

Oracle® Applications InterConnect

Release 3.1.3

Installation Guide

Part No. A86040-01

This guide explains the installation of Oracle Applications InterConnect Release 3.1.3. Please check that your system meets all the hardware and software prerequisites before starting the installation of these products.

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Introduction

This guide explains the installation of Oracle Applications InterConnect Release 3.1.3.

How This Guide is Organized

There are a total of eight broad steps to install OAI and all its dependent components. The guide lists these steps one by one in the order you should follow them. Each step has a number of substeps. The guide is organized such that you can begin from page 1 and go to the end of the guide without having to jump around sections and have a fully installed working OAI system.

Notation

Throughout this documentation, <variable_name> refers to variables supplied by the user. For example, <ORACLE_HOME> refers to the top-level directory used during Oracle software installation. \$VARIABLE_NAME refers to system environment variables. The notation \$ORACLE_HOME is reserved for the Oracle home directory on Unix platforms.

OAI and Dependent Component List

OAI is a hub'n'spoke end to end integration solution. The following is a list of components that need to be installed.

NOTE: All of the following components can be found on the Oracle 8i Release 3 (8.1.7) CD. There is one Oracle 8i Release 3 (8.1.7) CD per platform. Currently OAI is supported on NT and Solaris. Use the NT or Solaris CD to install these components. Most of the installation steps are not platform specific. The ones that are, are clearly marked.

OAI Components

- Adapters (Java Application)
- Repository (Java Application)
- iStudio (Java Application)
- Management Console (Java Application)

Dependent Products

- Oracle Internet Directory (OID) 2.1.1

- Oracle Database 8.1.7
- Oracle Message Broker (OMB) 2.0.1.0

Oracle Applications InterConnect Overview

Oracle Applications InterConnect is comprised of three major components:

iStudio

iStudio is a wizard-based tool used to specify and configure the integration. It enables you to model hierarchical data that represent business objects you are integrating between applications. It is used to specify data transformations, and supports publish/subscribe, request/reply, and point-point messaging paradigms.

Repository

The Repository stores iStudio-generated metadata, that encapsulates all the integration information.

Adapters

Adapters are software modules that plug into applications to make them Applications InterConnect enabled. Each adapter is a runtime component that manages all information flow between a particular application and OAI. Adapters may be specialized for use with applications.

Applications InterConnect includes four specialized adapters:

- DB Adapter—for use with PL/SQL database applications.
- SAP Adapter—for use with SAP applications.
- CRM 11i Adapter—for use with CRM 11i applications.
- XML AQ Adapter—for use with applications that use AQ and XML messages.

Two XML adapters are available—one for use with Oracle 8.1.5, and one for use with Oracle 8.1.6/8.1.7. For more detailed information please refer to the users guide.

Recommended Topology

There is absolutely no restriction on where each of the components listed above reside—it could range from all components on one machine to each

component on its own dedicated machine. We, however, recommend the following topology:

- Hub machine—Repository, OID, OMB, Database. The platform could be NT or Solaris.
- The adapters co-located on the same machines as the applications they connect to provided they are hosted on a platform that OAI is supported on. If this is not the case, you should have one Spoke machine per application (you can choose to have just one Spoke machine for all applications instead if it meets your throughput needs). The platform could be NT or Solaris except for the SAP adapter which is NT only.
- One machine for iStudio (or you could use any of the above machines) and Management Console. The platform must be NT only.

Hardware Requirements

A CD-ROM drive to install Applications InterConnect, or the ability to access a CD-ROM drive over the network.

NOTE: Do not run an install on a Solaris machine using Exceed on a remote machine. This can cause problems during install.

The Hub Machine (for OMB, OID, Repository, and database)

NT platform

- 500 MB RAM
- 4.0 Service Pack 3 or higher
- 10 GB disk space
- 400 Mhz processor or higher

Solaris platform

- 500 MB RAM
- Version 2.6
- 10 GB disk space

The Spoke Machine (for adapters)

Note: The SAP adapter can only run on an NT machine

NT platform

- 128 MB RAM
- 4.0 Service Pack 3 or higher
- 500 MB disk space
- 400 Mhz processor or higher

Solaris platform

- 128 MB RAM
- Version 2.6
- 500 MB disk space

The iStudio/Management Console Machine

NT platform only

- 128 MB RAM
- 4.0 Service Pack 3 or higher
- 500 MB disk space
- 400 Mhz processor or higher

Software Requirements

JRE Requirements for Solaris

OAI works on JRE 1.1.8.

Note: You do not need to install JRE or JDK 1.1.8 prior to OAI install. The OAI install bundles JRE 1.1.8 with it and will install it for you. The following is information on the Solaris patch required for proper functioning of Java programs.

(Reproduced from the README for JDK 1.1.8_10 for Solaris/SPARC)

Requirements

Solaris 2.5.1, Solaris 2.6 or Solaris 7 with at least the required patches from the table below installed. The patches in the table can be downloaded from <http://www.sun.com/solaris/java> or obtained from your service provider. The two digit number following the dash in each patch id is the revision of

that patch. The table lists minimum revisions that this release was tested with; later revisions are acceptable.

Solaris	required/ Version Patch Id recommen ded	Description
2.5.1	(5.5.1)	103566-43 required X11/OpenWindows patch
2.5.1	(5.5.1)	103640-28 required Kernel patch
2.5.1	(5.5.1)	103627-10 recommended Linker patch
2.6	(5.6)	106040-11 required X Input & Output Method patch
2.6	(5.6)	105181-15 recommended Kernel Update (socket close/hang)
2.6	(5.6)	105284-25 recommended Motif Runtime Library patch
2.6	(5.6)	105490-07 recommended Dynamic linker patch.5
2.6	(5.6)	106409-01 recommended Chinese TrueType fonts patch (1)
2.6	(5.6)	105633-30 recommended OpenWindows 3.6: Xsun Patch (1)
2.6	(5.6)	105568-13 recommended Libthread Patch
2.6	(5.6)	105210-19 recommended LibC Patch
2.6	(5.6)	105669-07 recommended CDE 1.2: libDTSvc Patch (dtmail)
7	(5.7)	107636-01 required X Input & Output Method patch
7	(5.7)	106980-05 recommended Libthread Patch
7	(5.7)	107607-01 recommended motif fontlist fontset libxm
7	(5.7)	107078-10 recommended OpenWindows 3.6.1 Xsun Patch (1)

Notes

(1) - recommended for locales which use traditional Chinese characters. In addition to the patches listed here, you may also want to install the latest patch cluster for your version of Solaris, which includes additional recommended and security patches. Solaris patch clusters are available for

download on the Web; follow the appropriate links starting at <http://sunsolve.sun.com>.

Patch installation

Use the command 'showrev -p' to list the patches installed on your system. If the required/recommended patches are not already installed, follow the steps below:

1. Extract the patch tar file that matches your version of Solaris (only one will apply to a given system):

```
Solaris 2.5.1: $ tar xvf 1.1.8_10_patches_sparc_5.5.1.tar
```

```
Solaris 2.6: $ tar xvf 1.1.8_10_patches_sparc_5.6.tar
```

```
Solaris 7: $ tar xvf 1.1.8_10_patches_sparc_5.7.tar
```

This will create a number of patch archives with names like <patch-id>.tar.Z.

2. Uncompress and extract each of the patch archives that you wish to install:

```
$ zcat <patch-id>.tar.Z | tar -xvf -A
```

directory with a name like <patch-id> will be created for each patch. General instructions for patch installation are included in the Install.info file in the top-level directory of each patch. In addition, special installation instructions or post-installation requirements (such as a system reboot) appear in the README file included with each patch, along with a list of bug ids fixed and files changed by that patch.

3. Login to the system console as root.
4. Place the system in single-user mode (this step is not required, but is recommended for patch installation):

```
# shutdown
```

5. Install the patches.

Most patches can be installed using the commands below; however the Install.info and README files for each patch should be consulted. In the commands below, replace <your_patch_directory> with the path to the directory where the patches were extracted.

```
Solaris 2.5.1 (repeat these steps for each patch):
```

```
# cd <your_patch_directory>/<patch-id>
```

```
# ./installpatch .
```

```
Solaris 2.6 and Solaris 7:
```

```
# patchadd -M <your_patch_directory> <patch-id> <patch-id> ...
```

6. (6) Shutdown and reboot:

```
# shutdown -i6
```

Installation

Overview

To successfully install Oracle Applications Interconnect and its dependent components, it is important to install the products in the order listed here:

Note: Do not multi-select items when installing. Install components in the order listed below ONE by ONE.

1. Oracle Internet Directory 2.1.1

This should also install database 8.1.7 automatically.

2. OMB 2.0.1.0

3. Repository

4. iStudio

5. Adapters

6. OAI Monitoring Console

Step 1

Install Oracle Internet Directory 2.1.1

1.1 Refer to *Oracle 8i Release 3 (8.1.7) Installation Guide* on information on installing this component. OID can be found in the Management and Integration section of Oracle 8i Release 3 (8.1.7).

NOTE: OID installation will install the database for you. Even though the install allows you to use an already installed database instance, DO NOT install OID on top of a pre-installed database.

Post OID Installation (OAI Specific Tasks)

1.2 Bring up the oidadmin tool (located in \$ORACLE_HOME/bin)

1.3 On the login screen, enter:

- **Username** —cn=orcladmin
- **Password** —welcome

- **Server** —Machine name where OID is installed
 - **Port** —Port that OID uses. Use the default. Do not change the value.
 - **SSL Enabled** —Leave unselected.
 - Click **login**
- 1.4 After logging in:
- Expand **Access Control Manager**
 - Click on **Default ACP**
- 1.5 On the details page:
- Select the entry under **Structural Access Item list**
 - Click edit
- 1.6 On the dialog:
- Click the Access Rights Tab
 - Select Grant permission for all items
 - Click **OK**
- 1.7 Repeat the above steps for Content Access Item list
- 1.8 When done, click **Apply**
- Exit oidadmin tool

How OAI Utilizes OID

All OAI components (repository, adapters, iStudio, console) and OMB communicate to each other using CORBA. To find each other, they need a location service. OID provides that location service. These components use OID for storing and accessing CORBA object references.

In particular, both the repository and OMB store their CORBA object references in OID in a predefined place (configured through OAI and OMB installs). The adapters look up OID in the same predefined place to access both OMB and repository connection information. And, iStudio looks up OID to access repository connection information.

Step 2

Install Oracle Message Broker (OMB) 2.0.1.0

- 2.1 Before you start installing OMB, make sure that the following components are in their desired state:
1. Database is started.

2. TNS listener is stopped.
3. OID Monitor process is stopped.
4. OID LDAP process is stopped.

2.2 Locate OMB in the install program

In the Oracle Universal Installer program, in the "Available Products" screen, select Oracle 8i Management and Integration 8.1.7.

Now you will see four choices for Installation Types. Select Custom.

NOTE: Do not select Oracle Integration Server even though it lists OMB as one of its components. The OMB version that works with OAI can be found under the Custom selection.

You will now see a product hierarchy starting with Oracle 8i Management and Integration as the first element. Deselect all elements immediately under this node except for Oracle integration Server 8.1.7.

NOTE: You should deselect Oracle Workflow and Oracle Partitioning before you deselect Oracle 8i Server. Otherwise, you will not be able to deselect Oracle 8i Server.

- Expand the Oracle Integration Server 8.1.7 subtree.
- Deselect everything in this subtree.
- Click on Oracle Message Broker 2.0.1.0.1a

NOTE: Advanced Security feature is selected automatically when OMB is selected. This is ok.

2.3 Now, refer to the *Oracle Message Broker 2.0.1.0 Installation Guide* for instructions.

OAI-Specific Tasks During OMB Installation

If you are installing OMB specifically for OAI, specify the values listed below for these specific steps during installation.

2.4 On the Suffix screen:

- **Password**—welcome
- **Directory Suffix**—Leave blank.
- **Country code**—Type in a 2 to 8 letter acronym for the country where you're installing this. No spaces between the letters. If you don't want to type a specific country name, type in "country". DO NOT leave this field blank.
- **Organization**—Type in a 2 to 8 letter acronym for the organization you're installing this. No spaces between letters. If you don't want to

type a specific organization name, type in "org". DO NOT leave this field blank.

- **Organizational Unit Name**—Type in a 2 to 8 letter acronym for the organizational unit (sub division of the organization) you're installing this. If you don't want to type a specific organizational unit name, type in "unit". DO NOT leave this field blank.

- Hit next.

NOTE: Be sure to write down the values you supply in this step on paper. You will need to supply them later during OAI installation.

2.5 On the LDAP Information screen:

- **Ldap Port**—This is the same port number that OID is running on. If you did not modify the port on OID, use the default value for this field.
- **Ldap Server**—Machine name on which OID is installed.

NOTE: This is not the DHCP name. The default is the host name determined by the installer. If it is a DHCP name, you **MUST** change it to the computer name.

NOTE: Be sure to write down the values you supply in this step on paper. You will need to supply them later during OAI installation.

- Hit next

2.6 On the Authentication Methods screen:

- Hit next

2.7 On the Summary screen:

- Hit next

OAI-Specific Tasks During Post-Installation

NOTE: Please make sure that OID and the TNS listener are started. Refer to the *OMB Installation Guide* (Post Installation Tasks chapter) for more detail.

If you installed OMB specifically for OAI, specify the values listed below for these specific steps during post-installation.

2.8 During the "Directory Configuration" post installation step:

For the "update the directory schema using the LDAPSschema command" step use the following command line options:

- `-h <oidhostname> -noauth`

2.9 For the "modify the directory for OMB suffix with the InitDir command" step use the following command line options:

- -h <oidhostname> -noauth -c
- <country code> -o <organization> -ou <organizational unit>

1.1 Perform the Oracle Advanced Queueing Configuration step.

For the "Configure database parameters" step provide the following values:

- **AQ_TM_PROCESSES**—1
- **OPEN_CURSORS**—100
- **PROCESSES**—100
- **SESSIONS**—120
- **TRANSACTIONS**—250

Do not perform any other optional steps—MQSeries, TIBCO, Async Component Invocation, or AQLite.

After the post installation step are done, you need to initialize OMB so that topics and queues can be installed later.

1.2 Start ombadmin tool.

This tool must be on your path. If you get the "not found" message, please make sure that you've run the "setenv" script supplied by OMB. To find more details on "setenv", please refer to the OMB installation guide.

1.3 On the login screen:

Do not modify any of the fields on the login screen.

- Hit connect

1.4 On the main screen:

- Go to the tools menu
- Select OMB Instance Configuration Wizard

1.5 In the wizard...

On the welcome screen:

- Hit next

1.6 On the Create a new or select an existing OMB instance screen:

- Choose "create a new OMB instance"
- Hit next

1.7 On the Create a new OMB instance screen:

- Type in a name for the OMB instance. The name must be all lower case, 4 to 8 characters long. Do not enter spaces—they are not allowed. Be sure to write down this name on paper for future reference.

You will need to provide this information during OAI installation.

- Hit next

1.8 On the Create Message Broker screen:

- Type 100 for Maximum Memory
- Hit next

1.9 On the Select Servers and Drivers to Add screen:

- select the "AQ Server, AQ Driver, Connection Factory for AQ" option
- Hit next

1.10 On the Create an Oracle AQ Server screen:

- **AQ Server Name**—aq_server
- **AQ Queue Service name**—Type the database service name where OID is installed
- **AQ User Name**—aq
- **AQ Password**—aq

1.11 On the Create an Oracle AQ Driver 1 of 2 screen:

- Hit next. Do not modify entries.

1.12 On the Create an Oracle AQ Driver 2 of 2 screen:

- **Use JDBC**—Select false
- Hit next. Do not modify any other entries.

1.13 On the Create an Oracle AQ Connection Factory screen:

- Type aqcf
- Hit finish

Starting the Broker

On Solaris:

- `MsgBroker -start -omb cn=msg_broker,cn=<ombname>,cn=omb -heap 100 &`

On NT:

- `MsgBroker -start -omb "cn=msg_broker,cn=<ombname>,cn=omb" -heap 100`

How OAI Utilizes OMB

OMB is the store and forward unit for messages and acts as the messaging hub in the OAI hub'n'spoke architecture. OAI adapters use Java Message Service (JMS), provided by Oracle Message Broker, for sending and receiving messages. Please refer to OMB's user guide for more details.

At this point all dependent products have been installed. Now we need to install OAI components.

Where do you find the OAI components

OAI can be installed from the Oracle 8i Release 3 (8.1.7) NT or Solaris CD. Here are the general steps to navigate the CD to reach OAI components:

- Insert the CD in your CD-ROM drive
- Double click on setup.exe on NT or runInstaller on Solaris

On the Welcome screen:

- Hit next.

On the File Locations screen:

- Select the source file (use the default)
- Select Oracle home name and directory path. This should point to an existing Oracle 8.1.7 home.
- Hit next

On the Available Products screen:

- Select Oracle 8i Management and Integration 8.1.7
- Hit next

On the Installation Types screen:

- Select Custom
- Hit next

On the Available Product Components screen:

- Deselect everything except Oracle Integration Server
- Expand Oracle Integration Server
- Deselect Oracle Workflow, Oracle Partitioning, Oracle 8i Server in the order listed.

NOTE: If you don't click them in the order listed, you may not be able to deselect the Oracle 8i Server.

- Deselect all other items listed under Oracle Integration Server
- Select Oracle Application Interconnect 3.1.3
- Expand the Oracle Application Interconnect product listing

Now you're ready to install OAI components.

Step 2

Install OAI Repository

Please follow the steps outlined in "[Where do you find the OAI components](#)" on page -14 before performing the following steps

NOTE: Before installing the repository, please make sure that the hub database (installed through OID) is up and running. For details on how this database is used by the repository, please see "[Repository Architecture Details](#)", on page -17.

2.1 On the Available Product Components screen:

- Select OAI Repository
- Hit next

2.2 On the Application Interconnect Repository screen:

- Hit next

Before proceeding to the next step, please review "[Repository Architecture Details](#)", on page -17 if you are unfamiliar with what the repository is. This is relevant to the install.

2.3 On the Repository Configuration screen, provide the following information:

- **Repository Name**—You can give it any name you want. It should not be more than 10 characters long and should not have any white space in between. Please note down this name on paper for later use. This name will be used to UNIQUELY identify the repository (from other installed repositories on this machine, if any). The install program will create a directory on this machine's file system which will have all the repository specific information. Please make sure that this name is different from names of other repositories that you might have installed or are planning to install. "Repository" here refers to the Java API layer, not the database. Please see "[Repository Architecture Details](#)", on page -17 for more information.
- **Repository Host Name**—This is the name of the machine you are currently running the installer on. Please note down this hostname on paper for later use.

NOTE: This is not the DHCP name. The default is the host name determined by the installer. If it is a DHCP name, you should change it to the computer name. Be sure to write the repository name and host name on a piece of paper. You will need to supply this information during adapter installation.

- **Repository Owner**—Please type a 2 to 4 letter acronym of the company name where this is being installed. This entry is used for strict metadata versioning. Metadata built by one owner cannot be modified by another. Please refer to the user guide for more information on metadata versioning.
- **Repository User Name**—You can use the default name or you can name it anything you like as long as it does not conflict with existing users in the database. This is the user created in the database to store the repository schema. The database that we're talking about here is the one that was installed during OID install. That is where the repository schema will reside too.
- **Repository Password**—For the username described above, specify an easy to remember password.
- **Confirm Password**—Type here exactly what you typed for the repository password.
- Hit next.

2.4 On the Database Configuration screen:

NOTE: This is the database which the repository Java program connects to. Please read "[Repository Architecture Details](#)", on page -17 for more information.

- **Database SID**—Enter the SID for the database. If this is the database that was installed during OID install, then the SID should be OIDDDB1 (not ORCL which shows up as the default on this screen).
- **Database Host**—The machine name on which the database is installed.
- **TNS Listener Port**—Use the default (1521) unless you explicitly changed the OID database port number during OID install.
- **Default Tablespace**—Use the default (USERS). This is the tablespace utilized to install repository schema.
- **System Password**—This is the password for the SYSTEM user in the database. Type in "manager" which is the default password for SYSTEM unless you changed the password explicitly in the database. This is used to install repository schema.
- **Confirm Password**—Retype the system password.
- Hit next

2.5 On the Oracle Internet Directory Configuration screen:

NOTE: You will need the piece of paper where you noted down OID specific information during OMB install (Refer to Step 2.4 and 2.5).

- **OID Host Name**—The machine on which OID is installed. If you're following the typical recommended topology, this should be the hub machine.
- **OID Port Number**—Enter value noted during OMB install. The default should be 389.
- **Country**—Enter value noted during OMB install.
- **Organization**—Enter value noted during OMB install.
- **Organizational Unit**—Enter value noted during OMB install.

NOTE: All this information is utilized by the repository to locate the OID instance in the hub so that it can put its CORBA identification information (IOR) in OID to be used by iStudio and adapters to connect to it.

- Hit next

On the Summary screen:

- Hit next

Where is the Repository installed

`\[ORACLE_HOME]\OAIRepository31\[your repository name]`

Repository Architecture Details

The repository consists of two components:

1. A Java API layer sitting OUTSIDE the database as a standalone Java Application.
2. A database with repository schema that the Java API layer communicates to using JDBC to store and retrieve metadata.

NOTE: In the install program and this installation document, all references to "repository" should be considered references to the Java API layer (item 1 above). All references to "repository database" should be considered references to item 2 above.

NOTE: All OAI components talk to the Java layer and not directly to the database.

NOTE: The database instance used for the repository is typically the same one used by OMB and OID. You don't need a separate physical database or even another instance for the repository. The repository install creates a user and all its schema is contained within that user in the database.

The repository is used to store integration information as metadata. iStudio connects to the repository at design time and pushes the mapping information modeled into the repository. At runtime, the adapters access the repository and use the metadata as runtime instructions for doing transformations and other functionality.

Step 3

Install iStudio

Please follow the steps outlined in "[Where do you find the OAI components](#)" on page -14 before performing the following steps.

3.1 On the Available Product Components screen:

- Select OAI iStudio
- Hit next

3.2 On the iStudio Installation screen:

- Hit next

3.3 On the Oracle Internet Directory Configuration screen:

NOTE: During this step, refer to the information you wrote down regarding OID specific information during OMB install (Refer to Step 2.4 and 2.5).

- **OID Host Name**—The machine on which OID is installed. If you're following the typical recommended topology, this should be the hub machine.
- **OID Port Number**—Enter value noted during OMB install. The default should be 389.
- **Country**—Enter value noted during OMB install.
- **Organization**—Enter value noted during OMB install.
- **Organizational Unit**—Enter value noted during OMB install.

NOTE: This information is used by iStudio to locate the OID instance in the hub so it can pull the repository's CORBA identification information (IOR) from OID. With that information, iStudio can connect to the repository.

- Hit next

3.4 On the Summary screen:

- Hit next

Where is iStudio installed

\[ORACLE_HOME]\OAIstudio31

Step 4

Create or Install Integration Metadata

All integration logic is captured in metadata modeled through iStudio. You have two choices:

1. Use pre-packaged metadata. Oracle has pre-packaged metadata packs for certain integration scenarios. The specific metadata pack to be installed depends upon the applications in your integration scenario. These metadata packs come with their own installation instructions. For example, if you're integrating Oracle Internet Procurement with SAP, read the Implementation Guide for Oracle Internet Procurement InterConnect for SAP R/3. These instructions will tell you how to populate the repository with metadata.
2. Create the metadata from scratch in iStudio. If there is no pre-packaged metadata for your integration scenario, you must create the metadata using iStudio. Please refer to the iStudio chapter in the user guide for more details on how to do this.

Regardless of whether you used method 1 or 2 to model your integration, you need to start up iStudio for the following tasks:

NOTE: For instructions on starting iStudio, please refer to "[How To Start and Stop OAI Components](#)" on page -34, near the end of this guide.

- 4.1 Note down what the application names are on paper.

You will need to supply this information when you install the adapters. The application names can be found on the left hand side main navigator screen under **Applications**.

- 4.2 Provide information on what queues and topics messages will go into or come out of the hub.

Please refer to the iStudio chapter in the user guide on how to specify this.

NOTE: In iStudio, *multi consumer queue* corresponds to *topic*; *single consumer queue* corresponds to *queue*.

You will need to note down all queues and topics that need to be configured under AQ for the next step.

Step 5

Create JMS Queues and Topics under OMB

5.1 Start ombadmin tool.

This tool must be on your path. If you receive the "not found" message, please make sure that you've run the "setenv" script supplied by OMB. To find more details on "setenv", please refer to the OMB installation guide.

From the Tool menu:

- Select Topic or queue wizard.

NOTE: In iStudio, *multi consumer queue* corresponds to *topic*; *single consumer queue* corresponds to *queue*.

For each topic or queue, you must go through the wizard and create it.

Queue Wizard

5.2 On the Welcome screen:

- Hit next

5.3 On the Use an Existing OMB Instance screen:

- Choose the instance of OMB you're using. This is the same OMB instance you created using the OMB admin tool.
- Hit next

5.4 On the Use an Existing Server screen:

- Choose aq_server
- Hit next

5.5 On the Create an Oracle AQ Queue screen:

- **Queue Name**—Specify the queue name. This should match the single consumer queue names specified in the iStudio Message Capability Matrix. Please refer to Step 5.2 for more details.
- **Provider Queue Name**—Use the same name as the Queue Name above.
- **AQ ADT**—Select <not assigned>.
- **AQ Schema**—aq
- Hit next

5.6 On the Successful Queue Creation screen:

- Hit finish if you're done with all queues or hit next to create another queue.

Topic Wizard

5.7 On the Welcome screen:

- Hit next

5.8 On the Use an Existing OMB Instance screen:

- Choose the instance of OMB you're using. This is the same OMB instance you created using the OMB admin tool (Step 2.16).
- Hit next

5.9 On the Use an Existing Server screen:

- Choose `aq_server`
- Hit next

5.10 On the Create an Oracle AQ Topic 1 of 2 screen:

- **Topic Name**—Specify the topic name. This should match the multi consumer queue names specified in the iStudio Message Capability Matrix. Please refer to Step 5.2 for more details.
- **Provider Topic Name**—Use the same name as the Queue Name above.
- **AQ ADT**—Select <not assigned>.
- **AQ Schema**—`aq`
- Hit next

5.11 On the Create an Oracle AQ Topic 2 of 2 screen:

- Select <not assigned>.

5.12 On the Successful Topic Creation screen:

- Hit finish if you're done with all topics or hit next to create another topic.

Step 6

Install Adapters

There are several adapters that come packaged with OAI. They are as follows:

1. **CRM 11i Adapter**—This is an XML AQ adapter specifically designed for Oracle CRM 11i apps (Oracle 8.1.6 or higher).

2. **DB Adapter**—This is an Oracle database adapter that can be used for a non-AQ based integration.
3. **SAP Adapter**—This is used to connect to SAP via RFC. You can make BAPI invocations into SAP and send both inbound and outbound IDOCs.
4. **XML AQ Adapter for Oracle 8.1.5**—This adapter will pick up messages in XML from an AQ or put messages in XML in an AQ. This adapter is specifically for Oracle 8.1.5.
5. **XML AQ Adapter for Oracle 8.1.6 and higher**—Like the 8.1.5 XML AQ adapter but works with 8.1.6 and higher versions of the database. This is used by Oracle iProcurement to integrate to 3rd party applications. It is generic enough to be utilized by any application that wants to send or receive messages in AQ in XML format. (There is no iProcurement specific features in this adapter.)

Please follow the steps outlined in "[Where do you find the OAI components](#)" on page -14 before proceeding to install a specific adapter.

Install CRM 11i Adapter

6.1 On the Available Product Components screen:

- Select CRM 11i Adapter
- Hit next

6.2 On the Welcome to the Adapter Installation screen:

- Hit next

6.3 On the Application Identification screen:

- **Application Type**—This is the application as defined in iStudio. Please refer to "[Adapter Details](#)" on page -32.
- **Partition**—Leave this blank
- Hit next

6.4 On the OMB Configuration screen:

- Enter the instance of OMB. This is the same name you had given OMB during OMB post installation steps (Refer to Step 2.16).
- Hit next

6.5 On the Repository Configuration screen:

NOTE: You will need the piece of paper on which you noted this information down during repository install (Step 3.3).

- **Repository Name**—The name of the repository that uniquely identifies it on that particular host.
- **Repository Host**—The name of the machine on which the repository Java program resides. If you've followed the recommended topology, then this should be the hub machine.
- Hit next

6.6 On the Oracle Internet Directory Configuration screen:

NOTE: You will need the piece of paper where you noted down OID specific information during OMB install (Step 2.4 and 2.5).

- **OID Host Name**—The machine on which OID is installed. If you're following the typical recommended topology, this should be the hub machine.
- **OID Port Number**—Enter value noted during OMB install. The default should be 389.
- **Country**—Enter value noted during OMB install.
- **Organization**—Enter value noted during OMB install.
- **Organizational Unit**—Enter value noted during OMB install.

NOTE: All this information is utilized by the adapter to locate the OID instance in the hub so that it can pull the repository's and OMB's CORBA identification information (IOR) from OID. With that information, the adapter can connect to the repository and OMB.

- Hit next

6.7 On the AQ Database Configuration screen:

NOTE: This is the database on the application side from which the adapter will either put or get messages from AQs. This is NOT the information for the hub database.

- **Host**—The machine name where the database is installed.
- **Username**—The username that the adapter should utilize to connect to the database.
- **Password**—The password for that username.
- **Confirm Password**—Type the password again.
- **Instance**—The instance of the database.
- **Port**—The port through which the adapter connect to the database.
- **Consumer Name**—If all the queues that this adapter will connect to on the application database side are single consumer queues, you can

leave this blank. If, however, any one of the queues is a multiconsumer queue, then you need to specify a consumer name.

The application that will write to the AQ will use a consumer name to indicate that OAI should pick this message up. To figure out what consumer name you should use, there are two options.

Option 1

If the piece of code that will write the message to the AQ is already written, you can look at that code or the documentation that comes with it to figure out what the consumer name is. For example, for iProcurement to SAP integration, the consumer name can be found in their documentation.

Option 2

If the piece of code that will write the message to the AQ is not written, you can type in any string as the consumer name. When that piece of code is built, you must ensure that the consumer names match.

6.8 On the Summary screen:

- Hit next

Where is the CRM Adapter installed

`\[ORACLE_HOME]\OAICRMAdapter31\[AppType][Partition]`

Install DB Adapter

NOTE: You can install the DB Adapter on Oracle 7.3.x or 8.0.x or 8i databases. All other components of Applications InterConnect require Oracle 8i.

6.9 On the Available Product Components screen:

- Select DB Adapter
- Hit next

6.10 On the Welcome to the Adapter Installation screen:

- Hit next

6.11 On the Application Identification screen:

- **Application Type**—This is the application as defined in iStudio. Please refer to "[Adapter Details](#)" on page -32.
- **Partition**—Leave this blank

6.12 On the OMB Configuration screen:

- Enter the instance of OMB. This is the same name you had given OMB during OMB post installation steps (Refer to Step 2.16).

6.13 On the Repository Configuration screen:

NOTE: You will need the piece of paper on which you noted this information down during repository install (refer to Step 3.3).

- **Repository Name**—The name of the repository that uniquely identifies it on that particular host.
- **Repository Host**—The name of the machine on which the repository Java program resides. If you've followed the recommended topology, then this should be the hub machine.
- Hit next

6.14 On the Oracle Internet Directory Configuration screen:

NOTE: You will need the piece of paper where you noted down OID specific information during OMB installation (Step 2.4 and 2.5.)

- **OID Host Name**—The machine on which OID is installed. If you're following the typical recommended topology, this should be the hub machine.
- **OID Port Number**—Enter value noted during OMB install. The default should be 389.
- **Country**—Enter value noted during OMB install.
- **Organization**—Enter value noted during OMB install.
- **Organizational Unit**—Enter value noted during OMB install.

NOTE: All this information is utilized by the adapter to locate the OID instance in the hub so that it can pull the repository's and OMB's CORBA identification information (IOR) from OID. With that information, the adapter can connect to the repository and OMB.

- Hit next

6.15 On the Application Database Connection Configuration screen:

NOTE: This information is regarding the application database that this adapter will connect to, NOT the hub database.

- **Host**—Enter the machine name on which the application database is installed.
- **Instance**—Enter the instance name for the database.
- **Listener Port**—Enter the port number that will be used to communicate to the database.
- Hit next.

6.16 On the Application Database User Configuration screen:

NOTE: This information is utilized to figure out where will the stored procedures generated through iStudio be installed for application inbound messages. At runtime, the db adapter will utilize this information to call user specified stored procedures. This can be a existing user.

You may, but are not required to create a separate OAI user.

- **Username**—The username for the application database where the stored procedure stubs from iStudio will be installed.
- **Password**—The password to gain access to the user.
- **Confirm Password**—Type in the password again.
- Hit next.

6.17 On the After Installation screen:

- Hit next. Note that there are post installation steps for this adapter.

6.18 On the Summary screen:

- Hit next

Where is the DB Adapter installed

`\[ORACLE_HOME]\OAIDBAdapter31\[AppType][partition]`

Post Installation Steps for DB Adapter

6.19 Go to the directory that the db adapter is installed in.

Locate SQL scripts agent1.sql and agent2.sql.

6.20 Using sqlplus, connect to the application database that this adapter will connect to.

- **Username**—"sys" (NOT "system") and password—"change_on_install" (this is the default password unless after installing the database, this was changed).

6.21 Run SQL script agent1.sql (by typing "@agent1.sql" on the sqlplus command line).

6.22 Connect to the database with username—"oai" and password—"oai".

6.23 Run SQL script agent2.sql (by typing "@agent2.sql" on the sqlplus command line).

6.24 Exit sqlplus.

Install SAP Adapter

6.25 On the Available Product Components screen:

- Select SAP Adapter
- Hit next

6.26 On the Welcome to the Adapter Installation screen:

- Hit next

6.27 On the Application Identification screen:

- **Application Type**—This is the application as defined in iStudio. Please refer to "[Adapter Details](#)" on page -32.
- **Partition**—Leave this blank
- Hit next

6.28 On the OMB Configuration screen:

- Enter the instance of OMB. This is the same name you had given OMB during OMB post installation steps (Refer to Step 2.16).
- Hit next

6.29 On the Repository Configuration screen:

NOTE: You will need the piece of paper on which you noted this information down during repository install (Refer to Step 3.3).

- **Repository Name**—The name of the repository that uniquely identifies it on that particular host.
- **Repository Host**—The name of the machine on which the repository Java program resides. If you've followed the recommended topology, then this should be the hub machine.
- Hit next

6.30 On the Oracle Internet Directory Configuration screen:

NOTE: You will need the piece of paper where you noted down OID specific information during OMB install (Refer to Step 2.4 and 2.5).

- **OID Host Name**—The machine on which OID is installed. If you're following the typical recommended topology, this should be the hub machine.
- **OID Port Number**—Enter value noted during OMB install. The default should be 389.
- **Country**—Enter value noted during OMB install.
- **Organization**—Enter value noted during OMB install.

- **Organizational Unit**—Enter value noted during OMB install.

NOTE: All this information is utilized by the adapter to locate the OID instance in the hub so that it can pull the repository's and OMB's CORBA identification information (IOR) in OID. With that information, the adapter can connect to the repository and OMB.

- Hit next

6.31 On the SAP Configuration screen:

- **Application Server**—This is the machine name (hostname) where SAP is installed. If you are able to connect to SAP using the SAP Frontend, it is the same as the "Application Server" field that SAP asks for as part of the connection information.
- **System Number**—Enter the SAP system number. If you are able to connect to SAP using the SAP Frontend, it is the same as the "System Number" field that SAP asks for as part of the connection information.
- **Client**—Enter the SAP client number. If you are able to connect to SAP using the SAP Frontend, it is the same as the "Client Number" field that SAP asks for as part of the connection information.
- Hit next

6.32 On the SAP Credentials screen:

- **Username**—This is the user you use to connect to SAP. If you are able to connect to SAP using the SAP Frontend, it is the same as the "User" field.
- **Password**—This is the password you use to connect to SAP. If you are able to connect to SAP using the SAP Frontend, it is the same as the "Password" field.
- **Confirm Password**—Type the password again.
- Hit next

6.33 On the Message Types screen:

- Select one or more of the types. When in doubt, you can select all. For iProcurement to SAP, you should select "Adapter will call BAPIs", "Adapter will send IDOCs" (outbound from SAP), and "Adapter will receive IDOCs" (inbound into SAP).

Here is a description of each:

- **Adapter will call IBPs**—IBPs are custom Java methods which you may write to perform complicated business logic using SAP BAPIs. Select this option if there is some message that the SAP Adapter will receive that should result in the SAP Adapter calling an IBP.

- **Adapter will call BAPIs**—BAPIs are SAP Business APIs. They are synchronous calls and the values which the BAPIs return can be sent as a reply if needed. Select this option if there is some message that the SAP Adapter will receive that should result in the SAP Adapter calling a BAPI.
- **Adapter will send IDocs**—IDocs are Intermediate Documents sent to and from SAP. They are processed asynchronously. IDocs only work with the Publish/Subscribe model. Select this option if there is some message that the SAP Adapter will publish when it receives an IDoc from SAP (SAP will be sending IDocs).
- **Adapter will receive IDocs**—Select this option if there is some message that the SAP Adapter will receive that should result in the SAP Adapter giving an IDoc to SAP (SAP will be receiving IDocs.)

NOTE: Depending upon what you select, you might or might not see some of the screens listed below.

- Hit next

6.34 On the IDOC Destination Configuration screen:

Type the IDOC Destination. This question will be asked only if the SAP Adapter will be sending or receiving IDocs. The IDoc Destination is the program id of a valid RFC destination in SAP which SAP will use to send IDocs to the SAP Adapter or receive IDocs from the SAP Adapter. See the section titled "[Common Questions about the SAP Adapter](#)" on page -30 for details on how to configure a valid RFC destination in SAP.

- Hit next

6.35 On the Sender Partner Configuration screen:

This screen will show up only if the SAP Adapter will be sending IDocs into SAP.

Configure this information about the partner which is sending the IDocs into SAP.

- Hit next

6.36 On the Recipient Partner Configuration screen:

This screen will show up only if the SAP Adapter will be sending IDocs into SAP.

Configure this information about the partner in SAP which is receiving the IDocs.

- Hit next

6.37 On the Summary screen:

- Hit next

Where is the SAP adapter installed

\[ORACLE_HOME]\OASAPAdapter31\[AppType][Partition]

Post Installation Steps

6.38 After installing the SAP adapter, make sure the file `librfc32.dll` is in the system path variable. `librfc32.dll` is distributed with the SAP system this adapter will connect to. We recommend you install the dll in the `\[ORACLE_HOME]\OracleSAPBridge31\bin` directory.

NOTE: OAI does NOT provide this dll.

6.39 You must export one file from SAP which contains information about the IDoc structure of all the IDocs which the SAP Adapter will be using. This file should have the same information which you used to import the IDoc in iStudio. The file must be named `ALL.<segment release version>.<SAP version>`

Normally the two values are the same. So for example for SAP version 4.0B, this file would be named `ALL.40B.40B`.

6.40 Copy the file into your SAP Adapter's directory.

6.41 Edit the `IDocRepositoryFile` entry in the `sap.ini` file. If you've purchased OAI as part of a Pack, check to see if the Pack comes with an IDoc file and for more details on how to use the file.

If you don't perform this step correctly, you may encounter the following error when you run the SAP adapter:

*** Error: The IDoc repository could not be initialized from the from the repository file ([file name]) because of an error: io error: syntax file [file name] cannot be opened ([file name]). Please make sure you have the correct IDoc repository file, save log files and contact the integration team".

Common Questions about the SAP Adapter

How do I create a valid RFC Destination in SAP? Log on to SAP as the same user that you specified during the SAP Adapter install using the SAP Frontend. Call SAP transaction SM59 or go to Tools->Administration->Administration->Network->RFC destinations.

Hit F8 or the Create button. Type in any name for your RFCdestination, specify T for connection, enter some description, check the "Current User" option and push the save button or type Ctrl-s.

On the next screen choose Registration as the Activation type and type in something for program id. SAP recommends entering something like [hostname].[some program or organization identifier]. Remember what you type in for program id because this is what should specify for IDoc Destination during the SAP Adapter install (or what you should specify for IDocDestination in the sap.ini file.)

Is it possible to edit the SAP configuration settings after the initial configuration? Yes, simply edit \$ORACLE_HOME/OAISapAdapter31/[AppType][Partition]/sap.ini.

Listed below are the parameters and their corresponding question in the install:

- **Host**—Host Name
- **Instance**—Instance Name
- **ClientNumber**—Client Number
- **User**—User Name
- **Password**—Password
- **NumberOfBPMMessageReceivers**—should be 1 if Adapter will call IBPs, else 0.
- **NumberOfBAPIMessageReceivers**—should be 1 if Adapter will call BAPIs, else 0.
- **NumberOfIDocReceivers**—should be 1 if Adapter will send IDocs, else 0.
- **NumberOfIDocMessageReceivers**—should be 1 if Adapter will receive IDocs, else 0.
- **IDocDestination**—IDoc Destination
- **SenderPartner_***—Sender Partner Configuration.
- **RecipientPartner_***—Recipient Partner Configuration.

These parameters are not part of the installation:

- **Language**—Change this if you prefer to use a different language with SAP. If you are able to connect to SAP using the SAP Frontend, it is the same as the "Language" field.
- **CacheBusinessObjects**—If you want the SAP Adapter to read information about Business Objects from SAP when it is starting up (rather than waiting until the first time it actually needs to read the information about the Business Object) you can specify a comma separated list of Business Objects.

- **IDocRepositoryFile**—This is the file which is exported from SAP which contains the information about IDocs.

Install XML AQ Adapter for 8.1.5

The steps are exactly the same as the ones for CRM 11i Adapter installation.

Install XML AQ Adapter for 8.1.6/8.1.7

The steps are exactly the same as the ones for CRM 11i Adapter installation.

Adapter Details

Adapters are components that are attached to applications to OAI enable them. The adapter has the following defining characteristics:

- **The Protocol**—The five different adapters that we provide are different because of how they communicate with the application e.g. the SAP adapter utilizes the SAP proprietary protocol Remote Function Call (RFC) to talk to SAP. The XML AQ adapter, on the other hand, picks (and puts) XML messages in AQs.
- **The Application Type**—There is no integration logic encoded in the adapter. The adapter has a generic transformation engine that processes metadata from the repository as runtime instructions to do transformations. The Application Type defines for a particular adapter what its capabilities are i.e. what messages it can publish, what messages it can subscribe to, what are the transformations involved therein, etc. This Application Type allows the adapter to become smart in the context of the application it is connected to. It allows the adapter to retrieve from the repository **ONLY** that metadata that is relevant to the application. This Application Type **MUST** match the corresponding application that will be defined in iStudio under the Apps folder.

NOTE: If you're using pre-packaged metadata, after importing it into the repository (see below), you will need to start up iStudio to find the corresponding application name (under Apps folder in iStudio) to utilize as the Application Type for the adapter you are installing.

Step 7

Install Management Console

Please follow the steps outlined in "[Where do you find the OAI components](#)" on page -14 before proceeding.

7.1 On the Available Product Components screen:

- Select Management Console

- Hit next

7.2 On the Welcome screen:

- Hit next

7.3 On the Oracle Internet Directory Configuration screen:

NOTE: You will need the piece of paper where you noted down OID specific information during OMB install (Refer to Step 2.4 and 2.5).

- **OID Host Name**—The machine on which OID is installed. If you're following the typical recommended topology, this should be the hub machine.
- **OID Port Number**—Enter value noted during OMB install. The default should be 389.
- **Country**—Enter value noted during OMB install.
- **Organization**—Enter value noted during OMB install.
- **Organizational Unit**—Enter value noted during OMB install.
- Hit next

7.4 On the Error DB Configuration screen:

NOTE: All runtime errors get logged to this database. You need to supply this information so that through the Management Console, you can browse the error database. The error database IS THE SAME as the repository database.

NOTE: Refer to Steps 3.3 and 3.4.

- **Error DB Hostname**—Repository database host name.
- **Error DB SID**—Repository database SID.
- **Error DB Port**—Repository database port.
- **Error DB Username**—Repository database username.
- **Error DB Password**—Repository database password.
- **Confirm Password**—Type the same password again.
- Hit next

7.5 On the Summary screen:

- Hit next

Where is the Management Console installed

\[ORACLE_HOME]\OAIManagementConsole31

Management Console Overview

Oracle Applications InterConnect console is a centralized tool to administer the Applications InterConnect runtime components, specifically the repository and each adapter. Using the Management Console, the administrator can start, stop, monitor and troubleshoot the Applications InterConnect runtime.

Optional Install Adapter SDK

If you want to create new adapters instead of using pre-existing ones that come bundled with OAI, you must install the adapter SDK and read the documentation contained therein. To install the SDK, do the following steps:

Please follow the steps outlined in "[Where do you find the OAI components](#)" on page -14 before proceeding.

7.6 On the Available Product Components screen:

- Select Adapter SDK
- Hit next

7.7 On the Summary screen:

- Hit next

Where is the Adapter SDK installed

\[ORACLE_HOME]\OAIAdapterSDK31

How To Start and Stop OAI Components

Starting the Repository on NT

1. Start the hub database and OID.
2. Click Start in the Windows NT panel.
3. Select Settings.
4. Click Control Panel.
5. Select the Services icon.
6. Select the service OracleOAIRepository_[reponame].
7. Click Start.

Stopping the Repository on NT

1. Click Start in the Windows NT panel.

2. Select Settings.
3. Click Control Panel.
4. Select the Services icon.
5. Select the service OracleOAIRepository_[reponame].
6. Click Stop.

Starting the Repository on Solaris

1. Start the hub database and OID.
2. Go to \$ORACLE_HOME/OAIRepository31/<RepoName>.
3. Run repoStart.

Stopping the Repository on Solaris

1. Go to \$ORACLE_HOME/OAIRepository31/<RepoName>
2. Run repoStop.

Starting iStudio on NT

1. Start the hub database and OID.
2. Start the Repository.
3. Click Start in the Windows NT panel.
4. Select Programs.
5. Select Oracle Applications InterConnect.
6. Click iStudio.

Stopping iStudio on NT

1. Exit the iStudio program.

Starting the Adapters on NT

1. Start the hub database and OID.
2. Start OMB.
3. Start the Repository.
4. Click Start in the Windows NT panel.
5. Select Settings.
6. Click Control Panel.
7. Select the Services icon.

8. Select the service OracleOAIAdapter_[AppType][Partition].
9. Click Start.

Stopping the Adapters on NT

1. Click Start in the Windows NT panel.
2. Select Settings.
3. Click Control Panel.
4. Select the Services icon.
5. Select the service OracleOAIAdapter_[AppType][Partition].
6. Click Stop.

Starting the Adapters on Solaris

1. Start the hub database and OID.
2. Start OMB.
3. Start the Repository.
4. Go to \$ORACLE_HOME/OAIDBAadapter31/<adapterName>
5. Run run adapter.

Stopping the Adapters on Solaris

1. Hit Ctrl-C.

NOTE: This method of stopping the adapter will be improved in the next version.

Starting the Management Console on NT

1. Click Start in the Windows NT panel.
2. Select Programs.
3. Select Oracle Applications InterConnect.
4. Click Management Console.

Stopping the Management Console on NT

1. Exit the Management Console program.