, back out the patches, and then add the certificates back to the previous cert7 format certificate database.

When you roll back an upgrade after having changed the SSL certificate database, you cannot start in SSL mode. To work around this problem, turn off SSL mode, restart Administration Server and Directory Proxy Server, reinstall the certificate, and then enable SSL mode.

Rollback Procedure

1. Stop the Administration Console if it is running locally.

2. Shut down all Java ES components dependent on the Directory Proxy Server instances that are to be upgraded. This step might depend on how Directory Proxy Server is replicated within your deployment architecture.

   For information about how to shut down a Java ES component, see its respective administration guide.

3. Roll back the Directory Proxy Server upgrade.

   a. Ensure that the configuration directory is running.

      If it is local you might have to start it up. If it is remote, check to make sure it is running.

   b. Run the `prebackout.pl` before uninstalling the patch:

      ```
      perl prebackout.pl <Server-Root>
      ```

    c. Remove the patch by running the `Uninstall_<Patch-id>.bat`

    d. Run `postbackout.pl` after removing the patch.

```
perl postbackout.pl <Server-Root> <Admin id> <Admin Password>
```

4. Roll back upgrades to any Java ES components upon which Directory Proxy Server has hard upgrade dependencies, in particular Directory Server and Administration Server.

5. Restart Directory Proxy Server and all Java ES components dependent on Directory Proxy Server.

Web Server

This chapter describes how to upgrade Web Server software from previous Java ES versions to Java ES 2005Q4 Release 4: Web Server 6.1 2005Q4 SP5.

The chapter provides a general overview of upgrade issues and procedures for the different upgrade paths supported by Java ES Release 4. The chapter covers the following:

- Overview of Web Server Upgrades
- Upgrading Web Server from Java ES Release 3

NOTE	File locations in this chapter are specified with respect to a directory path referred to as *web_svr_base*. At least part of this path might have been specified as an installation directory when Web Server was initially installed. If not, the Java ES installer assigned a default value.
	The default value of *web_svr_base* is `WindowsVolume\Sun\WebServer.`

Overview of Web Server Upgrades

This section describes the following general aspects of Web Server that impact upgrading to Java ES Release 4:

- About Java ES Release 4 Web Server
- Web Server Upgrade Roadmap
- Web Server Data
- Compatibility Issues

- [Web Server Dependencies](#)

About Java ES Release 4 Web Server

Java ES Release 4 versions of Web Server represents a number of bug fixes, including security fixes that depend upon the NSS shared component.

For details, see the appropriate release notes.

Web Server Upgrade Roadmap

Table 5-1 shows the supported Web Server upgrade paths to Java ES Release 4.

Table 5-1   Upgrade Paths to Java ES Release 4 Web Server 6.1 2005Q4 SP5

Java ES Release	Web Server Version	General Approach	Re-configuration Required
Release 3	Sun Java System Web Server 6 2005Q1 Update 1 SP 5	Direct Upgrade: Apply patches.	None

Web Server Data

The following table shows the type of data that could be impacted by an upgrade of Web Server software.

Table 5-2   Web Server Data Usage

Type of Data	Location	Usage
Configuration data	*web_svr_base*/https-*instanceName*/config/obj.conf and other files in the same directory	Configuration of Web Server instance

Compatibility Issues

Release 4 Web Server does not introduce any interface changes and is backwardly compatible with earlier versions.

Web Server Dependencies

Web Server has no dependencies on other Java ES components other than on Java ES shared components (see Table 1-6 on page 28).

Upgrading Web Server from Java ES Release 3

This section includes information about upgrading Web Server from Java ES Release 3 to Java ES Release 4. The section covers the following topics:

- Introduction
- Web Server Upgrade

Introduction

When upgrading Java ES Release 3 Web Server to Release 4, consider the following aspects of the upgrade process:

General Upgrade Approach. The upgrade is performed by applying patches to the Release 3 version. No re-configuration of Web Server is required in upgrading from Java ES Release 3 Web Server to Release 4.

Upgrade Dependencies. While Web Server has dependencies on a number of Java ES shared components (see Table 1-6 on page 28), Release 4 Web Server requires only that NSS be upgraded to Release 4. Upgrade of other shared components is optional with respect to upgrade of Web Server to Release 4.

Backward Compatibility. Release 4 Web Server is backwardly compatible with the Release 3 version.

Upgrade Rollback. Rollback of the Release 4 upgrade to Release 3 is achieved by removing the patches applied during the upgrade.

Web Server Upgrade

This section describes how to perform an upgrade of Web Server from Java ES Release 3 to Java ES Release 4. Where a topic depends on platform-specific procedures, the topic will indicate the operating system to which it applies. The section covers the following topics:

- Pre-Upgrade Tasks

- Upgrading Web Server

- Verifying the Upgrade

- Post-Upgrade Tasks

- Rolling Back the Upgrade

Pre-Upgrade Tasks

Before you upgrade Web Server you should perform the tasks described below.

Verify Current Version Information

You can verify the current version of Web Server in Web Server administration server page.

1. Go to Web Server administration page.

2. Select anyone instance.

3. Click Manage.

    The resulted page shows the status of the instance.

4. Click "About this Server" to know the current version of Web Server.

Table 5-3   Web Server Version Verification Outputs

Java ES Release	Web Server Version Number
Release 3	6.1SP4
Release 4	6.1SP5

Upgrade Web Server Dependencies

It is generally recommended that all Java ES components on a computer system (and in a computing environment) be upgraded to Java ES Release 4. However, the upgrade of Web Server to Release 4 requires only that the NSS shared component be upgraded from Release 3 to its Release 4 version before upgrading Web Server. Instructions for upgrading NSS to Release 4, or other Java ES shared components you might wish to upgrade, are provided in Chapter 2, "Upgrading Java ES Shared Components."

Back Up Web Server Data

The Web Server upgrade from Release 3 to Release 4 does not modify configuration data. There is no need to back up current data.

Obtain Required Configuration Information and Passwords

No special information about your currently installed version is needed. However you will have to log in as superuser to perform the upgrade.

Upgrading Web Server

This section discusses considerations that impact the upgrade procedure for Web Server followed by a description of the procedure itself.

Upgrade Considerations

The upgrade of Web Server software to Java ES Release 4 takes into account the following considerations:

- Any J2EE components running in an Web Server instance should be shut down before you upgrade that instance.

- All Web Server instances corresponding to the same installed Web Server image are upgraded at the same time. All such instances should be shut down when patches are being applied to the installed image.

- The Release 4 upgrade patches are shown in the Table 1-3.

Upgrade Procedure

The procedure documented below applies to all Web Server instances corresponding to the same installed Web Server image on the computer where the upgrade is taking place.

1. Obtain the required patches, based on Table 1-3.

    Patches can be downloaded from:

    http://sunsolve.sun.com

2. Log in as administrator

3. Stop all running instances of Web Server and the Administration Server.

    # web_svr_base/https-*instanceName*/stopsvr.bat

    # web_svr_base/https-admserv/stopsvr.bat

4. If not already done, upgrade the NSS shared component to Release 4 and any other shared components you wish to upgrade by running 121523.01.exe.

5. Apply the Web Server patch in Table 1-3.

    Double-click the *<patch_id>*.exe file

6. Restart the Web Server instances that were stopped in Step 3.

Verifying the Upgrade

You can verify the upgrade of Web Server to Release 4 in Web Server administration server page.

1. Go to Web Server administration page.

2. Select anyone instance

3. Click Manage.

    The resulted page shows the status of instance.

4. Click "About this Server" to know the version of the upgraded Web Server.

See Table 5-3 on page 64 for output values.

Post-Upgrade Tasks

There are no post-upgrade tasks beyond the steps described in "Upgrade Procedure" on page 65.

Rolling Back the Upgrade

This section describes considerations that impact the upgrade rollback procedure for Web Server followed by the procedure itself.

Rollback Considerations

The procedure for rolling back the upgrade to Release 4 of Web Server is pretty much the reverse of the procedure for upgrading to Release 4. The patches are removed.

Rollback Procedure

1. Log in as administrator.

2. Stop all running instances of Web Server and the Administration Server.

    # *web_svr_base/*https-*instancename*/stopsvr.bat

    # *web_svr_base/*https-admserv/stopsvr.bat

3. Remove the respective patches mentioned in Table 1-3 on page 22.

    Double-click Uninstall_<Patch-id>.bat

4. Restart the Web Server instances that were stopped in Step 2.

Message Queue

This chapter describes how to upgrade Message Queue software from previous Java ES versions to Java ES 2005 (Release 4): Sun Java System Message Queue 3 Enterprise Edition 2005Q4.

The chapter provides a general overview of Message Queue upgrade issues and procedures for the different upgrade paths supported by Java ES Release 4.This chapter covers the following:

- "Overview of Message Queue Upgrades" on page 67

- "Upgrading Message Queue from Java ES Release 3" on page 71

NOTE   Message Queue commands used in this chapter are run with respect to the directory location of executable files.

Overview of Message Queue Upgrades

This section describes the following general aspects of Message Queue that impact upgrading to Java ES 2005Q4 (Release 4):

- About Java ES Release 4 Message Queue

- Message Queue Upgrade Roadmap

- Message Queue Data

- Compatibility Issues

- Message Queue Dependencies

About Java ES Release 4 Message Queue

Java ES Release 4 Message Queue represents minor code fixes with no new features or enhancements. As such, Release 4 does not introduce any new compatibility issues (see "Compatibility Issues" on page 69).

Message Queue software includes two editions, a Platform Edition and an Enterprise Edition, each corresponding to a different feature set and licensed capacity. Enterprise edition is for deploying and running messaging applications in an enterprise production environment. Platform Edition is mainly for developing, debugging, and load testing messaging applications and components. The Platform Edition can be downloaded free from the Sun web site and is also bundled the Java ES Application Server platform. An upgrade from an earlier Java ES release version to Release 4 converts any installed Platform Edition to Enterprise Edition.

NOTE	Registry entries will still show it as platform edition as registry entries are not changed by upgrade. Upgradation will only upgrade the binaries.

Message Queue Upgrade Roadmap

Table 6-1 shows the supported Message Queue upgrade paths to Java ES Release 4.

Table 6-1   Upgrade Paths to Java ES Release 4 Message Queue 3.6 SP3 2005Q4

Java ES Release	Message Queue Version	General Approach	Re-configuration Required
Release 3	Sun Java System Message Queue 2005Q2 (3.6) Enterprise Edition only	Direct upgrade: Performed using <patchid>.exe.	None

In addition to the Java ES releases of Message Queue shown in Table 6-1, Message Queue Platform Edition is also bundled with Windows operating system software. Upgrade of the bundled versions of Message Queue to Release 4 Enterprise Edition can be performed by installing the patch.

Message Queue Data

Message Queue, like other Java ES components, makes use of various kinds of data that for any specific upgrade might need to be migrated to an upgraded version. The following table shows the type of data that could be impacted by an upgrade of Message Queue software.

Table 6-2 shows the location of data where, *InstanceName* identifies the name of the Message Queue broker instance with which the data is associated and *<WIN-P>* is the installation of MQ. e.g *<Windowsdrive>*/Sun/MessageQueue.

Table 6-2　　Message Queue Data Usage

Data Category	Location	Usage
Broker instance configuration properties	`<WIN-P>/var/instances/instanceName/props/ config.properties`	Broker and related services configurations
Persistent store for dynamic application data	`<WIN-P>/var/instances/instanceName/fs350`o r a JDBC-accessible data store	Stores messages, destinations, durable subscriptions, transactions, and other dynamic data
Administered objects (object store)	local directory of your choice or an LDAP Directory Server	Objects used to configure client/broker connections
Security: user repository	`<WIN-P>/var/instances/instanceName/etc/pa sswd` or an LDAP directory server	Stores user data used for authentication and authorization
Security: access control file (default location)	`<WIN-P>/var/instances/instanceName/etc/ accesscontrol.properties`	Sets the rules that authorize user access to destinations and related capabilities
Security: passfile directory (default location)	`<WIN-P>/var/instances/instanceName/etc/`	Stores encrypted password information.
Security: broker's keystore file location	`etc/<WIN-P>/`	Stores encrypted certificate information for secure messaging.

Compatibility Issues

Release 4 Message Queue introduces no new incompatibilities over Release 3. The following general Message Queue compatibility issues relate to versions earlier than Release 3.

Protocol Compatibility

Message Queue has a dependency on a web container to provide HTTP protocol support between Message Queue clients and broker. Due to a protocol change, when using Sun Java System Web Server to provide a web container for the Message Queue `imqhttp.war` application, you cannot upgrade the Web Server component without also upgrading Message Queue (see "Post-Upgrade Tasks" on page 74.).

Broker Compatibility

When updating to Release 4 Message Queue, consider the following:

*   You can use earlier Message Queue `config.properties` files. You can also copy them to another location and consult the property settings they contain when you configure Release 4 Message Queue brokers.

*   Any persistent Message Queue data—messages, destinations, durable subscriptions—is automatically converted, if necessary, to Release 4 Message Queue data when starting up a broker for the first time. For example, any existing destinations will be converted, if necessary, to Release 4 Message Queue destinations, preserving existing attributes and using default values of new attributes.

Administered Object Compatibility

Release 4 Message Queue administered objects are identical to Release 3 administered objects. However, some Release 3 administered objects were renamed or enhanced with new attributes with respect to earlier versions.

Administration Tool Compatibility

Because of the addition of new commands and new administrative capabilities in Release 3, the Release 4 administration tools (the Administration Console and command line utilities) only work with Release 3 and Release 4 brokers.

Client Compatibility

Release 3 clients are completely compatible with Release 4 Message Queue.

Message Queue Dependencies

Message Queue dependencies on other Java ES components can impact the procedure for upgrading and re-configuring Message Queue software. Changes in Message Queue interfaces or functions, for example, could require upgraded version of components upon which Message Queue depends. The need to upgrade such components depends upon the specific upgrade path.

Message Queue has dependencies on the following Java ES components:

*   **Shared components**. Message Queue has dependencies on specific Java ES shared components (see Table 1-6 on page 28).

*   **Directory Server (optional)**. If you want to configure Message Queue to store administered objects and/or user data in an LDAP directory rather than locally, then you can use Directory Server for that purpose.

*   **Web Container (optional)**. If you need HTTP messaging between client and broker, then Message Queue requires web container support from Java ES Web Server or from Java ES Application Server.

Upgrading Message Queue from Java ES Release 3

This section includes information about upgrading Message Queue from Java ES 2005Q1 (Release 3) to Java ES Release 4. The section covers the following topics:

*   Introduction
*   Message Queue Upgrade

Introduction

When upgrading Java ES Release 3 Message Queue to Release 4, consider the following aspects of the upgrade process:

*   **General Upgrade Approach**. The upgrade is performed using <patchid>.exe that replaces previous software packages with new ones and migrates configuration data from Release 3 automatically.

- **Upgrade Dependencies**. While Message Queue has dependencies on a number of Java ES shared components (see Table 1-6 on page 39), Release 4 Message Queue is compatible with the Release 3 versions of all these components. Upgrade of these shared components is therefore optional with respect to upgrade of Message Queue to Release 4.

  In addition, Release 4 Message Queue is optionally dependent on Directory Server and Web Server (or Application Server), as described in "Message Queue Dependencies" on page 71. However, these are soft upgrade dependencies; upgrade of these components is optional with respect to upgrade of Message Queue to Release 4.

- **Backward Compatibility**. Release 4 Message Queue is fully compatible with Release 3 (see "Compatibility Issues" on page 69).

- **Upgrade Rollback**. Message Queue binaries can be rolled back to Release 3 with uninstall_<patchid>.bat but configuration data user have to rollback manually. There is no utility for rolling back the Message Queue upgrade to Release 3. You have to remove the upgraded components and manually restore the previous version and configuration data.

Message Queue Upgrade

This section describes how to perform a Message Queue upgrade from Java ES Release 3 to Java ES Release 4:

- Pre-Upgrade Tasks
- Upgrading Message Queue
- Verifying the Message Queue Upgrade
- Post-Upgrade Tasks
- Rolling Back the Upgrade

Pre-Upgrade Tasks

Before you upgrade Message Queue, perform the procedures described in the following sections.

Verify Current Version Information

You can determine the version and edition of Message Queue installed on your system by starting the Message Queue broker with the -version option:

```
imqbrokerd -version
```

Table 6-3   Message Queue Version Verification Outputs

Java ES Release	Message Queue Version Number
Release 3	Sun Java(tm) System Message Queue 3 2005Q1 Version: 3.6
Release 4	Sun Java(tm) System Message Queue 3 2005Q4 Version: 3.6 SP3

Upgrade Message Queue Dependencies

It is generally recommended that all Java ES components on a computer system (and in a computing environment) be upgraded to Java ES Release 4. However, because Message Queue does not require upgrading the Java ES Release 3 components upon on which it depends, this task is optional.

However, if you choose to upgrade all Message Queue dependencies, they should be upgraded in the following order, all before you upgrade Message Queue. You can skip any that might already have been upgraded.

- **Shared Components**. Instructions for upgrading Java ES shared components to Release 4 are provided in Chapter 2, "Upgrading Java ES Shared Components" on page 39.

- **Directory Server (optional)**. Instructions for upgrading Directory Server to Release 4 are provided in Chapter 3, "Directory Server and Administration Server" on page 41.

- **Web Container Software (optional)**. Instructions for upgrading Web Server or Application Server are provided in Chapter 5, "Web Server" on page 61 and Chapter 8, "Application Server" on page 83, respectively.

Back Up Message Queue

There is no script for rolling back Message Queue to its pervious state. Because Release 4 data is compatible with Release 3 data, there is no reason to back up configuration data. In addition, there is no reason to back up the installed image because you can use the Release 3 installer should you need to roll back Release 4 Message Queue to Release 3.

Upgrading Message Queue

The upgrade of Message Queue software to Java ES Release 4 makes use of the mqupgrade script, which installs freshbitted packages that contain the patches shown in Table 1-3.

The upgrade procedure consists of the following steps:

1. Stop any running Message Queue client applications.

   If Message Queue is being used in an Application Server environment, shut down Application Server, as well.

2. Stop any running brokers. You will be prompted for the admin user name and password.

   ```
   imqcmd shutdown bkr [-b hostName:port]
   ```

   Also stop the Message Queue Broker service from the SCM if running.

3. If you do not want to preserve dynamic data, the Message Queue flat-file user repository, and the Message Queue access control file associated with each broker instance, remove this data using the following command.

   ```
   imqbrokerd -name instanceName -remove instance
   ```

   Otherwise, dynamic data and configuration information will be retained and used for Release 4 Message Queue.

4. Log in as Administrator.

5. Install the patch by running the executable `<Patch-id>.exe`.

Verifying the Message Queue Upgrade

After you finish the upgrade procedure, verify that it was successful by starting the Message Queue broker with the -version option.

```
imqbrokerd -version
```

The command returns the Java ES version number as well as the Message Queue-specific version number.

Post-Upgrade Tasks

If you have upgraded the web container and are using the Message Queue HTTP tunneling servlet, you may need to re-deploy it in the new web container. Otherwise, there has been no change to the HTTP tunneling servlet between Release 3 and Release 4, and you do not need to re-deploy it after upgrading Message Queue to Release 4. See the *Message Queue Administration Guide*, (http://docs.sun.com/doc/819-2571) for more information on HTTP support.

Rolling Back the Upgrade

No scripts are provided for rolling back Message Queue to its pre-upgrade state. The process must be performed manually using the following steps:

1. Stop any running Message Queue client applications.

2. Stop any running brokers. You will be prompted for the admin user name and password.

   `imqcmd shutdown bkr [-b `*`hostName:port`*`]`

   and stop the service from the SCM.

3. If you want to delete dynamic data, the Message Queue flat-file user repository, and the Message Queue access control file associated with each broker instance, remove this data using the following command.

   `imqbrokerd -name `*`instanceName`*` -remove instance`

4. Log in as administrator.

5. Run the `uninstall_<patchid>.bat`.

   It will uninstall the patch and put back the original files. But it will not put back the configuration data, dynamic data, Message Queue flat file, user repository, etc.

Upgrading Message Queue from Java ES Release 3

High Availability Session Store

This chapter describes how to upgrade High Availability Session Store to Java ES 2005Q4 (Release 4): High Availability Session Store (HADB) 4.4.2.

The chapter provides a general overview of upgrade issues before covering the different upgrade paths supported by Java ES Release 4.

- "Overview of HADB Upgrades" on page 77
- "Upgrading HADB from Java ES Release 3" on page 79

NOTE	File locations in this chapter are specified with respect to a directory path referred to as HADB-base. At least part of this path might have been specified as an installation directory when HADB was initially installed. If not, the Java ES installer assigned a default value.
	The value of HADB-base is in relation to the Application Server directory structure, as follows:
	ApplicationServer-base/hadb/*version_number*
	The default value of *HADB-base* depends on the default value of *ApplicationServer-base*:
	`<windows_drive>\Sun\Hadb`

Overview of HADB Upgrades

This section describes the following general aspects of HADB that impact upgrading to Java ES 2005Q4 (Release 4):

- About Java ES Release 4 HADB

- HADB Upgrade Roadmap

- HADB Data

- Compatibility Issues

- HADB Dependencies

About Java ES Release 4 HADB

Java ES Release 4 versions of HADB represents bug fixes to the Java ES 2005Q1 (Release 3) version.

HADB Upgrade Roadmap

Table 7-1 shows the supported HADB upgrade paths to Java ES Release 4.

Table 7-1 Upgrade Paths to Java ES Release 4: HADB 4.4.2 (2005Q4)

Java ES Release	HADB Version	General Approach	Re-configuration Required
Release 3	HADB 4.4.1 (2005Q1)	Direct upgrade: <apply patches>	None

HADB Data

The following table shows the type of data that could be impacted by an upgrade of HADB software.

Table 7-2 HADB Data Usage

Type of Data	Location	Usage
Dynamic application data	<Hadb\4.4.1-7\lib\mgt.cfg <Hadb\4.4.1-7\dbdef <Hadb\4.4.1-7\repository	High availability session store and configuration information.

Compatibility Issues

HADB provided with Java ES Release 4 is backwardly compatible with HADB provided with Java ES Release 3.

HADB Dependencies

HADB provided with Java ES Release 4 requires Java™ 2 Platform, Standard Edition (J2SE™) Version 5.0 or later.

Upgrading HADB from Java ES Release 3

This section includes information about upgrading HADB from Java ES 2005Q1 (Release 3) to Java ES 2005Q4 (Release 4). The section covers the following topics:

- Introduction
- HADB Upgrade

Introduction

When upgrading Java ES Release 3 HADB to Java ES Release 4, consider the following aspects of the upgrade process:

- **General Upgrade Approach**. Apply the patches.

- **Upgrade Dependencies**. HADB does not have any hard dependencies on other products. However, it is recommended that the products and shared components are upgraded to Java ES Release 4.

- **Backward Compatibility**. HADB provided with Java ES Release 4 is backwardly compatible with HADB provided with Java ES Release 3.

- **Upgrade Rollback**. Rollback from the Java ES Release 4 upgrade to Java ES Release 3 is achieved by restoring the Release 3 version, which is left undisturbed in a separate directory by the upgrade to Release 4.

HADB Upgrade

This section describes how to perform an upgrade of HADB from Java ES Release 3 to Java ES Release 4. The section covers the following topics:

- Pre-Upgrade Tasks

- Upgrading HADB

- Verifying the Upgrade

- Post-Upgrade Tasks

- Rolling Back the Upgrade

Pre-Upgrade Tasks

Before you upgrade HADB you should perform the tasks described below.

Upgrade HADB Dependencies

It is generally recommended that all Java ES components on a computer system (and in a computing environment) be upgraded to Java ES Release 4.

Back Up Directory Data

The HADB upgrade from Java ES Release 3 to Java ES Release 4 does not in itself modify HADB dynamic data. However, you can back up the Java ES Release 3 configuration files `oc*.cfg` files from *<Hadb>*`\Version\lib` directory for safety and rollback.

Obtain Required Configuration Information and Passwords

HADB upgrade requires you to know the superuser password.

Upgrading HADB

This section discusses considerations that impact the upgrade procedure for HADB followed by a description of the procedure itself. Follow the steps:

1. Stop the HADB service from SCM

2. Take the backup of `*.cfg` files from location *<HADB-HOME>*`\4.4.1.7\lib` for safety.

3. Execute the *<patch_id>*`.exe`, which installs the patch.

4. Check the `*.cfg` files of whose backup has been taken. If the data has been changed, then revert the `*.cfg` files to their proper locations.

5. Start the HADB service from SCM.

Verifying the Upgrade

After completing the online upgrade, verify the upgrade by using the following procedure. After verifying that the upgrade is successful, the old installation packages can be deleted.

To verify that running processes are using the upgraded HADB services, you can perform the following steps.

1. For all HADB services running, issue either of the following commands:

HADB-base/bin/ma -V

HADB-base/bin/hadbm -V

For example, on the Windows platform:

HADB-base/bin/ma -V

```
Sun Java System High Availability Database 4.4 Database Management
Agent Version : 4.4.2.7 [V4-4-2-7 2005-05-26 13:49:01 server@domain]
\(Win-2000-ix86)
```

2. Check whether the database is running by issuing the commands in the following example for a database named ExampleDB:

HADB-base/bin/hadbm status -n *databaseName*

HADB-base/bin/hadbm list

```
Database

ExampleDB
```

HADB-base/bin/hadbm status *ExampleDB*

```
Database          Status

ExampleDB         FaultTolerant
```

HADB-base/bin/hadbm status -n *ExampleDB*

```
NodeNo      HostName      Port      NodeRole      NodeState      MirrorNode

0           sungod012     15000     active        running        1

1           sungod012     15020     active        running        0
```

All HADB services for listed nodes should in the "running" state.

3. Verify that the following registry entry is created in the Windows Registry

```
<HKEY-LOCAL-MACHINE>\Software\SunMicrosystems\Entsys\installer\patc
hes\<patch id>
```

Post-Upgrade Tasks

There are no post-upgrade tasks beyond the steps described in "Upgrading HADB from Java ES Release 3" on page 79.

Rolling Back the Upgrade

To roll back the upgrade to HADB, execute the uninstall_<patchid>.bat.file.

Application Server

This chapter describes how to upgrade Application Server from previous Java ES versions to Java ES 2005Q4 (Release 4): Sun Java System Application Server Enterprise Edition 8.1 2005Q4.

The chapter provides a general overview of upgrade issues and procedures for the different upgrade paths supported by Java ES Release 4. The chapter covers the following:

NOTE   File locations in this chapter are specified with respect to a directory path referred to as ApplicationServer-base. At least part of this path might have been specified as an installation directory when Application Server was initially installed. If not, the Java ES installer assigned a default value.

The default value of ApplicationServer-base is
`<windows_drive>\Sun\ApplicationServer`

Overview of Application Server Upgrades

This section describes the following general aspects of Application Server that impact upgrading to Java ES 2005Q4 (Release 4):

* About Java ES Release 4 Application Server

* Application Server Upgrade Roadmap

* Application Server Data

- Compatibility Issues

- Application Server Dependencies

About Java ES Release 4 Application Server

Java ES Release 4 Application Server represents selected bug fixes to the Release 3 version. Functionally Release 4 Application Server is the same as Release 3.

Application Server Upgrade Roadmap

Table 8-1 shows the supported Application Server upgrade paths to Java ES Release 4.

Table 8-1   Upgrade Paths to Java ES Release 4: Sun Java System Application Server Enterprise Edition 8.1 2005Q4

Java ES Release	Application Server Version	General Approach	Re-configuration Required
Release 3	Sun Java System Application Server Enterprise Edition 8.1 2005Q1	Direct upgrade: Performed by applying patches.	None

Application Server Data

The following table shows the type of data that could be impacted by an upgrade of Application Server software.

Table 8-2   Application Server Data Usage

Type of Data	Location	Usage
Environment variables	*ApplicationServer-base*/config/asenv	Global variables
Configuration data	Release 3 & 4: *ApplicationServer-base*/domains/domainName/config	Configuration of Application Server instances
Deployment data	Release 3 & 4: *ApplicationServer-base*/domains/domainName/applications	Configuration of J2EE container for specific J2EE components and applications.

Compatibility Issues

Release 4 Application Server does not introduce any interface changes with respect to Release 3.

Application Server Dependencies

Application Server dependencies on other Java ES components can impact the procedure for upgrading and re-configuring Application Server software. Changes in Application Server interfaces or functions, for example, could require upgraded versions of components upon which Application Server depends. The need to upgrade such components depends upon the specific upgrade path.

Application Server has dependencies on the following Java ES components:

*   **Shared components**. Application Server has dependencies on specific Java ES shared components (see Table 1-6 on page 28).

*   **Message Queue.** Application Server depends on Message Queue to provide J2EE Java Message Service-compliant asynchronous messaging support.

*   **Web Container (optional)**. Application Server depends upon web container services for its optional load balancing plugin. This support can be provided either by Java ES Web Server.

*   **High Availability Session Store (optional).** Application Server depends upon High Availability Session Store to maintain session state information needed to support failover between instances.

Upgrading Application Server from Java ES Release 3

This section includes information about upgrading Application Server from Java ES 2005Q1 (Release 3) to Java ES 2005Q4 (Release 4). The section covers the following topics:

*   Introduction

*   Application Server Upgrade

Introduction

When upgrading Java ES Release 3 Application Server to Release 4, consider the following aspects of the upgrade process:

- **General Upgrade Approach**. The upgrade is performed by applying patches to the Release 3 version. No re-configuration or migration of J2EE components is required to upgrade from Release 3 Application Server to Release 4.

- **Upgrade Dependencies**. While Application Server has dependencies on a number of Java ES shared components (see Table 1-6 on page 28), Release 4 Application Server is compatible with the Release 3 versions of all these components. Upgrade of these shared components is therefore optional with respect to upgrade of Application Server to Release 4.

  In addition, Release 4 Application Server is dependent upon Release 4 Message Queue and optionally dependent on Java ES Web Server or third-party web containers, as described in "Application Server Dependencies" on page 85. However, these are soft upgrade dependencies; upgrade of these components is optional with respect to upgrade of Application Server to Release 4.

  Release 4 Application Server is also optionally dependent upon on High Availability Session Store. If being used by Application Server, High Availability Session Store should be upgraded to Release 4. Note that upgrade of High Availability Session Store automatically upgrades the J2SE shared component to Release 4.

- **Backward Compatibility**. Release 4 Application Server is backwardly compatible with the Release 3 version.

- **Upgrade Rollback**. Rollback of the Release 4 upgrade to Release 3 is achieved by removing the patches applied during the upgrade.

Application Server Upgrade

This section describes how to perform an upgrade of Application Server from Java ES Release 3 to Java ES Release 4. The section covers the following topics:

- Pre-Upgrade Tasks

- Upgrading Application Server

- Verifying the Upgrade

- Post-Upgrade Tasks

- Rolling Back the Upgrade

Pre-Upgrade Tasks

Before you upgrade Application Server you should perform the tasks described below.

Verify Current Version Information

You can verify the current version of Application Server by entering the following command:

ApplicationServer-base/`bin/asadmin version --verbose`

Table 8-3   Application Server Version Verification Outputs

Java ES Release	Application Server Version Number
Release 3	Sun Java Enterprise System Application Server Enterprise Edition 8.0.0_01
Release 4	Sun Java Enterprise System Application Server Enterprise Edition 8.1

Upgrade Application Server Dependencies

It is generally recommended that all Java ES components on a computer system (and in a computing environment) be upgraded to Java ES Release 4. However, because the upgrade of Application Server to Release 4 does not require upgrading other Release 3 components, this task is optional. If you choose to upgrade components upon which Application Server depends, those components would generally be upgraded in the following order:

- **Shared Components**. Instructions for upgrading Java ES shared components to Release 4 are provided in Chapter 2, "Upgrading Java ES Shared Components" on page 39.

- **Message Queue**. Instructions for upgrading Message Queue to Release 4 are provided in Chapter 6, "Message Queue" on page 67.

- **Web Container Software**. Instructions for upgrading Web Server or Application Server are provided in Chapter 5, "Web Server" on page 61 and Chapter 8, "Application Server" on page 83, respectively.

- **High Availability Session Store**. Instructions for upgrading High Availability Session Store are provided in Chapter 7, "High Availability Session Store" on page 77.

Back Up Application Server Data

The Application Server upgrade from Release 3 to Release 4 does not modify configuration data. There is no need to back up current data.

Obtain Required Configuration Information and Passwords

You should know the Application Server administrator user ID and password for your currently installed version.

Upgrading Application Server

This section discusses considerations that impact the upgrade procedure for Application Server followed by a description of the procedure itself.

Upgrade Considerations

The upgrade of Application Server software to Java ES Release 4 takes into account the following considerations:

Any J2EE components running in an Application Server instance should be shut down before you upgrade that instance. However, if load balancing provides for high availability or scalability, this requirement can be relaxed.

All instances of Application Server running on a single computer (all corresponding to the same installed Application Server image) must be shut down while the patch is being applied to the installed image.

In multiple node deployments, perform the upgrade procedure on each node or computer that hosts Application Server instances.

The Release 4 Application Server upgrade patches are shown in Table 1-3.

Upgrade Procedure

The procedure documented below applies to Application Server instances residing locally on the computer where the upgrade is taking place.

1. Obtain the required patches, based on Table 1-3.

   Patches can be downloaded from:

   http://sunsolve.sun.com

2. Shut down all J2EE components running in the Application Server instances that are to be upgraded.

3. Shut down all Application Server instances on the computer that is to be upgraded.

   ApplicationServer-base/bin/asadmin stop-domain *domainName*

4. Take the backup of
   `<ApplicationServer-Base>\setup\ASConfigurator.properties file`

5. Apply the appropriate Application Server patch in Table 1-3.

   `<patch_id>.exe`

6. Perform the Post-upgrade tasks

7. Restart the Application Server instance.

   ApplicationServer-base`/bin/asadmin start-domain` *domainName*

Known Issue

After installation of Application Server patch , HKLM\SOFTWARE\Sun
Microsystems\EntSys\Installer\Patches-> Application Server registry entry is not
created.

So if the user is installing any patches for products which are using Application
Server as container, then the user has to create this registry entry manually.
Procedure to create this entry is as follows:

1. Right-click on Patches. Then select New->String. Give the name as
   "ApplicationServer".

2. Right-click on Application Server registry entry, then modify and give the
   value to value data field as "121528-01".

Verifying the Upgrade

You can verify that the patch has been properly applied using the following
command:

   ApplicationServer-base`/bin/asadmin version --verbose`

See Table 8-3 on page 87 for output values.

Post-Upgrade Tasks

1. Restore the `ASConfigurator.properties` at `<ApplicationServer_base>\Setup`
   whose backup was taken before the installation of the patch

2. Add one entry `AS_MASTERPASSWD=<admin-passwd>` in the file where
   `<admin-passwd>` is the administrator password entered while installing
   Application Server or administrator password used to start the domains and
   instances.

3. Extract the `imqjmsra.jar` file `<Message_Queue>\lib\imqjmsra.rar` to
   `<Application_Server>\lib\install\applications\jmsra`.

4. Copy the `PostPatch.class` file provided with patch to
   `<Application_Server>\lib` **and give command** `java PostPatch`.

5. Add the -c option in `DASConfigure.bat` **file after the class name**
   `ASConfigurator4Windows`

   (i.e) `java -cp <classpath> com.sun.aps.config.ASConfigurator4Windows`
   `-c ASConfigurator.properties`.

Rolling Back the Upgrade

This section describes considerations that impact the upgrade rollback procedure
for Application Server followed by the procedure itself.

Rollback Considerations

The procedure for rolling back the upgrade to Release 4 of Application Server is
pretty much the reverse of the procedure for upgrading to Release 4. The patches
are removed.

Rollback Procedure

1. Shut down all J2EE components running in the Application Server instance
   that is to be upgraded.

2. Shut down the Application Server instance that is to be upgraded.

3. Remove the patches obtained from the Table 1-3.

   Run the `Uninstall_<patch id>.bat`

4. Restart the Application Server instance.

Access Manager

This chapter describes how to upgrade Access Manager software from previous Java ES versions to Java ES 2005Q4 (Release 4): Sun Java System Access Manager 7 2005Q4.

The chapter provides a general overview of Access Manager upgrade issues and procedures for the different upgrade paths supported by Java ES Release 4.

- "Overview of Access Manager Upgrades" on page 91

- "Upgrading Access Manager from Java ES Release 3" on page 96

NOTE	File locations in this chapter are specified with respect to a directory path referred to as *AccessManager-base*. At least part of this path might have been specified as an installation directory when Access Manager was initially installed. If not, the Java ES installer assigned a default value.
	The default value of *AccessManager-base* is *<install-dir>*\AccessManager.

Overview of Access Manager Upgrades

This section describes the following general aspects of Access Manager that impact upgrading to Java ES 2005Q4 (Release 4):

- About Java ES Release 4 Access Manager

- Access Manager Upgrade Roadmap

- Access Manager Data

- Compatibility Issues

- Access Manager Dependencies

NOTE	Versions of Access Manager that predated Java ES Release 3 were named Identity Server. Hence references to Identity Server in this chapter are to earlier versions of the Java ES Access Manager component.

About Java ES Release 4 Access Manager

Java ES Release 4 Access Manager has been enhanced in major ways. On the back end, the product has been re-architected to support multiple identity repositories, or user data stores. Thus Release 4 Access Manager supports not only an LDAP directory such as Directory Server, but other data storage protocols and formats as well. Release 4 Access Manager includes new interfaces and new services to support the integration of multiple identity repositories.

On the front end, a new Access Manager Console is used to configure the new Access Manager services and identity repositories.

The new functional capabilities and interfaces make Release 4 Access Manager a major new release. In order to provide backward compatibility, Release 4 can be run in legacy mode, which supports the Java ES components that depend on Release 3 Access Manager services (for more information, see ""Compatibility Issues" on page 94).

Access Manager Upgrade Roadmap

Table 9-1 shows the supported Access Manager upgrade paths to Java ES Release 4.

Table 9-1   Upgrade Paths to Java ES Release 4: Sun Java System Access Manager 7 2005Q4

Java ES Release	Access Manager Version	General Approach	Re-configuration Required
Release 3	Sun Java System Access Manager 6.3 2005Q1	Direct upgrade: Performed by removing the Release 3 version and then doing a full installation and re-configuration of Release 4.	Configuration data Customized JSPs for Access Manager console and authentication UI Directory schema

NOTE	Upgrade of Access Manager is recommended only if Access Manager only has to be upgraded and Directory Server is in Remote machine. Any other upgrade scenario is not supported.

Access Manager Data

Access Manager, like other Java ES components, makes use of various kinds of data that for any specific upgrade might need to be migrated to an upgraded version. The following table shows the type of data that could be impacted by an upgrade of Access Manager software.

Table 9-2   Access Manager Data Usage

Type of Data	Location	Usage
Configuration data	*AccessManager-base*\config\AMConfig.properties *AccessManager-base*\config\serverconfig.xml JAR files for authentication and customized modules *AccessManager-base*\lib	Configuration of Access Manager and its integration with a back-end data store

Table 9-2   Access Manager Data Usage

Type of Data	Location	Usage

Web container configuration	Web Server:
	
	`server.policy` and `server.xml` files in *<install-dir>*`\webserver\https-`***hostname***`/config`
	
	Application Server:
	
	`server.policy` and `domain.xml` files in *<install-dir>*`\ApplicationServer\domain\domain1`
	`\config`
		Configuration of Access Manager web container instance.

Customization data (Web container customized JSP files)	Admin Console: *AccessManager-base*`\web-src\applications` Authentication UI: *AccessManager-base*`\web-src\services`	Configuration of Access Manager administration interfaces.
Directory schema Services configuration User data	Directory Server	Access Manager provides authentication and authorization services for end users, based on services configuration, user, and policy data that is stored in a directory.
Dynamic application data	None	Access Manager does not persistently store application data such as session state.

Compatibility Issues

The new functional capabilities of Release 4 Access Manager involve the following new interfaces:

- Plug-ins for multiple back-end identity repositories

- New directory information tree structure for storing service configuration information so that authentication properties and authorization policies can be grouped into access control realms that can be associated with a user or group of users.

- New API for Access Manager clients

- New Access Manager Console user interface

Access Manager support for these new interfaces is enabled by configuring Access Manager to run in enhanced (Realm) mode. However, Realm mode is not compatible with the earlier Java ES Release 3 Access Manager. For example, directory data has to be migrated to support Realm mode operation. The

enhanced Access Manager Console is needed to support enhanced Access Manager services.

In addition, Realm mode does not support other Java ES components, such as Portal Server, Communications Express, Messaging Server, and others.

To support backward compatibility, Release 4 Access Manager can be configured to run in Legacy mode. With some minor exceptions (see *Sun Java System Access Manager 7 2005Q4 Release Notes* (`http://docs.sun.com/doc/819-2134`), Legacy mode is backwardly compatible with Release 3 Access Manager.

Legacy mode is necessary to support other Java ES components, as well as older versions of Access Manager policy agents, which cannot interoperate with Access Manager in Realm mode. This incompatibility is an important upgrade consideration, and means in most Java ES deployments, that Access Manager should be upgraded to Release 4 Legacy mode.

Even when configured to run in Legacy mode, however, Release 4 Access Manager is incompatible with Release 3 Delegated Administrator.

Access Manager Dependencies

Access Manager dependencies on other Java ES components can impact the procedure for upgrading and re-configuring Access Manager software. Changes in Access Manager interfaces or functions, for example, could require upgraded version of components upon which Access Manager depends. The need to upgrade such components depends upon the specific upgrade path.

Access Manager has dependencies on the following Java ES components:

- **Shared components**. Access Manager has dependencies on specific Java ES shared components (see Table 1-6 on page 39). Access Manager upgrades might depend upon upgraded versions of these shared components.

- **Web Container**. Access Manager depends upon web container services, which can be provided either by Java ES Web Server and Java ES Application Server. Access Manager upgrades must therefore be re-configured for a web container instance. In addition, any customized JSPs for the Access Manager console or for the authentication UI need to be migrated to the upgraded Access Manager environment.

- **Directory Server**. Access Manager stores configuration data and also accesses user data stored in Directory Server. As a result, Access Manager upgrades might require extensions of directory schema.

Upgrading Access Manager from Java ES Release 3

This section includes information about upgrading Access Manager from Java ES 2005Q1 (Release 3) to Java ES 2005Q4 (Release 4). The section covers the following topics:

*   Introduction

*   Full Access Manager Upgrade

Introduction

When upgrading Java ES Release 3 Access Manager to Release 4, consider the following aspects of the upgrade process:

*   **General Upgrade Approach**. The upgrade is performed by removing previous versions and newly installing Release 4.

*   **Upgrade Dependencies**. Access Manager has dependencies on a number of Java ES shared components and other products. For upgrading Access Manager, all other products have to be uninstalled and re-installed.

*   **Backward Compatibility**. Release 4 Access Manager is not compatible with Release 3, however it does support a compatible legacy mode (see "Compatibility Issues" on page 94).

*   **Upgrade Rollback**. There is no utility for rolling back the Access Manager upgrade. In fact, the number of re-configurations required to roll back Access Manager to its original state make such a rollback impractical.

Full Access Manager Upgrade

This section describes how to perform a full Access Manager upgrade from Java ES Release 3 to Java ES Release 4:

*   Pre-Upgrade Tasks

*   Upgrading Access Manager

*   Verifying the Access Manager Upgrade

*   Post-Upgrade Tasks

- Rolling Back the Upgrade

Pre-Upgrade Tasks

Before you upgrade Access Manager, perform the procedures described in the following sections.

Verify Current Version Information

You can verify the current version of Access Manager using the following command:

AccessManager-base\bin\amadmin --version

Table 9-3   Access Manager Version Verification Outputs

Java ES Release	Access Manager Version Number
Release 3	6 2005Q1
Release 4	7 2005Q4

Upgrade Access Manager Dependencies

It is recommended that all Java ES components on a computer system (and in a computing environment) be reinstalled to Java ES Release 4.

Back Up Directory Server Data

The Access Manager upgrade process uses scripts that modify Directory Server schema. Therefore, before you upgrade Access Manager, back up your Directory Server data using the Directory Server Console or a command-line utility such as db2bak.

For more information about backing up Directory Server, see the *Sun Java System Directory Server Administration Guide* (http://docs.sun.com/doc/817-7613).

Back Up Release 3 Access Manager Configuration Information

Because the re-configuration of Release 4 Access Manager software requires the re-configuration of the Release 3 version, it is important to back up configuration files to a known location. The following files should be backed up:

- The AMConfig.properties file

    AccessManager-base\config\AMConfig.properties

- The serverconfig.xml file

AccessManager-base\config\serverconfig.xml

- Web container configuration files:

  ❍ For Web Server: server.policy and server.xml files located in *WebServer-base*\https-*hostname*\config

  ❍ For Application Server: server.policy and domain.xml files located in *ApplicationServer-base*\domain\domain1\config

  ❍ For third-party web containers: the appropriate configuration files

- JAR files for authentication and customized modules.

  AccessManager-base\lib

Back Up Web Container Customized Files

If you have any web container customized files referenced by Access Manager, you should back them up. These customizations might include the following:

- Customized Access Manager console JSP pages.

  AccessManager-base\web-src\applications

- Customized authentication UI JSP pages.

  AccessManager-base\web-src\services

- Customized XML files.

  AccessManager-base\config\xml

TIP	Make note of your customizations so you can re-apply them using the backed-up code after you upgrade Access Manager.

Back Up Release 3 Access Manager Log and Debug Files

For the purpose of analyzing system state information, it is a good idea to back up log and debug files so they are not lost. These files are at the following locations:

- Debug files

  AccessManager-base\debug

- Log files

  AccessManager-base\logs

Obtain Required Configuration Information and Passwords

To upgrade Access Manager, you must provide specific configuration information, including:

- Access Manager administrator user ID and password

- LDAP user ID and password

- Directory Manager name and password for the Directory Server instance that Access Manager is using

NOTE	Before uninstalling all other Java ES components, backup the required data. For more information about backing up other components see the upgrade guides of the respective components.

Upgrading Access Manager

The upgrade of Access Manager software to Java ES Release 4 includes procedures for re-configuring Access Manager and for migrating Access Manager data.

Upgrade Summary

The procedure for upgrading Access Manager consists of the following steps:

1. Remove the Java ES Release 3 Version of Access Manager and all other installed components. Use the Java ES uninstaller.

2. Install the Java ES Release 4 Version of Access Manager. Use the Java ES Release 4 installer with the Configure Later option.

3. Re-customize JSPs for Access Manager

4. Unjar the `upgrade.jar` file

5. Update the directory structure and schema. Use the `amupgrade.bat`.

These steps are each documented in the following procedures.

Upgrade Procedures

1. Remove the Java ES Release 3 Version of Access Manager and other components.

   a. Log in as administrator to the computer hosting Release 3 Access Manager.

   b. In add remove programs double-click Sun Java ES release and remove the product.

2. Install the Java ES Release 4 Version of Access Manager.

   a. Run the Java ES installer on the computer.

   b. Select Access Manager from the selection panel.

   c. Select the Configure Later option.

   d. Quit the Java ES installer when installation is complete.

NOTE	If you are using the Java ES Installer command line interface to install Access Manager, it will automatically install Directory Server software as well.

3. Re-customize JSPs for Access Manager.

   Re-apply the Release 3 customizations to JSPs for the Access Manager Console and authentication user interface (UI) that you saved under "Back Up Web Container Customized Files" on page 98.

4. Copy the customized JSP files to the correct directories.

   ❍ Console: *AccessManager-base*\web-src\applications\console

   ❍ Authentication UI:

   AccessManager-base\web-src\services\config\auth\default or
   AccessManager-base\web-src\services\config\auth\default_*locale*
   (where *Locale* is a locale indicator like ja)

   For more information, see the *Sun Java System Access Manager Developer's Guide* (http://docs.sun.com/doc/819-2139).

5. Configuring Access Manager

   Configure Access Manager for your specific web container by running the amconfig.bat. The amconfig.bat (and the associated AMConfigurator.properties input file) resides in the following directory:

   AccessManager-base\setup

   For information about the amconfig.bat and the AMConfigurator.properties file, see the *Sun Java System Access Manager Administration Guide* (http://docs.sun.com/doc/817-7647).

   To configure and deploy Access Manager to the web container, set the configuration parameters in config-file.

All the parameters need to be set correctly. Some of the values can be migrated from the `AMConfig.properties` file and others are more specific to the upgrade procedure, as shown in the following table.

Table 9-4   Patches to Upgrade Access Manager Mobile Access software

Parameter	Value
Upgrade Parameters	
DEPLOY_LEVEL	1 (for re-configure and deploy)
DIRECTORY_MODE	5 (Existing Upgrade)
AM_REALM	set to `disabled` (Realm Mode is disabled, Legacy Mode is therefore enabled)
	(Default = `enabled`)
JAVA_HOME	set to JDK Release 4 directory
WEB_CONTAINER	set to the value appropriate to the web container type you are using and fill out only the corresponding section of config-file.
WS61_INSTANCE (If using Web Server as the web container)	=https-*\<hostname\>.\<domain\>* where the value above matches the instance name in *\<install-dir\>*\webserver
	The values is case-sensitive.
Migrated from `AMConfig.properties`	
SERVER_PROTOCOL	com.iplanet.am.server.protocol
SERVER_PORT	com.iplanet.am.server.port
SERVER_HOST	com.iplanet.am.server.host
DS_HOST	com.iplanet.am.directory.host
DS_PORT	com.iplanet.am.directory.port
ROOT_SUFFIX	com.iplanet.am.defaultOrg
CONSOLE_DEPLOY_URI	com.iplanet.am.console.deploymentDescriptor
SERVER_DEPLOY_URI	com.iplanet.am.services.deploymentDescriptor
PASSWORD_DEPLOY_URI	com.sun.identity.password.deploymentDescriptor
AM_ENC_PWD	am.encryption.pwd

For other parameters, provide the same values that were used in the Release 3 configuration that you are upgrading, unless you are changing web container or passwords.

6. Update the directory structure and schema.

Release 4 Access Manager co-exists with the Release 3 directory structure, but the structure must be modified to support Release 4 capabilities. Update the Access Manager directory structure and schema to Release 4 by running the `amupgrade.bat`, which is installed in the following directory:

AccessManager-base\upgrade\amupgrade.bat

a. Obtain the values of the following parameters to be requested by the `amupgrade.bat`:

Table 9-5   Access Manager Configuration Parameters: amupgrade

Parameter	Value
Directory Server Host	Set the fully qualified name: *hostname.domain*
Directory Server Port	Specify a non-SSL port number1 Default: `389`
Directory Manager DN	Default: `cn=Directory Manager`
Directory Manager Password	
Access Manager Administrator User ID Default: amadmin	Default: `amadmin`
Access Manager Administrator Password	
Enable Realm Mode	`Y/N:` `Yes` means Realm Mode is enabled and services data is migrated to new Realm tree. `No` (default) means services data remain in Legacy Mode.

b. Run the `amupgrade.bat.`

cd *AccessManager-base*\upgrade\amupgrade.bat

If the upgrade is successful, the script displays "Upgrade completed."

c. Check the following upgrade log file for information about the directory schema extensions:

`<install-dir>\AccessManager\Setup\AccessManager_upgrade_*.log`

Verifying the Access Manager Upgrade

After you finish the upgrade procedure, verify that it was successful as follows:

1. Start Access Manager.

   Start the web container in which Access Manager is deployed.

2. Log in to the Access Manager console as amadmin using the following URL:

   `http://`*hostname.domain:port*`/amconsole`

   where *hostname.domain:port* is the fully qualified host name and port number of the web container you are using.

   Verify that new Release 4 services referred to in "About Java ES Release 4 Access Manager" on page 200 are available under the "Service Configuration" tab.

3. Review Access Manager trouble shooting files for errors.

   The files are located at *<install-dir>*`\AccessManager\debug`

Post-Upgrade Tasks

If you are using the Security Assertion Markup Language (SAML) service, you must add and enable a SAML authentication module using the Access Manager console. For information on creating a SAML authentication module instance, refer to the *Sun Java System Access Manager Administration Guide* (http://docs.sun.com/doc/817-7647).

Rolling Back the Upgrade

No scripts are provided for rolling back Access Manager to its pre-upgrade state. The process must be performed manually using Access Manager data that was backed up as part of the pre-upgrade tasks (see "Back Up Release 3 Access Manager Log and Debug Files" on page 98). Rollback is too difficult to be practical.

Directory Preparation Tool

This chapter describes how to upgrade Directory Preparation Tool from previous Java ES versions to Java ES Release 4.

The chapter provides a general overview of upgrade issues and procedures for the different upgrade paths supported by Java ES Release 4. The chapter covers the following:

- Overview of Directory Preparation Tool Upgrades
- Upgrading Directory Preparation Tool from Java ES Release 3

NOTE	File locations in this chapter are specified with respect to a directory path referred to as comm_dssetup_base. At least part of this path might have been specified as an installation directory when Directory Preparation Tool was initially installed. If not, the Java ES installer assigned a default value.
	The default value of *comm_dssetup_base* is <drive>\Sun\DSSetup.

Overview of Directory Preparation Tool Upgrades

This section describes the following general aspects of Directory Preparation Tool that impact upgrading to Java ES Release 4:

- About Java ES Release 4 Directory Preparation Tool
- Directory Preparation Tool Upgrade Roadmap
- Directory Preparation Tool Data
- Compatibility Issues

• Directory Preparation Tool Dependencies

About Java ES Release 4 Directory Preparation Tool

Java ES Release 4 versions of Directory Preparation Tool represents a number of minor fixes needed to prepare Directory Server for use by Release 4 communications components (Messaging Server, Calendar Server, Communications Express, and Delegated Administrator).

For details, see the appropriate release notes.

Directory Preparation Tool Upgrade Roadmap

Table 10-1 shows the supported Directory Preparation Tool upgrade paths to Java ES Release 4.

Table 10-1   Upgrade Paths to Java ES Release 4 Directory Preparation Tool 2005Q4

Java ES Release	Directory Preparation Tool Version	General Approach	Re-configuration Required
Release 3	Sun Java System Directory Preparation Tool 6.3 2005Q1	Direct Upgrade: Apply patches	Prepare Directory Server for Release 4 communications components

Directory Preparation Tool Data

The following table shows the type of data that could be impacted by an upgrade of Directory Preparation Tool software.

Table 10-2   Directory Preparation Tool Data Usage

Type of Data	Location	Usage
Directory Server schema	Directory Server	Prepare Directory Server for Release 4 communications components: modifies schema, creates new entries and creates indexes

Compatibility Issues

Release 4 Directory Preparation Tool does not introduce any interface changes and is backwardly compatible with earlier versions.

Directory Preparation Tool Dependencies

Directory Preparation Tool has no dependencies on other Java ES components other than Directory Server. Directory Preparation Tool is used to configure Directory Server for use with Java ES communications components.

Upgrading Directory Preparation Tool from Java ES Release 3

This section includes information about upgrading Directory Preparation Tool from Java ES Release 3 to Java ES Release 4. The section covers the following topics:

- Introduction
- Directory Preparation Tool Upgrade

Introduction

When upgrading Java ES Release 3 Directory Preparation Tool to Release 4, consider the following aspects of the upgrade process:

- **General Upgrade Approach**. The upgrade is performed by applying patches to the Release 3 version. Directory Preparation Tool is then used to modify Directory Server as required to support Release 4 Messaging Server, Calendar Server, Communications Express, and Delegated Administrator components.

- **Upgrade Dependencies**. Directory Preparation Tool has no dependencies on Java ES shared components and is compatible with Release 3 Directory Server. Upgrade of Directory Server is therefore optional with respect to upgrade of Directory Preparation Tool to Release 4.

- **Backward Compatibility**. Release 4 Directory Preparation Tool is backwardly compatible with the Release 3 version.

- **Upgrade Rollback**. Rollback of the Release 4 upgrade to Release 3 is achieved by removing the patches applied during the upgrade. The Release 3 Directory Preparation Tool can then be run against Directory Server to back out changes made by the Release 4 version.

Directory Preparation Tool Upgrade

This section describes how to perform an upgrade of Directory Preparation Tool from Java ES Release 3 to Java ES Release 4. The section covers the following topics:

- Pre-Upgrade Tasks
- Upgrading Directory Preparation Tool
- Verifying the Upgrade
- Post-Upgrade Tasks
- Rolling Back the Upgrade

Pre-Upgrade Tasks

Before you upgrade Directory Preparation Tool you should perform the tasks described below.

Verify Current Version Information

You can verify the version of Directory Preparation Tool last run against Directory Server by checking attribute values of the cn=CommServers,o=comms-config entry written by the tool:

```
ldapsearch -b cn=config -D bind_dn -w password

    cn=CommServers,o=comms-config
```

The entry has two attributes that specify the current version:

- dssetup_ver=*version*
- dssetup_rev=*revision*

The tool will write a message to console only if the version of Directory Preparation Tool being run is the same or earlier than the version that was previously run. See the upgrade procedures, for how to run the tool.

Upgrade Directory Preparation Tool Dependencies

It is generally recommended that all Java ES components on a computer system (and in a computing environment) be upgraded to Java ES Release 4. However, the upgrade of Directory Preparation Tool to Release 4 does not depend upon any other Java ES component.

Back Up Directory Data

The Directory Preparation Tool upgrade from Release 3 to Release 4 does not in itself modify Directory Server data. However, as a safety measure, it is a good idea to back up Directory Server before upgrading the Directory Preparation Tool and running it against Directory Server.

Obtain Required Configuration Information and Passwords

Directory Preparation Tool upgrade requires you to know the superuser password. Otherwise, the tool remembers parameter values used in the previous run and supplies them as defaults when run the next time.

Upgrading Directory Preparation Tool

This section discusses considerations that impact the upgrade procedure for Directory Preparation Tool followed by a description of the procedure itself.

Upgrade Considerations

The upgrade of Directory Preparation Tool software to Java ES Release 4 takes into account the following considerations:

- Release 3 Directory Preparation Tool was installed with Directory Server and resides on any computer hosting Directory Server.

- The upgrade of Directory Preparation Tool must be performed on the computer hosting every Directory Server instance being used by Messaging Server, Calendar Server, Communications Express, or Delegated Administrator components.

- The Release 4 upgrade patches are shown in Table 1-3

Upgrade Procedure

The procedure documented below applies to the Directory Preparation Tool installed on the computer where Directory Server resides.

1. Obtain the required patches, based on Table 1-3.

   Patches can be downloaded from:

   http://sunsolve.sun.com

2. Log in as administrator

3. Apply the Directory Preparation Tool patch in Table 1-3.

   Double-click the `<patchid.exe>`

4. Run the Directory Preparation Tool against Directory Server.

   a. Confirm that Directory Server is running.

   b. Change directory to the location of the Directory Preparation Tool

      # cd *comm_dssetup_base*

   c. Run the Directory Preparation Tool.

      `dssetup.bat`

Verifying the Upgrade

You can verify successful upgrade of Directory Preparation Tool and extension of directory schema by checking the log file created when running the script. The log file is located at:

`%TEMP%\dssetup_`*yyyymmddhhmmss*

Post-Upgrade Tasks

There are no post-upgrade tasks beyond the steps described in Upgrade Procedure.

Rolling Back the Upgrade

This section describes considerations that impact the upgrade rollback procedure for Directory Preparation Tool followed by the procedure itself.

Rollback Considerations

The procedure for rolling back the upgrade to Release 4 of Directory Preparation Tool reverses the procedure for upgrading to Release 4. However, among the changes made by Directory Preparation Tool are modifications to Directory Server schema. These changes are not backed out by the rollback procedure described below, however the schema changes are backwardly compatible.

Rollback Procedure

1. Log in as administrator.

2. Run `uninstall_<patchid>.bat`.

Messaging Server

This chapter describes how to upgrade Messaging Server from previous Java ES versions to Java ES Release 4: Messaging Server 6 2005Q4.

The chapter provides a general overview of upgrade issues and procedures for the different upgrade paths supported by Java ES Release 4. The chapter covers the following:

- Overview of Messaging Server Upgrades
- Upgrading Messaging Server from Java ES Release 3

NOTE   File locations in this chapter are specified with respect to a directory path referred to as *msg_svr_base*. At least part of this path might have been specified as an installation directory when Messaging Server was initially installed. If not, the Java ES installer assigned a default value.

The default value of *msg_svr_base* is `<drive>\sun\server-root.`

Overview of Messaging Server Upgrades

This section describes the following general aspects of Messaging Server that impact upgrading to Java ES Release 4:

- About Java ES Release 4 Messaging Server
- Messaging Server Upgrade Roadmap
- Messaging Server Data
- Compatibility Issues

- Messaging Server Dependencies

About Java ES Release 4 Messaging Server

Java ES Release 4 Messaging Server mostly represents bug fixes. There is no major new functionality with respect to Release 3.

Messaging Server Upgrade Roadmap

Table 11-1 shows the supported Messaging Server upgrade paths to Java ES Release 4.

Table 11-1   Upgrade Paths to Java ES Release 4 Messaging Server 6 2005Q4

Java ES Release	Messaging Server Version	General Approach	Re-configuration Required
Release 3	Sun Java System Messaging Server 6 2005Q1	Direct Upgrade: Performed by applying patches.	Configuration files and configuration directory data

Messaging Server Data

The following table shows the type of data that could be impacted by an upgrade of Messaging Server software.

Table 11-2   Messaging Server Data Usage

Type of Data	Location	Usage
Configuration data	Local configuration directory: `msg_svr_base\config\msg.conf` and many other configuration files for configuring Messaging Server Store, MTA, MMP, MEM (webmail)	Configuration of Messaging Server components
Configuration data	Directory Server configuration directory	Configuration of Messaging Server components
User data	Directory Server user/group directory	Storing user attributes needed to support messaging for end users
Dynamic application data	Messaging Server store: `msg_svr_base\`	Store email messages, message transfer queues, and related information on behalf of users

Table 11-2   Messaging Server Data Usage

Type of Data	Location	Usage
Directory schema	Directory Server `<drive>\sun\serverroot`	For user attributes needed to support end users

Compatibility Issues

Release 4 Messaging Server does not introduce any interface changes. The Messaging Server Store, MTA, MMP, and MEM components, logically distinct configurations of Messaging Server, are backwardly compatible with earlier versions.

Messaging Server Dependencies

Messaging Server dependencies on other Java ES components can impact the procedure for upgrading and re-configuring Messaging Server software. Changes in Messaging Server interfaces or functions, for example, could require upgraded version of components upon which Messaging Server depends. The need to upgrade such components depends upon the specific upgrade path.

Messaging Server has dependencies on the following Java ES components:

- **Shared components.** Messaging Server has dependencies on specific Java ES shared components (see Table 1-6 on page 28).

- **Directory Server**. Messaging Server stores configuration data and user data needed for messaging in Directory Server. As a result, Messaging Server upgrades might require extensions of directory schema.

- **Directory Preparation Tool**. Messaging Server uses the Directory Preparation Tool to prepare Directory Server to support Messaging Server functions.

- **Access Manager (optional)**. For software solutions that support single user sign-on for web-based services, Messaging Server can be configured to use Access Manager single sign-on capability.

- **Delegated Admin (optional)**. Delegated Admin is the preferred utility to use for provisioning users in Directory Server so that Messaging Server has access to the user data needed to provide messaging services.

Upgrading Messaging Server from Java ES Release 3

This section includes information about upgrading Messaging Server from Java ES Release 3 to Java ES Release 4. The section covers the following topics:

- Introduction
- Messaging Server Upgrade

Introduction

When upgrading Java ES Release 3 Messaging Server to Release 4, consider the following aspects of the upgrade process:

- **General Upgrade Approach.** The upgrade is performed by applying patches to the Release 3 version. Re-configuration is achieved by running two data configuration utilities and by importing configuration data into Directory Server.

- **Upgrade Dependencies**. While Messaging Server has dependencies on a number of Java ES shared components, Release 4 Messaging Server requires that NSS, NSPR, LDAP C SDK, ICU, and SASL be upgraded to Release 4. Upgrade of J2SE is optional with respect to upgrade of Messaging Server to Release 4.

    In addition, Release 4 Messaging Server is dependent upon Directory Server and optionally dependent on Access Manager, as described in "Messaging Server Dependencies" on page 113. However, these are soft upgrade dependencies; upgrade of these components is optional with respect to upgrade of Messaging Server to Release 4.

    However, Release 4 Messaging Server has a hard upgrade dependency on Directory Preparation Tool; Release 4 Directory Preparation Tool is required to prepare Directory Server for messaging operations.

- **Backward Compatibility**. Release 4 Messaging Server is backwardly compatible with the Release 3 version.

- **Upgrade Rollback**. Rollback of the Release 4 upgrade of Messaging Server to Release 3 is achieved by first removing the changes made to Directory Server, removing changes to local configuration files, and removing the patches applied during the upgrade.

Messaging Server Upgrade

This section describes how to perform an upgrade of Messaging Server from Java ES Release 3 to Java ES Release 4 on windows platform. The section covers the following topics:

- Pre-Upgrade Tasks

- Upgrading Messaging Server

- Verifying the Upgrade

- Post-Upgrade Tasks

- Rolling Back the Upgrade

Pre-Upgrade Tasks

Before you upgrade Messaging Server you should perform the tasks described below.

Verify Current Version Information

You can verify the current version of Messaging Server by entering the following command:

msg_svr_base\sbin\imsimta version

Table 11-3 Messaging Server Version Verification Outputs

Java ES Release	Messaging Server Version Number
Release 3	6.2
Release 4	6.2p3

Upgrade Messaging Server Dependencies

It is generally recommended that all Java ES components on a computer system (and in a computing environment) be upgraded to Java ES Release 4. However, Messaging Server has hard upgrade dependencies only on the SASL shared component and on Directory Preparation Tool. Upgrading of other Java ES Release 3 components upon which Messaging Server depends is therefore optional.

However, if you choose to upgrade all Messaging Server dependencies, they should be upgraded in the following order, all before you upgrade Messaging Server. You can skip any that might already have been upgraded.

- **Shared Components**. Instructions for upgrading NSS, NSPR, LDAP C SDK, ICU, and SASL shared components to Release 4 are provided in Chapter 2, "Upgrading Java ES Shared Components."

- **Directory Server**. Instructions for upgrading Directory Server to Release 4 are provided in Chapter 3, "Directory Server and Administration Server."

- **Access Manager** (optional).

- **Directory Preparation Tool.** Release 4 Directory Preparation Tool needs to have been run against Directory Server before configuring Release 4 Messaging Server. If Release 4 Directory Preparation Tool has not already been run against Directory Server, upgrade Directory Preparation Tool to Release 4 and use it to modify and extend the schema of Directory Server (see Chapter 10, "Directory Preparation Tool," for procedures).

Back Up Messaging Server Data

The Messaging Server upgrade from Release 3 to Release 4 requires re-configuration of Messaging Server in local configuration files and in the Directory Server configuration directory. The local changes can be rolled back, but it is a good idea to back up the configuration directory in case you want to roll back the Release 4 upgrade at a future point.

Obtain Required Configuration Information and Passwords

Messaging Server upgrade requires knowing the following information:

- Superuser password

- Directory Manager DN and password

Upgrading Messaging Server

This section discusses considerations that impact the upgrade procedure for Messaging Server followed by a description of the procedure itself.

Upgrade Considerations

The upgrade of Messaging Server software to Java ES Release 4 takes into account the following considerations:

- All Messaging Server components, such as Messaging Server Store, MTA, MMP, or MEM, that correspond to the same installed Messaging Server image, are upgraded at the same time. All such components should be shut down before patches are applied to the installed image.

- The Release 4 upgrade patches are shown in Table 1-3.

Upgrade Procedure

The procedure documented below applies to all Messaging Server components that correspond to the same installed Messaging Server image on the computer where the upgrade is taking place.

1. Obtain the required patches, based on Table 1-3.

   Patches can be downloaded from:

   http://sunsolve.sun.com

2. Log in as administrator.

3. Stop all running Messaging Server components.

   # *msg_svr_base*\sbin\stop-msg

4. If not already done, upgrade the required shared components to Release 4.

5. Apply the Messaging Server patches in Table 1-3.

6. Run `pre-patch.pl` before executing patch.

   `perl.prepatch.pl <Server-Root> <Patch-id>`

7. Apply the patch by running `<Patch-id>.exe`

8. Run `post-patch.pl` after applying the patch

   `perl.postpatch.pl <Server-Root> <Patch-id>`

9. Migrate configuration data from existing configuration files to Release 4 candidate configuration files.

   a. Create candidate configuration files.

      Run `patch-config.pl`

      `perl patch-config.pl <Server-Root> <patch-id>`

      This command backs up existing configuration files. Then it merges configuration parameter values in these files with Release 4 template configuration files to create new Release 4 candidate configuration files. You should examine these new files for possible conflicts, as described in the Special Installation Instructions section of the patch < > readme file.

      This command also generates the following ldif files (LDAP directory import files):

      msg_svr_base/lib/patch/cfgdir_diff.ldif

      msg_svr_base/lib/patch/ugdir_diff.ldif

       b. Install the Release 4 candidate configuration files, making them the active configuration.

       Run `install-newconfig.pl`

       `perl install-newconfig.pl <Server-Root> <patch-id>`

       This command installs the new Release 4 configuration files in their correct.

       c. Import the new configuration data generated in Step6a into the Directory Server configuration directory being used by Messaging Server.

       Change to the configuration directory and import the `ldif` files using the ldapmodify command:

       `# cd` *msg_svr_base*`\lib`

       `#` Run `ldapmodify -D bind_dn -w` *password* `-c`

         `-e patch\cfgdir_diff.rej -f patch\cfgdir_diff.ldif`

       `#` Run `ldapmodify -D` *bind_dn* `-w` *password* `-c`

         `-e patch\ugdir_diff.rej -f patch\ugdir_diff.ldif`

10. Restart the Messaging Server components that were stopped in Step 3.

    `#` *msg_svr_base*`\sbin\start-msg`

Verifying the Upgrade

You can verify the current version of Messaging Server by entering the following command:

    `#` *msg_svr_base*`\sbin\imsimta version`

You can also check the banner displayed when starting up Messaging Server components

See Table 11-3 on page 115 for output values.

Post-Upgrade Tasks

There are no post-upgrade tasks beyond the steps described in "Upgrade Procedure" on page 117.

Rolling Back the Upgrade

This section describes considerations that impact the upgrade rollback procedure for Messaging Server followed by the procedure itself.

Rollback Considerations

The procedure for rolling back the upgrade to Release 4 of Messaging Server is pretty much the reverse of the procedure for upgrading to Release 4. The re-configurations are rolled back and the patches are removed.

Rollback Procedure

1. Log in as administrator.

2. Stop all running Messaging Server components.

   # *msg_svr_base*/sbin/stop-msg

3. Roll back the changes made to the Directory Server configuration directory being used by Messaging Server.

   Replace the directory with the pre-upgrade directory that you backed up before beginning the upgrade procedure (see "Back Up Messaging Server Data" on page 116).

4. Remove the patches in Step 9 on page 117.

5. Run prebackout.pl before Uninstall_<Patch-id>.bat

6. Run Uninstall_<Patch-id>.bat to rollback

7. Run post-backout.pl after uninstall.

8. Restart the Messaging Server components that were stopped in Step 2.

   # *msg_svr_base*\sbin\start-msg

Calendar Server

This chapter describes how to upgrade Calendar Server from previous Java ES versions to Java ES Release 4: Calendar Server 6 2005Q4.

The chapter provides a general overview of upgrade issues and procedures for the different upgrade paths supported by Java ES Release 4. The chapter covers the following:

- Overview of Calendar Server Upgrades
- Upgrading Calendar Server from Java ES Release 3

NOTE	File locations in this chapter are specified with respect to a directory path referred to as cal_svr_base. At least part of this path might have been specified as an installation directory when Calendar Server was initially installed. If not, the Java ES installer assigned a default value.
	The default value of *cal_svr_base* is C:\Sun\CalendarServer.

Overview of Calendar Server Upgrades

This section describes the following general aspects of Calendar Server that impact upgrading to Java ES Release 4:

- About Java ES Release 4 Calendar Server
- Calendar Server Upgrade Roadmap
- Calendar Server Data
- Compatibility Issues

- Calendar Server Dependencies

About Java ES Release 4 Calendar Server

Java ES Release 4 Calendar Server mostly represents bug fixes. There is no major new functionality with respect to Release 3.

Calendar Server Upgrade Roadmap

Table 12-1 shows the supported Calendar Server upgrade paths to Java ES Release 4.

Table 12-1   Upgrade Paths to Java ES Release 4 Calendar Server 6 2005Q4

Java ES Release	Calendar Server Version	General Approach	Re-configuration Required
Release 3	Sun Java System Calendar Server 6 2005Q1	Direct Upgrade: Apply patches.	None

Calendar Server Data

The following table shows the type of data that could be impacted by an upgrade of Calendar Server software.

Table 12-2   Calendar Server Data Usage

Type of Data	Location	Usage
Configuration data	cal_svr_base\bin\config\ics.conf	Configuration of Calendar Server
Dynamic application data	Calendar Server database: cal_svr_base\csdb	Store calendar entries on behalf of users.
Directory schema	Directory Server user/group directory	For user attributes needed to support end users

Compatibility Issues

Release 4 Calendar Server does not introduce any interface changes. Calendar Server is backwardly compatible with earlier versions.

Calendar Server Dependencies

Calendar Server dependencies on other Java ES components can impact the procedure for upgrading and re-configuring Calendar Server software. Changes in Calendar Server interfaces or functions, for example, could require upgraded version of components upon which Calendar Server depends. The need to upgrade such components depends upon the specific upgrade path.

Calendar Server has dependencies on the following Java ES components:

- **Shared components**. Calendar Server has dependencies on specific Java ES shared components (see Table 1-6 on page 28).

- **Directory Server**. Calendar Server accesses user data stored in Directory Server. As a result, Calendar Server upgrades might require extensions of directory schema.

- **Directory Preparation Tool**. Calendar Server uses the Directory Preparation Tool to prepare the directory to support Calendar Server functions.

- **Access Manager (optional)**. For software solutions that support single user sign-on for web-based services, Calendar Server can be configured to use Access Manager single sign-on capability.

- **Messaging Server (optional)**. Calendar Server can be configured to use Messaging Server to provide messaging notifications of calendar events.

- **Delegated Admin (optional)**. Delegated Admin is the preferred utility to use for provisioning users in Directory Server so that Calendar Server has access to the user data needed to provide calendar services.

Upgrading Calendar Server from Java ES Release 3

This section includes information about upgrading Calendar Server from Java ES Release 3 to Java ES Release 4. The section covers the following topics:

- Introduction
- Calendar Server Upgrade

Introduction

When upgrading Java ES Release 3 Calendar Server to Release 4, consider the following aspects of the upgrade process:

- **General Upgrade Approach**. The upgrade is performed by applying patches to the Release 3 version.

- **Upgrade Dependencies**. While Communications Express has dependencies on a number of Java ES shared components (see Table 1-6 on page 28), Release 4 Communications Express requires only that SASL be upgraded to Release 4. Upgrade of other shared components is optional with respect to upgrade of Communications Express.

  In addition, Release 4 Calendar Server is dependent upon Directory Server and optionally dependent on Access Manager, as described in "Calendar Server Dependencies" on page 123. However, these are soft upgrade dependencies; upgrade of these components is optional with respect to upgrade of Calendar Server to Release 4.

  However, Release 4 Calendar Server has a hard upgrade dependency on Directory Preparation Tool; Release 4 Directory Preparation Tool is required to prepare Directory Server for calendaring operations.

- **Backward Compatibility**. Release 4 Calendar Server is backwardly compatible with the Release 3 version.

- **Upgrade Rollback**. Rollback of the Release 4 upgrade of Calendar Server to Release 3 is achieved by removing the patches applied during the upgrade.

Calendar Server Upgrade

This section describes how to perform an upgrade of Calendar Server from Java ES Release 3 to Java ES Release 4. The section covers the following topics:

- Pre-Upgrade Tasks

- Upgrading Calendar Server

- Post-Upgrade Tasks

- Rolling Back the Upgrade

Pre-Upgrade Tasks

Before you upgrade Calendar Server you should perform the tasks described below.

Verify Current Version Information

You can verify the current version of Calendar Server using the following command:

```
# C:\cal_svr_base\bin\cshttpd.exe -#
```

Table 12-3   Calendar Server Version Verification Outputs

Java ES Release	Calendar Server Version Number
Release 4	2005Q4
Release 3	2005Q1

Upgrade Calendar Server Dependencies

It is generally recommended that all Java ES components on a computer system (and in a computing environment) be upgraded to Java ES Release 4. However, Calendar Server has a hard upgrade dependency only on Directory Preparation Tool. Upgrading of other Java ES Release 3 components upon which Calendar Server depends is therefore optional.

However, if you choose to upgrade all Calendar Server dependencies, they should be upgraded in the following order, all before you upgrade Calendar Server. You can skip any that might already have been upgraded.

1. **Shared Components**. Instructions for upgrading Java ES shared components to Release 4 are provided in Chapter 2, "Upgrading Java ES Shared Components" on page 39.

2. **Directory Server**. Instructions for upgrading Directory Server to Release 4 are provided in Chapter 3, "Directory Server and Administration Server" on page 41.

3. **Access Manager (optional)**.

4. **Directory Preparation Tool**. Release 4 Directory Preparation Tool needs to have been run against Directory Server before configuring Release 4 Calendar Server. If Release 4 Directory Preparation Tool has not already been run against Directory Server, upgrade Directory Preparation Tool to Release 4 and use it to modify and extend the schema of Directory Server (see Chapter 10, "Directory Preparation Tool" on page 105 for procedures).

Back Up Calendar Server Data

The Calendar Server upgrade from Release 3 to Release 4 requires no re-configuration of Calendar Server. However, as a safety precaution, you might back up your Calendar Server store, located at

    cal_svr_base\csdb

Obtain Required Configuration Information and Passwords

No special information about your currently installed version is needed. However you will have to log in as administrator to perform the upgrade.

Upgrading Calendar Server

This section discusses considerations that impact the upgrade procedure for Calendar Server followed by a description of the procedure itself.

Upgrade Considerations

The upgrade of Calendar Server software to Java ES Release 4 takes into account the following considerations:

- Calendar Server should be shut down when patches are being applied to the installed image.

- Patch files should be kept in the same drive where calendar server is installed. For example, if the calendar server is installed in C:\sun, then the patch files should be present in C drive like C:\sun\CSPatch.

- The Release 4 upgrade patches are shown in Table 1-3.

Upgrade Procedure

The procedure documented below applies to Calendar Server on the computer where the upgrade is taking place.

1. Obtain the required patches, based on Table 1-3.

   Patches can be downloaded from:

   http://sunsolve.sun.com

2. Place the obtained patch in the same drive where Calendar Server is installed.

3. Log in as administrator.

4. Stop Calendar Server if it is running.

    cal_svr_base\bin\stop-cal.bat

5. Make sure you have upgraded any Java ES components upon which the Calendar Server have hard upgrade dependencies (see Calendar Server Dependencies)

6. If not already done, upgrade the required shared components to Release 4.

7. Run the prepatch.bat before executing the patch.

8. Apply the patch by double-clicking the <Patch-id>.exe

9. Run postpatch.bat after applying the patch.

Post-Upgrade Tasks

There are no post-upgrade tasks beyond the steps described in "Upgrade Procedure".

Rolling Back the Upgrade

This section describes considerations that impact the upgrade rollback procedure for Calendar Server followed by the procedure itself.

Rollback Considerations

The procedure for rolling back the upgrade to Release 4 of Calendar Server is pretty much the reverse of the procedure for upgrading to Release 4.

Rollback Procedure

1. Log in as administrator.

2. Stop Calendar Server.

    cal_svr_base\bin\stop-cal.bat

3. Remove the respective patches as mentioned in Table 1-3. Execute:

    Uninstall_<Patch-id>.bat

4. Restart Calendar Server.

    cal_svr_base\bin\start-cal.bat

Communications Express

This chapter describes how to upgrade Communications Express from previous Java ES versions to Java ES 2005Q4 (Release 4): Sun Java System Communications Express 6 2005Q4.

The chapter provides a general overview of upgrade issues and procedures for the different upgrade paths supported by Java ES Release 4.

- "Overview of Communications Express Upgrades" on page 129
- "Upgrading Communications Express from Java ES Release 3" on page 132

NOTE   File locations in this chapter are specified with respect to a directory path referred to as *CommsExpress-base*. At least part of this path might have been specified as an installation directory when Web Server was initially installed. If not, the Java ES installer assigned a default value.

The default value of *CommsExpress*-base is
`<install-location>/Sun/CommunicationsExpress.`

Overview of Communications Express Upgrades

This section describes the following general aspects of Communications Express that impact upgrading to Java ES 2005Q4 (Release 4):

- About Java ES Release 4 Communications Express
- Communications Express Upgrade Roadmap
- Communications Express Data

- Compatibility Issues

- Communications Express Dependencies

About Java ES Release 4 Communications Express

Java ES Release 4 Communications Express mostly represents bug fixes. There are a few new features with respect to Release 3: mail filter support, address book sharing, and proxy authentication.

Communications Express Upgrade Roadmap

Table 13-1 shows the supported Communications Express upgrade paths to Java ES Release 4.

Table 13-1 Upgrade Paths to Java ES Release 4:
Sun Java System Communications Express 6 2005Q4

Java ES Release	Communications Express Version	General Approach	Re-configuration Required
Release 3	Sun Java System Communications Express 6 2005Q1	Direct upgrade: Perform by applying patches and reconfiguring Communication Express.	Complete reconfiguration

Communications Express Data

The following table shows the type of data that could be impacted by an upgrade of Communications Express software.

Table 13-2   Communications Express Data Usage

Type of Data	Location	Usage
Configuration data:	Local configuration directory	Configuration of Communications Express, including Messaging Server MEM (webmail)
	var/***CommsExpress-base/***`WEB-INF/config/uwcauth.properties`	
	var/***CommsExpress-base/***`WEB-INF/config/uwcconfig.properties`	
	var/***CommsExpress-base/***`WEB-INF/config/uwclogging.properties`	
	MessagingServer-base/`config/msg.conf` and other configuration files for configuring Messaging Server MEM (webmail)	
Directory schema	Directory Server user/group directory	For user attributes needed to support end users

Compatibility Issues

Release 4 Communications Express does not introduce any interface changes and is backwardly compatible with earlier versions.

Communications Express Dependencies

Communications Express dependencies on other Java ES components can impact the procedure for upgrading and re-configuring Communications Express software. Changes in Communications Express interfaces or functions, for example, could require upgraded version of components upon which Communications Express depends. The need to upgrade such components depends upon the specific upgrade path.

Communications Express has dependencies on the following Java ES components:

- **Shared components.** Communications Express has dependencies on specific Java ES shared components (see Table 1-6 on page 39).

- **Web Container.** Communications Express depends upon web container services, which can be provided either by Java ES Web Server or Java ES Application Server.

- **Access Manager (or Access Manager SDK).** Communications Express depends upon Access Manager to provide authentication and authorization services for end users, including single sign-on.

- **Messaging Server.** Communications Express is used to provide web-based access to Messaging Server. In fact Communications Express directly employs the Messaging Server MEM component to access other Messaging Server back-end components, such as the Messaging Server Store and MTA components.

- **Calendar Server**. Communications Express is used to provide web-based access to Calendar Server.

- **Directory Server.** Communications Express stores configuration data and also accesses user data stored in Directory Server. As a result, Communications Express upgrades might require upgrades of Directory Server or extensions of directory schema.

- **Directory Preparation Tool**. Communications Express uses the Directory Preparation Tool to prepare Directory Server to support Communications Express functions. As a result, Communications Express upgrades might depend upon preparation of the directory to support new functions.

Upgrading Communications Express from Java ES Release 3

This section includes information about upgrading Communications Express from Java ES 2005Q1 (Release 3) to Java ES 2005Q4 (Release 4). The section covers the following topics:

- Introduction
- Communications Express Upgrade

Introduction

When upgrading Java ES Release 3 Communications Express to Release 4, consider the following aspects of the upgrade process:

- **General Upgrade Approach.** The upgrade is performed by applying patches to the Release 3 version and do the reconfiguration.

- **Upgrade Dependencies.** While Calendar Server has dependencies on a number of Java ES shared components (see Table 1-6 on page 39), Release 4 Calendar Server is compatible with the Release 3 versions of these components. Upgrade of these shared components is therefore optional with respect to upgrade of Calendar Server to Release 4.

  In addition, Release 4 Communications Express is dependent upon a web container and on Access Manager, as described in "Communications Express Dependencies" on page 269. However, these are soft upgrade dependencies; upgrade of these components is optional with respect to upgrade of Communications Express to Release 4.

  However, Communications Express has hard upgrade dependencies on both Calendar Server, for which it provides web-based access, and on Messaging Server for which it also provides web-based access using the Messaging Server MEM component. Both Calendar Server and Messaging Server must therefore be upgraded to Release 4 before Communications Express can be upgraded to Release 4.

  In addition, Release 4 Communications Express has a hard upgrade dependency on Directory Preparation Tool; Release 4 Directory Preparation Tool is required to prepare Directory Server for Communications Express functions.

- **Backward Compatibility.** Release 4 Communications Express is backwardly compatible with the Release 3 version.

- **Upgrade Rollback.** Rollback of the Release 4 upgrade of Communications Express to Release 3 is achieved by first removing the changes made to Directory Server, removing the patches applied during the upgrade and reconfiguring communications express.

Communications Express Upgrade

This section describes how to perform an upgrade of Communications Express from Java ES Release 3 to Java ES Release 4. The section covers the following topics:

- Pre-Upgrade Tasks

- Upgrading Communications Express

- Verifying the Upgrade

- Post-Upgrade Tasks

- Rolling Back the Upgrade

Pre-Upgrade Tasks

Before you upgrade Communications Express you should perform the tasks described below.

Verify Current Version Information

You can verify the current version of Communications Express by accessing the Communications Express login page, which shows the current version number.

    http://hostName:port/uwc/auth

Table 13-3   Communications Express Version Verification Outputs

Java ES Release	Directory Proxy Server Version Number
Release 3	`Sun Java System Communications Express 6 2004Q1`
Release 4	`Sun Java System Communications Express 6 2004Q4`

Upgrade Communications Express Dependencies

It is generally recommended that all Java ES components on a computer system (and in a computing environment) be upgraded to Java ES Release 4. However, Communications Express has hard upgrade dependencies only on Messaging Server, Calendar Server, and Directory Preparation Tool. Upgrading of other Java ES Release 3 components upon which Communications Express depends is therefore optional.

However, if you choose to upgrade all Communications Express dependencies, they should be upgraded in the following order, all before you upgrade Communications Express. You can skip any that might already have been upgraded.

1. **Shared Components.** Instructions for upgrading Java ES shared components to Release 4 are provided in Chapter 2, "Upgrading Java ES Shared Components" on page 39.

2. **Directory Server.** Instructions for upgrading Directory Server to Release 4 are provided in Chapter 3, "Directory Server and Administration Server" on page 41.

3. **Web Container Software.** Instructions for upgrading Web Server or Application Server are provided in Chapter 5, "Web Server" on page 61 and Chapter 8, "Application Server" on page 83, respectively.

4. **Access Manager (Access Manager SDK).** Instructions for upgrading Access Manager to Release 4 are provided in Chapter 9 Access Manager on page.

5. **Directory Preparation Tool.** Release 4 Directory Preparation Tool needs to have been run against Directory Server before configuring Release 4 Communications Express. If Release 4 Directory Preparation Tool has not already been run against Directory Server, upgrade Directory Preparation Tool to Release 4 and use it to modify and extend the schema of Directory Server (see Chapter 10, "Directory Preparation Tool" on page 105 for procedures).

6. **Messaging Server.** Messaging Server components need to be upgraded to Release 4 to support Release 4 Communications Express. Instructions for upgrading Messaging Server to Release 4 are provided in Chapter 11, "Messaging Server" on page 111.

7. **Calendar Server.** Calendar Server components need to be upgraded to Release 4 to support Release 4 Communications Express. Instructions for upgrading Calendar Server to Release 4 are provided in Chapter 12, "Calendar Server" on page 121

Back Up Communications Express Data

The Communications Express upgrade from Release 3 to Release 4 requires re-configuration of Communications Express. So it is advisable to take backup of UWCCfg Defaults.properties file and other property files which are available in deployed location.

Obtain Required Configuration Information and Passwords

You have to log in as superuser to perform the upgrade. If you are using Web Server as a web container, no configuration information is needed. However if you are using Application Server as a web container, you will need the Application Server administrator user ID and password.

Upgrading Communications Express

This section discusses considerations that impact the upgrade procedure for Communications Express followed by a description of the procedure itself.

• Communications Express includes components used to provide web-based access to Calendar Server and a Messaging Server MEM component used to provide web-based access to Messaging Server back-end components. The upgrade patches encompass all these components.

- All Communications Express components should be deployed to the same web container. The web container should be shut down before patches are applied to the installed image.

- The Release 4 Communications Express upgrade patches are shown in Table 1-3 on page 22.

Upgrade Procedure

The procedure documented below applies to all Communications Express components on the computer being updated.

1. Obtain the required patches from

   http://sunsolve.sun.com

2. Log in as superuser.

3. Stop Communications Express by stopping its web container.

   Web Server:

   WebServer-base/https-*instanceName*/stopsvr.bat

   Application Server:

   ApplicationServer-base/bin/asadmin stop-domain *domainName*

4. If not already done, upgrade any shared components you wish to upgrade to Release 4.

5. Take the back up of properties files.

6. Apply the appropriate for Communications Express patches in Table 1-3.

   execute <Patch-id>.exe

7. If Web Server is the container

   Re-run the configurator

8. If Application Server is the configurator

   Undeploy CommunicationsExpress from the Application Server and then run the configurator.

9. Restart Communications Express by restarting its web container.

Web Server:

WebServer-base\https-*instanceName*\startsvr.bat

Application Server:

ApplicationServer-base\bin\asadmin start-domain *domainName*

--user *admin_ID* --password *password*

Verifying the Upgrade

You can verify the current version of Communications Express by accessing the
Communications Express login page, which shows the current version number.

http://*hostName:port*/uwc/auth

Once logged in, check the upgraded user interface for the new mail tab and old
email and calendar events (if you are using those channels).

Post-Upgrade Tasks

There are no post-upgrade tasks beyond the steps described in "Upgrade
Procedure" on page 136.

Rolling Back the Upgrade

This section describes considerations that impact the upgrade rollback procedure
for Communications Express followed by the procedure itself.

Rollback Considerations

The procedure for rolling back the upgrade to Release 4 of Communications
Express is pretty much the reverse of the procedure for upgrading to Release 4. The
re-configurations are rolled back and the patches are removed.

Rollback Procedure

1. Log in as superuser.

2. Stop Communications Express by stopping its web container.

Web Server:

WebServer-base/https-*instanceName*/stopsvr.bat

Application Server:

ApplicationServer-base/bin/asadmin stop-domain *domainName*

3. Roll back the changes made to the Directory Server configuration directory being used by Communications Express.

4. Remove the patches.

   execute `Uninstall_<Patch-id>.bat`

   Rerun the configurator

5. Restart Communications Express by restarting its web container.

   Web Server:

   WebServer-base/`https-`*instanceName*/`startsvr.bat`

   Application Server:

   ApplicationServer-base/`bin/asadmin start-domain domainName`

   `--user admin_ID --password` *password*

Instant Messaging

This chapter describes how to upgrade Instant Messaging from previous Java ES versions to Java ES 2005Q4 (Release 4): Sun Java System Instant Messaging 7 2005Q4.

The chapter provides a general overview of upgrade issues and procedures for the different upgrade paths supported by Java ES Release 4. The chapter covers the following:

- "Overview of Instant Messaging Upgrades" on page 139

- "Upgrading Instant Messaging from Java ES Release 3" on page 141

NOTE File locations in this chapter are specified with respect to a directory path referred to as *InstantMessaging-base*. At least part of this path might have been specified as an installation directory when Instant Messaging was initially installed. If not, the Java ES installer assigned a default value.

The default value of *InstantMessaging-base* is
`<Install_dir>\Instant Messaging`.

Overview of Instant Messaging Upgrades

This section describes the following general aspects of Instant Messaging that impact upgrading to Java ES 2005Q4 (Release 4):

- About Java ES Release 4 Instant Messaging

- Instant Messaging Upgrade Roadmap

- Instant Messaging Data

- Compatibility Issues

- Instant Messaging Dependencies

About Java ES Release 4 Instant Messaging

Java ES Release 4 Instant Messaging mostly represents bug fixes. There is no major new functionality with respect to Release 3.

Instant Messaging Upgrade Roadmap

Table 14-1 shows the supported Instant Messaging upgrade paths to Java ES Release 4.

Table 14-1   Upgrade Paths to Java ES Release 4: Sun Java System Instant Messaging 7 2005Q4

Java ES Release	Instant Messaging Version	General Approach	Re-configuration Required
Release 3	Sun Java System Instant Messaging 7 2005Q1	Direct upgrade: Performed by applying patches.	None

Instant Messaging Data

The following table shows the type of data that could be impacted by an upgrade of Instant Messaging software.

Table 14-2   Instant Messaging Data Usage

Type of Data	Location	Usage
Configuration data	Local configuration directory Solaris: `InstantMessaging-base\config\iim.conf` `InstantMessaging-base\config\registration.properties`	Configuration of Instant Messaging processes and registration attributes.
Instant Messaging Server Resources	Local configuration directory `InstantMessaging-base\html`	Customized client files downloaded by end users to launch the Messenger client.
Dynamic data	`InstantMessagin-base\db`	Track instant messaging clients that are online.

Compatibility Issues

Release 4 Instant Messaging does not introduce any interface changes and is backwardly compatible with earlier versions.

Instant Messaging Dependencies

Instant Messaging dependencies on other Java ES components can impact the procedure for upgrading and re-configuring Instant Messaging software. Changes in Instant Messaging interfaces or functions, for example, could require upgraded version of components upon which Instant Messaging depends. The need to upgrade such components depends upon the specific upgrade path.

Instant Messaging has dependencies on the following Java ES components:

- **Shared components**. Instant Messaging has dependencies on specific Java ES shared components (see Table 1-6 on page 28.

- **Web Container**. Instant Messaging depends upon web container services, which can be provided either by Java ES Web Server or Java ES Application Server.

- **Directory Server (optional)**. Instant Messaging can be configured to store and access user data in Directory Server. As a result, Instant Messaging upgrades might require extensions of directory schema.

- **Access Manager (optional)**. For software solutions that support single user sign-on for web-based services, Instant Messaging can be configured to use Access Manager single sign-on capability.

Upgrading Instant Messaging from Java ES Release 3

This section includes the following information about upgrading Instant Messaging from Java ES Release 3 to Java ES Release 4. The section covers the following topics:

- Introduction

- Instant Messaging Upgrade

Introduction

When upgrading Java ES Release 3 Instant Messaging to Release 4, consider the following aspects of the upgrade process:

- **General Upgrade Approach**. The upgrade is performed by applying patches to the Release 3 version. There is no re-configuration of Instant Messaging required.

- **Upgrade Dependencies**. While Instant Messaging has dependencies on a number of Java ES shared components (see Table 1-6 on page 28), Release 4 Instant Messaging upgrade of Shared components to Release 4.

  In addition, Release 4 Instant Messaging is dependent on a web container and optionally dependent on Access Manager, as described in "Instant Messaging Dependencies" on page 141. However, these are soft upgrade dependencies; upgrade the web container and Access Manager is optional with respect to upgrade of Instant Messaging to Release 4.

- **Backward Compatibility**. Release 4 Instant Messaging is backwardly compatible with the Release 3 version.

- **Upgrade Rollback**. Rollback of the Release 4 upgrade to Release 3 is achieved by executing the uninstall <*Patch-id*>.bat.

Instant Messaging Upgrade

This section describes how to perform an upgrade of Instant Messaging from Java ES Release 3 to Java ES Release 4. Where a topic depends on platform-specific procedures, the topic will indicate the operating system to which it applies. The section covers the following topics:

- Pre-Upgrade Tasks
- Upgrading Instant Messaging
- Post-Upgrade Tasks
- Rolling Back the Upgrade

Pre-Upgrade Tasks

Before you upgrade Instant Messaging you should perform the tasks described below.

Upgrade Instant Messaging Dependencies

It is generally recommended that all Java ES components on a computer system (and in a computing environment) be upgraded to Java ES Release 4. However, Instant Messaging has a hard upgrade dependency only on the shared component. Upgrading of other Java ES Release 3 components upon which Instant Messaging depends is therefore optional.

If you choose to upgrade all Instant Messaging dependencies, they should be upgraded in the following order, all before you upgrade Instant Messaging. You can skip any that might already have been upgraded.

1. **Shared Components**. Instructions for upgrading IM-SDK and other Java ES shared components to Release 4 are provided in Chapter 2, "Upgrading Java ES Shared Components" on page 39.

2. **Web Container Software**. Instructions for upgrading Web Server or Application Server are provided in Chapter 5, "Web Server" on page 61 and Chapter 8, "Application Server" on page 83, respectively.

3. **Access Manager (optional)**. Instructions for upgrading Access Manager to Release 4 are provided in Chapter 9, "Access Manager" on page 91.

Back Up Instant Messaging Data

The Instant Messaging upgrade from Release 3 to Release 4 modifies some configuration data. So, as a safety measure it is a good idea to back up the Instant Messaging database and any existing resource and configuration files you have customized before upgrading Instant Messaging. For more information, see the *Sun Java System Instant Messaging 7 2005Q4 Administration Guide* (http://docs.sun.com/doc/819-2503).

Obtain Required Configuration Information and Passwords

You have to log in as superuser to perform the upgrade. If you are using Web Server as a web container, no configuration information is needed. However if you are using Application Server as a web container, you will need the Application Server administrator user ID and password.

Upgrading Instant Messaging

This section discusses considerations that impact the upgrade procedure for Instant Messaging followed by a description of the procedure itself.

Upgrade Considerations

The upgrade of Instant Messaging software to Java ES Release 4 takes into account the following considerations:

- Instant Messaging components should be shut down when patches are being applied.

- In architectures in which different Instant Messaging subcomponents reside on different computers, for example messenger resources on one computer, Instant Messaging server on another, and Instant Messaging Multiplexor on yet another, the upgrade must be performed on all such computers.

- The Instant Messaging upgrade applies to multiple subcomponents of Instant Messaging on one computer using the same installed image.

- The Release 4 Instant Messaging upgrade patch are shown in Table 1-3.

Upgrade Procedure

The procedure documented below applies to Instant Messaging on the computer where the upgrade is taking place.

1. Obtain the required patches, based on Table 1-3.

   Patches can be downloaded from:

   http://sunsolve.sun.com

2. Log in as administrator.

3. Stop Instant Messaging if it is running.

   ```
   InstantMessaging-base\bin\xmppd -stop
   ```

   ```
   InstantMessaging-base\bin\multiplexorservice -stop
   ```

   ```
   InstantMessaging-base\bin\watchdogservice -stop
   ```

   Or

   From Service Control Panel, stop the following services:

   ```
   InstantMessaging Multiplescor
   ```

   ```
   InstantMessaging Watchdog Service
   ```

   ```
   InstantMessaging XMPPD Service
   ```

4. Apply the appropriate Instant Messaging patches in Table 1-3.

   Double-click `<Patch-id>.exe`

5. Confirm that the upgrade was successful by checking registry key:

   ```
   HKLM\software\Sun Microsystems\Entsys\installer\Patches\<Patch-id>
   ```

6. Update the `iim.conf` file with the configuration data from the backed up `iim.conf`.

7. Restart the Instant Messaging service that was stopped in Step 3.

   ```
   InstantMessaging-base\bin\xmppd -start
   ```

   ```
   InstantMessaging-base\bin\multiplexorservice -start
   ```

   ```
   InstantMessaging-base\bin\watchdogservice -start
   ```

NOTE   `HKLM\SOFTWARE\Sun Microsystems\EntSys\Installer\Patches-`
InstantMessaging registry entry is not created for Instant
Messaging.

Post-Upgrade Tasks

There are no post-upgrade tasks beyond the steps described in "Upgrade
Procedure" on page 144.

Rolling Back the Upgrade

This section describes considerations that impact the upgrade rollback procedure
for Instant Messaging followed by the procedure itself.

Rollback Considerations

The procedure for rolling back the upgrade to Release 4 of Instant Messaging is
pretty much the reverse of the procedure for upgrading to Release 4.

Rollback Procedure

1. Log in as administrator.

2. Stop Instant Messaging if it is running.

   ```
   InstantMessaging-base\bin\xmppd -stop
   ```

   ```
   InstantMessaging-base\bin\multiplexorservice -stop
   ```

   ```
   InstantMessaging-base\bin\watchdogservice -stop
   ```

3. Remove the patches by executing the `Uninstall_<Patch-id>.bat`.

4. Restart the Instant Messaging service that was stopped in Step 2.

```
InstantMessaging-base\bin\xmppd -start
```

```
InstantMessaging-base\bin\multiplexorservice -start
```

```
InstantMessaging-base\bin\watchdogservice -start
```

Portal Server

This chapter describes how to upgrade Portal Server from previous Java ES versions to Java ES 2005Q4 (Release 4): Sun Java System Portal Server 6 2005Q4.

The chapter provides a general overview of upgrade issues and procedures for the different upgrade paths supported by Java ES Release 4. The chapter covers the following:

- "Overview of Portal Server Upgrades" on page 147
- "Upgrading Portal Server from Java ES Release 3" on page 150

NOTE   File locations in this chapter are specified with respect to a directory path referred to as *PortalServer-base*. At least part of this path might have been specified as an installation directory when Portal Server was initially installed. If not, the Java ES installer assigned a default value.

The default value of *PortalServer-base* is `C:/Sun/Portal Server`.

Overview of Portal Server Upgrades

This section describes the following general aspects of Portal Server that impact upgrading to Java ES 2005Q4 (Release 4):

- About Java ES Release 4 Portal Server
- Portal Server Upgrade Roadmap
- Portal Server Data
- Compatibility Issues

- Portal Server Dependencies

About Java ES Release 4 Portal Server

Java ES Release 4 Portal Server is functionally the same as Release 3, but contains bug fixes made since Release 3.

Portal Server Upgrade Roadmap

Table 15-1 shows the supported Portal Server upgrade paths to Java ES Release 4.

Table 15-1   Upgrade Paths to Java ES Release 4: Sun Java System Portal Server 6 2005Q4

Java ES Release	Portal Server Version	General Approach	Re-configuration Required
Release 3	Sun Java System Portal Server 6 2005Q1	Direct upgrade: Performed by applying patches. Some limitations apply (see procedures).	None

Portal Server Data

The following table shows the type of data that could be impacted by an upgrade of Portal Server software.

Table 15-2   Portal Server Data Usage

Type of Data	Location	Usage
Configuration data	*PortalServer-base*/config *PortalServer-base* Web Server web container: server.policy and server.xml files in *WebServer-base*/https-*hostname*/config Application Server web container: server.policy and domain.xml files in *ApplicationServer-base*/domain/domain1/config	Configuration of Portal Server and its web container instance.

Table 15-2   Portal Server Data Usage

Type of Data	Location	Usage
Customization data	C:/Sun/Portal/Config/desktop	JAR files for customized modules
		Customized sample Portal Server desktop
Directory schema	Directory Server	Portal Server depends on services configurations, such as the portal desktop, and user profile data that is stored in a directory.
Services configuration		
User data		
Dynamic application data	None	Portal Server does not persistently store application data such as session state.

Compatibility Issues

Release 4 Portal Server does not introduce any interface changes. Portal Server components, including the mobile access component, are backwardly compatible with earlier versions.

Portal Server Dependencies

Portal Server dependencies on other Java ES components can impact the procedure for upgrading and re-configuring Portal Server software. Changes in Portal Server interfaces or functions, for example, could require upgraded version of components upon which Portal Server depends. The need to upgrade such components depends upon the specific upgrade path.

Portal Server has dependencies on the following Java ES components:

- **Shared components.** Portal Server has dependencies on specific Java ES shared components (see Table 1-6 on page 28).

- **Web Container**. Portal Server depends upon web container services, which can be provided either by Java ES Web Server or Java ES Application Server (or by third-party web containers from Weblogic and WebSphere).

- **Access Manager (or Access Manager SDK).** Portal Server depends upon Access Manager to provide authentication and authorization services for end users, including single sign-on.

• **Directory Server.** Portal Server accesses user data stored in Directory Server. As a result, Portal Server upgrades might require extensions of directory schema.

Upgrading Portal Server from Java ES Release 3

This section includes information about upgrading Portal Server from Java ES 2005Q1 (Release 3) to Java ES 2005Q4 (Release 4).

NOTE	This section does not apply to the special case in which Portal Server is deployed in an Application Server web container and has been upgraded from Release 2 to Release 3 prior to being upgraded to Release 4.
	The aforementioned upgrade path is not currently supported. For more information, see the Sun Java System Portal Server 6 2005Q4 Release Notes (`http://docs.sun.com/doc/819-2575`).

The section covers the following topics:

• Introduction

• Portal Server Upgrade

Introduction

When upgrading Java ES Release 3 Portal Server to Release 4, consider the following aspects of the upgrade process:

• **General Upgrade Approach.** The upgrade is performed by applying patches to the Release 3 version. Re-configuration of Portal Server is required only if the web container upon which Portal Server depends is upgraded or changed.

• **Upgrade Dependencies**. While Portal Server has dependencies on a number of Java ES shared components (see Table 1-6 on page 28), Release 4 Portal Server is compatible with the Release 3 version of these components. Upgrade of these shared components, except for Mobile Access Core (MA Core), is therefore optional with respect to upgrade of Portal Server to Release 4.

In addition, Release 4 Portal Server is dependent upon a web container, Access Manager, and Directory Server as described in "Portal Server Dependencies" on page 149. However, these are soft upgrade dependencies; upgrade of these components is optional with respect to upgrade of Portal Server to Release 4.

- **Backward Compatibility**. Release 4 Portal Server is backwardly compatible with the Release 3 version.

- **Upgrade Rollback**. Rollback of the Release 4 upgrade of Portal Server to Release 3 is achieved by rolling back the patches applied during the upgrade.

Portal Server Upgrade

This section describes how to perform an upgrade of Portal Server from Java ES Release 3 to Java ES Release 4. The section covers the following topics:

- Pre-Upgrade Tasks

- Upgrading Portal Server

- Verifying the Upgrade

- Post-Upgrade Tasks

- Rolling Back the Upgrade

Pre-Upgrade Tasks

Before you upgrade Portal Server you should perform the tasks described below.

Upgrade Portal Server Dependencies

It is generally recommended that all Java ES components on a computer system (and in a computing environment) be upgraded to Java ES Release 4. However, Portal Server has a hard upgrade dependency only on the Mobile Access Core (MA Core) shared component. Upgrading of other Java ES Release 3 components upon which Portal Server depends is therefore optional.

However, if you choose to upgrade all Portal Server dependencies, they should be upgraded in the following order, all before you upgrade Portal Server. You can skip any that might already have been upgraded.

1. **Shared Components**. Instructions for upgrading Java ES shared components to Release 4 are provided in Chapter 2, "Upgrading Java ES Shared Components" on page 39.

2. **Directory Server**. Instructions for upgrading Directory Server to Release 4 are provided in Chapter 3, "Directory Server and Administration Server" on page 41.

3. **Web Container Software**. Instructions for upgrading Web Server or Application Server are provided in Chapter 5, "Web Server" on page 61 and Chapter 8, "Application Server" on page 83 respectively.

NOTE	Upgrading third-party web containers, such as those from WebLogic and WebSphere can cause Portal Server to break because customizations made to these containers to support Portal Server are overwritten by the container upgrade.
	In these cases you have to reinstall and re-configure Portal Server for the upgraded web container environments.

4. **Access Manager**. Instructions for upgrading Access Manager to Release 4 are provided in Chapter 9, "Access Manager" on page 91.

Back Up Release 3 Portal Server Configuration Information

Upgrade of Portal Server to Release 4 does not require the re-configuration of Portal Server software. However, as a safety measure you can back up the following directories where configuration information is stored:

PortalServer-base/config

Obtain Required Configuration Information and Passwords

You have to log in as superuser to perform the upgrade. If you are using Web Server as a web container, no configuration information is needed. However if you are using Application Server as a web container, you will need the Application Server administrator user ID and password.

Upgrading Portal Server

This section discusses considerations that impact the upgrade procedure for Portal Server followed by a description of the procedure itself.

Upgrade Considerations

The upgrade of Portal Server software to Java ES Release 4 takes into account the following considerations:

- All Portal Server instances corresponding to the same installed Portal Server image are upgraded at the same time. All such instances should be shut down by shutting down the web container when patches are being applied to the installed image.

- The Release 4 Portal Server upgrade patches are shown in the Table 1-3.

Upgrade Procedure

The procedure documented below applies to Portal Server on the computer where the upgrade is taking place.

1. Obtain the required patches, based on Table 1-3.

   Patches can be downloaded from:

   http://sunsolve.sun.com

2. Log in as administrator.

3. Stop Portal Server by stopping its web container.

   Web Server:

   *WebServer-base/*https-*instanceName*/stopsvr.bat

   Application Server:

   ApplicationServer-base/bin/asadmin.bat stop-domain domainName

   ApplicationServer-base/bin/asadmin.bat stop-node-agent hostName_domainName

4. Run the Prepatch.bat

5. Run the <Patch-id>.exe

6. Restart Portal Server by restarting its web container.

   Web Server:

   WebServer-base/https-*instanceName*/startsrv.bat

   Application Server:

   ApplicationServer-base/bin/asadmin.bat start-domain *domainName*
   --user admin_ID --password *password*

7. Run the Postpatch.bat file

8. Re-configure the Portal Server:

   PortalServer-base/Config/PSConfig.bat-s

9. Stop and restart the web container.

   While not required in all situations, restarting the web container ensures that Portal Server starts in a clean state.

NOTE	`HKLM\SOFTWARE\Sun Microsystems\EntSys\Installer\Patches`- Portal Server registry entry is not created for Portal Server.

Verifying the Upgrade

The upgrade of Portal Server to Release 4 is verified by confirming that the upgrade patches have been properly applied.

You can verify that what previously worked still works and that bug fixes of interest have actually been fixed.

Post-Upgrade Tasks

There are no post-upgrade tasks beyond the steps described in "Upgrading Portal Server" on page 152.

Rolling Back the Upgrade

This section describes considerations that impact the upgrade rollback procedure for Portal Server followed by the procedure itself.

Rollback Considerations

The procedure for rolling back the upgrade to Release 4 of Portal Server is pretty much the reverse of the procedure for upgrading to Release 4. The re-configurations are rolled back and the patches are removed.

Rollback Procedure

1. Stop Portal Server by stopping its web container.

   WebServer-base/https-*instanceName*/stopsvr.bat (Web Server)

   ApplicationServer-base/bin/asadmin.bat stop-domain --d *instanceName* (*Application Server)*

2. Remove the patches by uninstalling the patch.

3. Restart Portal Server by restarting its web container.

   Web Server:

   WebServer-base/https-*instanceName*/startsrv.bat

   Application Server:

   ApplicationServer-base/bin/asadmin.bat start-domain *domainName*

   --user *admin_ID* --password *password*

4. Run the Postbackout.bat file

5. Reconfigure the Portal Server web application to your web container.

   PortalServer-base/config/PSConfig-s

6. Stop and restart the web container.

   While not required in all situations, restarting the web container ensures that Portal Server starts in a clean state.

Portal Server Secure Remote Access

This chapter describes how to upgrade Portal Server Secure Remote Access from previous Java ES versions to Java ES 2005Q4 (Release 4): Sun Java System Portal Server Secure Remote Access 6 2005Q4.

The chapter provides a general overview of upgrade issues and procedures for the different upgrade paths supported by Java ES Release 4.

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NOTE   File locations in this chapter are specified with respect to a directory path referred to as *PortalServer-base*. It is the same directory path used for Portal Server file locations. At least part of this path might have been specified as an installation directory when Portal Server was initially installed. If not, the Java ES installer assigned a default value.

The default value of *PortalServer-base* is C:/Sun/PortalServer.

Overview of Portal Server Secure Remote Access Upgrades

This section describes the following general aspects of Portal Server Secure Remote Access that impact upgrading to Java ES 2005Q4 (Release 4):

- About Java ES Release 4 Portal Server Secure Remote Access

- Portal Server Secure Remote Access Upgrade Roadmap

- Portal Server Secure Remote Access Data

- Compatibility Issues

- Portal Server Secure Remote Access Dependencies

About Java ES Release 4 Portal Server Secure Remote Access

Java ES Release 4 Portal Server Secure Remote Access mostly represents bug fixes. There is no major new functionality with respect to Release 3.

Portal Server Secure Remote Access Upgrade Roadmap

Table 16-1 shows the supported Portal Server Secure Remote Access upgrade paths to Java ES Release 4.

Table 16-1   Upgrade Paths to Java ES Release 4: Sun Java System Portal Server Secure Remote Access 6 2005Q4 S

Java ES Release	Component	General Approach	Re-configuration Required
Release 3	Sun Java System Portal Server Secure Remote Access 6 2005Q1	Direct upgrade: Performed by applying patches.	Yes

Portal Server Secure Remote Access Data

The following table shows the type of data that could be impacted by an upgrade of Portal Server Secure Remote Access software.

Table 16-2   Portal Server Secure Remote Access Data Usage

Type of Data	Location	Usage
Configuration data	PortalServer-base/Config	Configuration of Portal Server Remote Access
Directory schema User data	Directory Server	Portal Server Secure Remote Access depends on user profile data that is stored in the directory.
Dynamic application data	None	Portal Server Secure Remote Access does not persistently store application data such as session state.

Compatibility Issues

Release 4 Portal Server Secure Remote Access does not introduce any interface changes. Portal Server Secure Remote Access is backwardly compatible with earlier versions.

Portal Server Secure Remote Access Dependencies

Portal Server Secure Remote Access dependencies on other Java ES components can impact the procedure for upgrading and re-configuring Portal Server Secure Remote Access software. Changes in Portal Server Secure Remote Access interfaces or functions, for example, could require upgraded version of components upon which Portal Server Secure Remote Access depends. The need to upgrade such components depends upon the specific upgrade path.

Portal Server Secure Remote Access has dependencies on the following Java ES components:

- **Shared components.** Portal Server has dependencies on specific Java ES shared components (see Table 1-6 on page 28).

- **Portal Server.** Portal Server Secure Remote Access provides secure remote access to Portal Server.

- **Access Manager (or Access Manager SDK).** Portal Server depends upon Access Manager to provide authentication and authorization services for end users, including single sign-on.

- **Directory Server.** Portal Server accesses user data stored in Directory Server. As a result, Portal Server upgrades might require extensions of directory schema.

Upgrading Portal Server Secure Remote Access from Java ES Release 3

This section includes information about upgrading Portal Server Secure Remote Access from Java ES 2005Q1 (Release 3) to Java ES Release 4. The section covers the following topics:

- Introduction

- Portal Server Secure Remote Access Upgrade

Introduction

When upgrading Java ES Release 3 Portal Server Secure Remote Access to Release 4, consider the following aspects of the upgrade process:

- **General Upgrade Approach**. The upgrade is performed by applying patches to the Release 3 version. Re-configuration of Portal Server Secure Remote Access is not required.

- **Upgrade Dependencies.** While Portal Server Secure Remote Access has dependencies on a number of Java ES shared components (see Table 1-6 on page 28), Release 4 Portal Server Secure Remote Access is compatible with the Release 3 version of these components. Upgrade of these shared components, except for Mobile Access Core (MA Core), is therefore optional with respect to upgrade of Portal Server Secure Remote Access to Release 4.

  In addition, Release 4 Portal Server Secure Remote Access is dependent upon Portal Server, Access Manager, and Directory Server as described in "Portal Server Secure Remote Access Dependencies" on page 159. Upgrade of Portal Server Secure Remote Access to Release 4 requires that Portal Server also be

upgraded. However, the dependencies on Access Manager and Directory Server are soft upgrade dependencies; upgrade of these components is optional with respect to upgrade of Portal Server Secure Remote Access to Release 4.

- **Backward Compatibility.** Release 4 Portal Server Secure Remote Access is backwardly compatible with the Release 3 version.

- **Upgrade Rollback**. Rollback of the Release 4 upgrade of Portal Server Secure Remote Access to Release 3 is achieved by rolling back the patches applied during the upgrade.

Portal Server Secure Remote Access Upgrade

This section describes how to perform an upgrade of Portal Server Secure Remote Access from Java ES Release 3 to Java ES Release 4. The section covers the following topics:

- Pre-Upgrade Tasks

- Upgrading Portal Server Secure Remote Access

- Verifying the Upgrade

- Post-Upgrade Tasks

- Rolling Back the Upgrade

Pre-Upgrade Tasks

Before you upgrade Portal Server Secure Remote Access you should perform the tasks described below

Upgrade Portal Server Dependencies

It is generally recommended that all Java ES components on a computer system (and in a computing environment) be upgraded to Java ES Release 4. However, Portal Server has a hard upgrade dependency only on the Mobile Access Core (MA Core) shared component. Upgrading of other Java ES Release 3 components upon which Portal Server depends is therefore optional.

However, if you choose to upgrade all Portal Server Secure Remote Access dependencies, they should be upgraded in the following order, all before you upgrade Portal Server Secure Remote Access. You can skip any that might already have been upgraded.

1. **Shared Components.** Instructions for upgrading Java ES shared components to Release 4 are provided in Chapter 2, "Upgrading Java ES Shared Components."

2. **Directory Server.** Instructions for upgrading Directory Server to Release 4 are provided in Chapter 3, "Directory Server and Administration Server."

3. **Access Manager (Access Manager SDK).** Instructions for upgrading Access Manager to Release 4 are provided in Access Manager.

4. **Portal Server.** Instructions for upgrading Portal Server are provided in Chapter 15, "Portal Server."

Back Up Release 3 Portal Server Secure Remote Access Configuration Information

Upgrade of Portal Server Secure Remote Access to Release 4 does not require the re-configuration of Portal Server Secure Remote Access software. However, as a safety measure you can back up the following directories where configuration information is stored:

```
PortalServer-base/config
```

Upgrading Portal Server Secure Remote Access

This section discusses considerations that impact the upgrade procedure for Portal Server Secure Remote Access followed by a description of the procedure itself.

Upgrade Considerations

The upgrade of Portal Server Secure Remote Access software to Java ES Release 4 takes into account the following considerations:

- All Portal Server Secure Remote Access instances corresponding to the same installed Portal Server Secure Remote Access image are upgraded at the same time. All such instances should be shut down when patches are being applied to the installed image.

Upgrade Procedure

The procedure documented below applies to Portal Server Secure Remote Access on the computer where the upgrade is taking place.

1. Obtain the required patches, based on Table 1-3.

   Patches can be downloaded from:

   http://sunsolve.sun.com

2. Stop Portal Server Secure Remote Access processes.

   `net stop SRA.Gatway.<instancename>`

   `net stop SRA.netlet.<instancename>`

   `net stop SRA.rewriter.<instancename>`

3. Apply the appropriate Portal Server patches in Table 1-3.

   Run the `<Patch-id>.exe`

4. Restart Portal Server Secure Remote Access processes.

   `net start SRA.Gatway.<instancename>`

   `net start SRA.netlet.<instancename>`

   `net start SRA.rewriter.<instancename>`

Verifying the Upgrade

The upgrade of Portal Server Secure Remote Access to Release 4 is verified by confirming that the upgrade patches have been properly applied.

Post-Upgrade Tasks

Reconfigure the Portal SRA.

C:/Sun/PortalServer/config/SRAConfig.bat-s

C:/Sun/PortalServer/config/GWConfig.bat-s

C:/Sun/PortalServer/config/NLPConfig.bat-s

C:/Sun/PortalServer/config/RWConfig.bat-s

Rolling Back the Upgrade

This section describes considerations that impact the upgrade rollback procedure for Portal Server Secure Remote Access followed by the procedure itself.

Rollback Considerations

The procedure for rolling back the upgrade to Release 4 of Portal Server Secure Remote Access is pretty much the reverse of the procedure for upgrading to Release 4. The re-configurations are rolled back and the patches are removed.

Rollback Procedure

1. **Stop Portal Server Secure Remote Access processes.**

   ```
   net stop SRA.Gatway.<instancename>

   net stop SRA.netlet.<instancename>

   net stop SRA.rewriter.<instancename>
   ```

2. **Remove the patches by uninstalling the patch.**

3. **Restart Portal Server Secure Remote Access processes.**

   ```
   net start SRA.Gatway.<instancename>

   net start SRA.netlet.<instancename>

   net start SRA.rewriter.<instancename>
   ```

Delegated Administrator

This chapter describes how to upgrade Delegated Administrator from previous Java ES versions to Java ES 2005Q4 (Release 4): Sun Java System Communication Services Delegated Administrator 6 2005Q4.

The chapter provides a general overview of upgrade issues and procedures for the different upgrade paths supported by Java ES Release 4.

- "Overview of Delegated Administrator Upgrades" on page 165

- "Upgrading Delegated Administrator from Java ES Release 3" on page 168

NOTE   File locations in this chapter are specified with respect to a directory path referred to as *DelegatedAdmin-base*. At least part of this path might have been specified as an installation directory when Delegated Administrator was initially installed. If not, the Java ES installer assigned a default value.

The default value of *DelegatedAdmin-base* is <*INSTALL_DIR*>\DelegatedAdmin.

Overview of Delegated Administrator Upgrades

This section describes the following general aspects of Delegated Administrator that impact upgrading to Java ES 2005Q4 (Release 4):

- About Java ES Release 4 Delegated Administrator

- Delegated Administrator Upgrade Roadmap

- Delegated Administrator Data

- Compatibility Issues

- Delegated Administrator Dependencies

About Java ES Release 4 Delegated Administrator

Java ES Release 4 Delegated Administrator new features with respect to Release 3 include calendar service provisioning, mail group provisioning, improved UI navigation based on usability feedback, and various bug fixes.

Delegated Administrator Upgrade Roadmap

Table 17-1 shows the supported Delegated Administrator upgrade paths to Java ES Release 4.

Table 17-1   Upgrade Paths to Java ES Release 4: Sun Java System Communication Services Delegated Administrator 6 2005Q4

Java ES Release	Component	General Approach	Re-configuration Required
Release 3	Sun Java System Communication Services Delegated Administrator 66 2005Q1	Direct upgrade: Performed by applying patches and running `config-commda` utility.	Configuration data

Delegated Administrator Data

The following table shows the type of data that could be impacted by an upgrade of Delegated Administrator software.

Table 17-2   Delegated Administrator Data Usage

Type of Data	Location	Usage
Directory schema	Directory Server `usergroup\directory`	For attributes needed to support end users, organizations, and services schema
Configuration data	*<DelegatedAdmin-base>*`\data\WEB-INF\classes\sun` `\comm\cli\server\servlet\resource.properties`	Delegated Administrator server configuration and customizations
	<DelegatedAdmin-base>`datada\WEB-INF\classes\co` `m\sun\comm\da\resources\daconfig.properties`	Delegated Administrator console configuration
	<DelegatedAdmin-base>`\data\da\WEB-INF\classes\` `com\sun\comm\da\resources\logger.properties`	Delegated Administrator console logging
	<DelegatedAdmin-base>`\data\da\WEB-INF\classes\` `com\sun\comm\da\resources\security.properties`	Delegated Administrator console configuration

Compatibility Issues

Release 4 Delegated Administrator introduces graphical user interface changes but is backwardly compatible with earlier versions.

Delegated Administrator Dependencies

Delegated Administrator dependencies on other Java ES components can impact the procedure for upgrading and re-configuring Delegated Administrator software. Changes in Delegated Administrator interfaces or functions, for example, could require upgraded version of components upon which Delegated Administrator depends. The need to upgrade such components depends upon the specific upgrade path.

Delegated Administrator has dependencies on the following Java ES components:

- **Shared components**. Delegated Administrator has dependencies on specific Java ES shared components (see Table 1-6 on page 28).

- **Web Container.** Delegated Administrator depends upon web container services, which can be provided either by Java ES Web Server or Java ES Application Server.

- **Directory Server.** Delegated Administrator stores application and user data in Directory Server.

- **Directory Preparation Tool.** Delegated Administrator uses the Directory Preparation Tool to prepare the directory to support Delegated Administrator user provisioning functions. As a result, Delegated Administrator upgrades might depend upon preparation of the directory to support new functions.

- **Access Manager (Access Manager SDK).** Delegated Administrator depends upon Access Manager to register services and to make entries into Directory Server.

Upgrading Delegated Administrator from Java ES Release 3

This section includes information about upgrading Delegated Administrator from Java ES 2005Q1 (Release 3) to Java ES Release 4. The section covers the following topics:

- Introduction
- Delegated Administrator Upgrade

Introduction

When upgrading Java ES Release 3 Delegated Administrator to Release 4, consider the following aspects of the upgrade process:

- **General Upgrade Approach.** The upgrade is performed by applying patches to the Release 3 version. Re-configuration of Delegated Administrator is achieved by running the config-commda configuration utility.

- **Upgrade Dependencies.** While Delegated Administrator has dependencies on a number of Java ES shared components (see Table 1-6 on page 28), Release 4 Delegated Administrator is compatible with the Release 3 versions of these components. Upgrade of these shared components is therefore optional with respect to upgrade of Delegated Administrator to Release 4.

  In addition, Release 4 Delegated Administrator is dependent upon a web container and on Access Manager, as described in "Delegated Administrator Dependencies." These are soft upgrade dependencies; upgrade of these components is optional with respect to upgrade of Delegated Administrator to Release 4.

  However, Release 4 Delegated Administrator has a hard upgrade dependency on Directory Preparation Tool; Release 4 Directory Preparation Tool is required to prepare Directory Server for user provisioning operations.

- **Backward Compatibility.** Release 4 Delegated Administrator is backwardly compatible with the Release 3 version.

Delegated Administrator Upgrade

This section describes how to perform an upgrade of Delegated Administrator from Java ES Release 3 to Java ES Release 4. The section covers the following topics:

- Pre-Upgrade Tasks
- Upgrading Delegated Administrator
- Verifying the Upgrade
- Post-Upgrade Tasks
- Rolling Back the Upgrade

Pre-Upgrade Tasks

Before you upgrade Delegated Administrator you should perform the tasks described below.

Verify Current Version Information

You can verify the current version of Delegated Administrator by entering the following command:

  <DelegatedAdmin-base>\bin\commadmin -V

Table 17-3   Delegated Administrator Version Verification Outputs

Java ES Release	Directory Proxy Server Version Number
Release 3	`User Management Utility 6 2005Q1`
Release 4	Delegated Administrator 6.3-1.01

Upgrade Delegated Administrator Dependencies

It is generally recommended that all Java ES components on a computer system (and in a computing environment) be upgraded to Java ES Release 4. However, Delegated Administrator has a hard upgrade dependency only on Directory Preparation Tool. Upgrading of other Java ES Release 3 components upon which Delegated Administrator depends is therefore optional.

However, if you choose to upgrade all Delegated Administrator dependencies, they should be upgraded in the following order, all before you upgrade Delegated Administrator. You can skip any that might already have been upgraded.

1. **Shared Components.** Instructions for upgrading Java ES shared components to Release 4 are provided in Chapter 2, "Upgrading Java ES Shared Components" on page 39.

2. **Directory Server.** Instructions for upgrading Directory Server to Release 4 are provided in Chapter 3, "Directory Server and Administration Server."

3. **Web Container Software.** Instructions for upgrading Web Server or Application Server are provided in Chapter 5, "Web Server" on page 61 and Chapter 8, "Application Server" on page 83, respectively.

4. **Access Manager (Access Manager SDK).** Instructions for upgrading Access Manager to Release 4 are provided in Chapter 9, Access Manager.

5. **Directory Preparation Tool.** Release 4 Directory Preparation Tool needs to have been run against Directory Server before using Release 4 Delegated Administrator. If Directory Preparation Tool has not already been run against Directory Server, upgrade Directory Preparation Tool to Release 4 and use it to modify and extend the schema of Directory Server (see Chapter 10, "Directory Preparation Tool" on page 105 for procedures).

Back Up Delegated Administrator Data

The Delegated Administrator upgrade from Release 3 to Release 4 requires re-configuration of Delegated Administrator. It is a good idea to back up configuration data as a safety precaution, and to back up any Release 3 graphical user interface customizations.

Obtain Required Configuration Information and Passwords

You should know the following information about your currently installed version:

- Access Manager administrator user ID and password

- Access Manager internal LDAP password

- Top level administrator user ID and password

- Application Server administrator user ID and password, if you are using

- Application Server as a web container

Upgrading Delegated Administrator

This section discusses considerations that impact the upgrade procedure for Delegated Administrator followed by a description of the procedure itself.

Upgrade Considerations

The upgrade of Delegated Administrator software to Java ES Release 4 takes into account the following considerations:

- Delegated Administrator should not be used while patches are being applied to the installed image.

- When re-configuring Delegated Administrator, it should be deployed to the same web container as Access Manager.

- The Release 4 Delegated Administrator upgrade patch is shown in Table 1-3.

Upgrade Procedure

The procedure documented below applies to Delegated Administrator on the computer where the upgrade is taking place.

1. Obtain the required patches, based on Table 1-3.

   Patches can be downloaded from:

   http://sunsolve.sun.coms

2. Run the `prepatch.pl` as follows:

   `perl prepatch.pl <WebServer-RootPath> <instance name>`

3. Apply the appropriate Delegated Administrator patches by executing the corresponding `<patch-id>.exe`

4. Run `perl postpatch.pl <WebServer-RootPath> <instance name>`

5. Reconfigure Delegated Administrator.

   a. Make sure the web container running Access Manager and Delegated Administrator is running.

      To start the web container:

      Web Server:

      <WebServer-base>\https-*instanceName*\start

      Application Server:

      <ApplicationServer-base>\bin\asadmin start-domain *domainName*

      --user *admin_ID* --password *password*

      where Access Manager and Delegated Administrator are deployed in a server instance in the domainName domain. The default domainName is domain1 and the default server instance is server1.

   b. Run the Delegated Administrator configuration utility.

      <DelegatedAdmin-base>\sbin\config-commda

      For details of how to use this utility, see Chapter 3, Configuring Delegated Administrator of the *Sun Java System Communications Services 6 2005Q4 Delegated Administration Guide* (http://docs.sun.com/doc/819-2658).

6. Stop and restart the Delegated Administrator web container.

   Web Server:

   <WebServer-base>\https-*instanceName*\stop

   <WebServer-base>\https-*instanceName*\start

   Application Server:

   <ApplicationServer-base>\bin\asadmin stop-domain *domainName*

   <ApplicationServer-base>\bin\sadmin start-domain *domainName*

   --user *admin_ID* --password *password*

Verifying the Upgrade

You can verify successful upgrade of Delegated Administrator as follows:

1. Check the version number.

   <DelegatedAdmin-base>\bin\commadmin –V

2. Log in to the Delegated Administrator console using the top level administrator user ID and password specified during re-configuration of Delegated Administrator.

   http://*hostName:port/*da/DA/Login

   where *hostName:port* are values provided during re-configuration of Delegated Administrator.

Post-Upgrade Tasks

There are no post-upgrade tasks beyond the steps described in "Upgrade Procedure" on page 171.

Rolling Back the Upgrade

Rollback of Delegated Administrator is not supported. Changes made during the upgrade procedure, such as entries in Directory Server or in deploying Delegated Administrator into the web container cannot easily be backed out.

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