Oracle® Business Intelligence

Infrastructure Quick Installation Guide

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1 Introduction

Before you install Oracle Business Intelligence Enterprise Edition (referred to throughout this guide as Oracle BI) in a production environment, or if there is an existing Oracle software installation on the computer, Oracle recommends reviewing the following books:

- *Oracle Business Intelligence Infrastructure Installation and Configuration Guide*

- *Oracle Business Intelligence Enterprise Edition Release Notes*

The primary audience for this guide include system administrators, network administrators, Application Server administrators, and developers.

The *Oracle Business Intelligence Infrastructure Quick Installation Guide* is not meant as a substitute for the *Oracle Business Intelligence Infrastructure Installation and Configuration Guide*. This Quick Install Guide is intended to show only the basics of Oracle Business Intelligence, for the following type of deployment:

- New installation — if you have a prior installation on this machine, refer to the *Oracle Business Intelligence Infrastructure Upgrade Guide*.

- A single computer (no network deployment) using out-of-the-box settings.

- Windows operating systems only.

- Oracle 9i or 10g, or Microsoft SQL Server 2000 data sources only.

- Selection of Basic Installation Type, which installs the complete Oracle BI suite running with Oracle Application Server Containers for J2EE (OC4J).

- No clustering.

Table 1 shows the contents of the *Oracle Business Intelligence Infrastructure Quick Installation Guide*:

Table 1   Content of This Guide

Section	Contents
Section 2, "Requirements"	Section 2.1, "Oracle BI Component Installation Options"
	Section 2.2, "Checking System Requirements"
	Section 2.3, "Installing Third-Party Products"
	Section 2.4, "Changing the DEP Setting"

Table 1   Content of This Guide (Cont.)

Section	Contents
Section 3, "Installation"	Section 3.1, "Running the Oracle BI Installer Under Windows"
	Section 3.2, "Initializing the Oracle Business Intelligence Installation"
Section 4, "Configuration"	Section 4.1, "Using the Demonstration Application"
	Section 4.2, "About Oracle BI Scheduler"
	Section 4.3, "Creating Oracle BI Scheduler Databases and Tables"
	Section 4.4, "Creating an Oracle BI Scheduler Database and Tables for Specific Databases"
	Section 4.5, "Configuring Oracle Databases for the Oracle BI Scheduler"
	Section 4.6, "Configuring SQL Server Databases for the Oracle BI Scheduler"
	Section 4.7, "Further Configuration"

Table 1   Content of This Guide (Cont.)

Section	Contents
Section 5, "Additional Resources"	Section 5.1, "Oracle Support Services"
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	Section 6.2, "Accessibility of Links to External Web Sites in Documentation"
	Section 6.3, "TTY Access to Oracle Support Services"

2 Requirements

This section describes pre-installation requirements for installation of Oracle Business Intelligence.

2.1 Oracle BI Component Installation Options

The Oracle Business Intelligence infrastructure consists of servers, programs, and tools used to build Oracle Business Intelligence applications.

The Oracle Business Intelligence product includes an installer program that can install the complete Oracle BI suite, or one or more Oracle BI product components. The Oracle BI infrastructure components are shown in Table 2. These components are installed using the Complete installation option.

For a list of all installation options and the components that they install, see the *Oracle Business Intelligence Infrastructure Installation and Configuration Guide.*

Table 2   Oracle BI Infrastructure Components and Installation Options

Installation Option	Oracle BI Components Installed
Complete	■ Oracle Business Intelligence Server
	■ Oracle Business Intelligence Presentation Services
	■ Oracle Business Intelligence Scheduler
	■ Oracle Business Intelligence Server Administration Tool
	■ Oracle Business Intelligence Job Manager
	■ Oracle Business Intelligence Cluster Controller
	■ Oracle Business Intelligence Presentation Services Plug-in
	■ Oracle Business Intelligence Catalog Manager
	■ Oracle Business Intelligence Publisher
	■ Oracle Business Intelligence Client
	■ Oracle Business Intelligence ODBC Driver
	■ Oracle Business Intelligence JDBC Driver
	■ Oracle Business Intelligence Systems Management
	■ Oracle Business Intelligence Disconnected Client

NOTE: For a complete description of supported hardware and operating systems versions, see the *System Requirements and Supported Platforms for Oracle Business Intelligence*, located on the Oracle Technology Network.

2.2 Checking System Requirements

Before you install Oracle Business Intelligence, you must have the appropriate permissions for installing and configuring on your company system, as shown in Table 3.

Table 3   System Permissions Required for Installing Oracle BI

System Component	Permission Type
Windows	Administrator for individual machine
Database	DBMS Administrator

2.3 Installing Third-Party Products

Before you run the Oracle Business Intelligence installer, you must have completed the third-party software installations shown in Table 4.

The number of third-party components required to be installed or configured depends on the details of your particular deployment. Third-party software

documentation is available from the third-party vendor (such as Java from Sun Microsystems and MDAC from Microsoft Corporation).

Table 4   Third-Party Installations Required for Installing Oracle BI

Component Installation	Notes
Java SDK 1.5.0 or higher **NOTE:** The Sun release name was originally Java 2 Platform, Standard Edition 1.5.0 (J2SE Development Kit 1.5.0). The numbering system changed to 5.0 (J2SE 5.0). Both 1.5.0 and 5.0 refer to the same platform and products.	Java SDK must be installed before you run the Oracle Business Intelligence installer, otherwise the installation cannot progress. If you do not have this software, follow the procedure shown in Section 2.3.1, "Installing the Java SDK Components" Java must be installed on the same machine on which you are installing Oracle Business Intelligence. You need this information during the installation. Make a note of the directory where Java is installed. For example, `<Drive>:\Program Files\Java\j2sdk1.5.0_06`

Table 4   Third-Party Installations Required for Installing Oracle BI

Component Installation	Notes
Microsoft Data Access Components (MDAC)	■ Check for MDAC on your system. ■ If MDAC is not on your system, obtain the software from the Microsoft Web site, using the procedure shown under Section 2.3.2, "Making Sure that Microsoft Data Access Components are Installed".

2.3.1 Installing the Java SDK Components

1. Navigate to the Java Technology Downloads Home page
    (`http://java.sun.com/downloads/index.html`).

2. Under *Java Platform, Standard Edition (Java SE)*, select **J2SE 1.5.0** and
    click Go.

3. On the Java SE Downloads page
    (`http://java.sun.com/javase/downloads/index.jsp`), for **JDK
    5.0 Update 9**, click Download.

4. On the J2SE Development Kit 5.0 Update 9 page, select Accept License
    Agreement, then click the link **Windows Offline Installation,
    Multi-language**.

5. Follow the on-screen instructions to download and install the software.

2.3.2 Making Sure that Microsoft Data Access Components are Installed

Before you install any Oracle BI Server components, you must have
Microsoft Data Access Components (MDAC) installed. MDAC, which
provides a complete ODBC stack, is considered a Windows system
component and is included with many applications. To check to see that it is
installed on your particular computer, use the following procedure.

To check for an existing installation of Microsoft Data Access Components

1. Search for the files msdadc.dll and oledb32.dll (optional).

    These files are generally located in the C:\Program Files\Common Files\System\OLE DB folder.

2. When you locate the files, right-click and select Properties from the context-sensitive menu. The version information is shown on the Version tab.

    If you do not need to install MDAC, proceed to the topic Section 3.1, "Running the Oracle BI Installer Under Windows". If you do need to install Microsoft Data Access Components, use the following procedure.

NOTE: For the appropriate version to use, see *System Requirements and Supported Platforms for Oracle Business Intelligence* on Oracle Technology Network.

To install Microsoft Data Access Components

1. Point your browser to the Microsoft Web site.

    In the Search box, type the words *MDAC download* and press Enter.

2. Navigate to and select the MDAC type that conforms with the type specified in *System Requirements and Supported Platforms*.

3. Follow the on-screen instructions to download and install the software.

2.4 Changing the DEP Setting

Operating Systems: Windows 2003 and Windows XP.

Under Windows 2003 and Windows XP operating systems, DEP (Data Execution Prevention) is turned on by default for all Windows programs and services. Before you run the Oracle BI Infrastructure installer, turn off the Data Execution Prevention setting for all programs and set for only essential Windows programs and services in order for certain Oracle Business Intelligence components to install successfully. This procedure is necessary for the installer to complete. When running the Oracle BI Installer on Windows 2003 or Windows XP operating systems, the installer will direct you to disable DEP.

After the installation has completed, the Data Execution Prevention function can be changed back to the original setting.

To change the Data Execution Prevention setting

1. Go to Start > Control Panel > System > Advanced > Performance (Settings) > Data Execution Prevention.

2. Select the radio button **Turn on DEP for essential Windows programs and services only**.

3. Reboot the machine.

4. After rebooting, start the Oracle BI installation.

3 Installation

3.1 Running the Oracle BI Installer Under Windows

The following steps guide you through the installer.

1. Access the installation files, and then run the program setup.exe.

   The installation program window appears and prompts you through each screen. Provide the requested input for each screen.

   To continue to the next screen, click Next. To return to a previous screen, click Back.

2. Installation Location and Install Type:

   Accept the default drive (C:\) and directories, or click Browse to change them.

3. **Install Type** refers to the application server instance under which Oracle Business Intelligence is to run. The **Basic** type uses Oracle Containers for J2EE (OC4J).

   Select **Basic**.

4. Component Installation Type Selection:

   Select the default component setup type, **Complete**.

This option installs the components shown in Table 2, "Oracle BI Infrastructure Components and Installation Options".

5. Application Server Selection:

   The application server instance under which Oracle BI Presentation Services runs. The choices given are:

   - Oracle Containers for J2EE (OC4J)

   (Installed during this installation)

   - Microsoft IIS

   (Must be installed on this machine before running this installer.)

   NOTE: If you do not have Microsoft IIS installed, then this screen will not appear.

   Select **Oracle Containers for J2EE (OC4J)**.

6. Location of JAVA_HOME directory and OC4J Administrator password:

   JAVA_HOME is the system variable assigned to the location of the Sun Java Development Kit, version 1.5.0 or higher, referred to in Section 2.3.

   The Administrator password must be a minimum of 6 characters and include at least one digit.

7. Cluster Account Information and Services Startup Type:

Leave **Cluster Account Information** blank, because you are not running machines in a cluster for this installation.

Services Startup Type:

You can change the Windows Services Startup settings. The default settings are:

- *Automatic* for Oracle BI Server, Oracle BI Presentation Server, and Oracle BI Java Host

- *Manual* for Oracle BI Scheduler and Oracle BI Cluster Controller

NOTE: The Services Startup Type set to Automatic means that the Oracle BI server services starts automatically when the computer is rebooted. Overall system performance may be affected by this.

8. Error Message Language Selection:

The default is English.

To choose a different language, click the drop down box and select the desired language.

9. Pre-Installation Summary Information:

Summarizes the components to be installed (the list shows the same components as Table 2), and shows the installation location and size.

10. Installation Progress Bar:

11. Completion:

    At the end of the installation, choose Accept to restart the computer, or choose to restart at a later time.

    If you attempt to run Oracle BI without restarting your computer, several services may fail to work correctly.

12. When the installation is completed, proceed to the section Section 3.2, "Initializing the Oracle Business Intelligence Installation".

3.2 Initializing the Oracle Business Intelligence Installation

If you did not restart the computer at the end of the installation process, you must restart the computer before trying to run the Oracle Business Intelligence software.

The Basic installation type uses Oracle Containers for J2EE (OC4J). The Java process in the OC4Jcomponent cannot be restarted automatically after you restart your computer. You must start the OC4J process before starting Oracle Business Intelligence.

For more information about starting and stopping OC4J, refer to the file Readme.txt, located in the directory <installation drive>:\OracleBI\oc4j_bi\.

Starting and Stopping the OC4J Process

- To **start or restart** the OC4J Java process manually, in the Windows Start Menu, select All Programs > Oracle Business Intelligence > Start OC4J.

- To **stop** the OC4J Java process manually, in the Windows Start Menu, select All Programs > Oracle Business Intelligence > Stop OC4J.

To start Oracle Business Intelligence, in the Windows Start menu, select Programs > Oracle Business Intelligence > Presentation Services.

4 Configuration

The initial configuration of Oracle Business Intelligence is made by the installer in accordance to your input during the installation process.

However, you must configure the Oracle BI Scheduler before running Oracle BI. Otherwise, the Scheduler service fails to start and the Delivers component does not function. See Section 4.2, "About Oracle BI Scheduler".

You can also configure the demonstration application deployed with the Basic installation. See Section 4.1, "Using the Demonstration Application".

4.1 Using the Demonstration Application

The Basic installation type installs a demonstration application that includes a repository (paint.rpd), presentation catalog, and XML data source.

The paint.rpd file is located in the directory <installation drive>:\OracleBI\server\Repository. To administer or configure the repository, use the following procedure.

1. Double-click the paint.rpd file.

2. If the User field is blank, type Administrator.

3. In the Password field, type Administrator.

    NOTE: The repository paint.rpd user passwords expire 90 days from the date the Oracle BI Server installation was performed. The Administrator user password does not expire.

4. The repository opens in the Oracle BI Administration Tool.

    NOTE: Click Menu > Help > Help Topics to call up the Server Administration Guide, which has a complete description of the Administration Tool features and the repository.

4.2 About Oracle BI Scheduler

The Scheduler components are:

- Oracle BI Scheduler Service

- Scheduler Job Manager

- The command line executable schconfig.exe

- The command line executable saschinvoke.exe

The Scheduler uses a single commercial back-end database to store pertinent information about a job, its instances, and its parameters. The Scheduler works with all the supported databases for Oracle Business Intelligence. For the complete list of supported databases, see *System Requirements and Supported Platforms*.

Table 5 gives brief descriptions of the database tables used by Oracle Business Intelligence Scheduler. The scripts are located in *<installation drive>*:\OracleBI\server\Schema.

Table 5   Tables Used by Oracle Business Intelligence Scheduler

Table Name	Table Description
S_NQ_JOB	This table is used by Scheduler to store information about scheduled jobs.
S_NQ_INSTANCE	The S_NQ_INSTANCE table stores information about scheduled job instances.
S_NQ_ERR_MSG	This table stores error messages for Scheduler job instances that do not complete successfully.
S_NQ_JOB_PARAM	This table holds information about Scheduler job parameters for scheduled jobs.

In addition to the database tables shown in Table 5, the scripts create the S_NQ_ACCT table. The S_NQ_ACCT table is used by the usage tracking feature. If usage tracking is enabled in NQSConfig.INI, the Oracle BI Server generates usage tracking data files. A sample JavaScript is provided, which extracts information from the Usage Tracking files and loads them to a table in the relational database. The S_NQ_ACCT table stores all the information regarding Accounting Data. (For information about usage tracking, see *Oracle Business Intelligence Server Administration Guide*.)

The following procedures configure Oracle BI Scheduler for a stand-alone deployment of Oracle Business Intelligence.

4.3 Creating Oracle BI Scheduler Databases and Tables

You can either create a new database in which to store the tables or use an existing database.

1. Make sure that you have a valid database administrator account to create a database and tables.

2. Create the database, or use an existing database.

3. Create the Scheduler tables by executing SAJOBS.xxx.sql (where xxx is the database type).

   Use the appropriate procedure for your back-end database, as shown in Section 4.4, "Creating an Oracle BI Scheduler Database and Tables for Specific Databases".

4. If you are using usage statistics, create the table in SAACCT.xxx.sql.

4.4 Creating an Oracle BI Scheduler Database and Tables for Specific Databases

The following procedures describe how to create a database and tables for specific relational databases:

- Oracle Database Server

    - Section 4.4.1, "Creating a Scheduler Database and Tables for Oracle Database Server"

- Microsoft SQL Server

  - Section 4.4.2, "Creating a Scheduler Database and Tables for SQL Server"

4.4.1 Creating a Scheduler Database and Tables for Oracle Database Server

For usage statistics, create the table in **SAACCT.Oracle.sql**.

1. Proceed in one of the two following ways:

   - Create a new database, and create a user named S_NQ_SCHED.

   - In one of your existing databases, create a user named S_NQ_SCHED.

2. Provide your own password to the user S_NQ_SCHED.

3. Using the Oracle Net configuration tool, create an Oracle Service to the current S_NQ_SCHED database with this user ID and password.

4. Using the SQL*Plus Worksheet or the SQL*Plus tool, open the file SAJOBS.Oracle.sql and execute it to create Oracle Business Intelligence Scheduler tables.

5. Open the file SAACCT.Oracle.sql and execute it to create the Accounting table.

4.4.2 Creating a Scheduler Database and Tables for SQL Server

For usage statistics, create the table in **SAACCT.MSSQL.sql**.

1. Create a database named S_NQ_SCHED using SQL Server Enterprise Manager. Make sure that you have enough free disk space to accommodate Oracle Business Intelligence Tables (a minimum of 500 MB for Oracle Business Intelligence applications).

2. Using S_NQ_SCHED as the current database, use SQL Query Analyzer to open the file SAJOBS.MSSQL.sql and execute it to create the Oracle Business Intelligence Scheduler tables.

3. Open the file SAACCT.MSSQL.sql and execute it to create the Accounting table.

4.5 Configuring Oracle Databases for the Oracle BI Scheduler

The Data Source Name used in the Job Manager Scheduler configuration must match the Oracle database service alias created in Step 3 of Section 4.4, "Creating an Oracle BI Scheduler Database and Tables for Specific Databases".

To configure the database using Job Manager, use the following procedure.

1. Start the Job Manager in the Windows Start menu.

   (Select Programs > Oracle Business Intelligence > Job Manager.)

2. In Job Manager, select File > Configuration Options.

3. In the Connection Pool section, enter the Oracle database service alias for the Data Source Name.

   Select the appropriate Database Type from the drop down list (for example, Oracle 10g R1).

4. Enter the username and password for the user S_NQ_SCHED created in Section 4.4.1, "Creating a Scheduler Database and Tables for Oracle Database Server".

   The Call Interface is updated automatically according to the Database Type chosen.

5. Exit the Job Manager.

6. Start the Oracle BI Scheduler Service from Windows Start Menu.

   (Settings > Control Panel > Administrative Tools > Services)

4.6 Configuring SQL Server Databases for the Oracle BI Scheduler

The Data Source Name used in the Job Manager Scheduler configuration must match an existing ODBC Data Source Name (DSN) for the SQL Server

S_NQ_SCHED database used in Section 4.4.2, "Creating a Scheduler Database and Tables for SQL Server".

If you do not have a System DSN entry, create a new one as shown in the following procedure.

1. Start the ODBC Data Source Administrator from the Windows Start menu.

   (Select Settings > Control Panel > Administrative Tools > Data Sources (ODBC).)

2. Select the System DSN tab, and then click Add.

3. Select the driver SQL Server, and then click Finish.

4. In the wizard **Create a New Data Source to SQL Server**, do the following:

   a. Enter a name and description for the data source.

   b. Select your SQL Server from the drop down Server list, and then click Next.

   c. For server verification of the login ID authenticity, select the appropriate authentication for the S_NQ_SCHED SQL Server database that was created in Section 4.4.2, "Creating a Scheduler Database and Tables for SQL Server". Click Next.

5. Select the tick box **Change the default database to** and select the S_NQ_SCHED database from the drop down list. Click Next.

6. Update any language or log file settings if appropriate, and then click Finish.

7. To verify your connection settings, click the Test Data Source button, and then click OK.

8. Click OK to exit ODBC Data Source Administrator.

4.6.1 Updating the Job Manager Scheduler Configuration

To update Scheduler to use the SQL Server S_NQ_SCHED database, use the following procedure.

1. Start the Job Manager in the Windows Start menu.

   (Select Programs > Oracle Business Intelligence > Job Manager.)

2. In Job Manager, select File > Configuration Options.

3. In the Connection Pool section, enter the DSN created for the S_NQ_SCHED database.

   Select the appropriate Database Type from the drop down list (for example, SQL Server 7.0/2000).

The Call Interface is updated automatically according to the Database Type chosen.

4. Enter the username and password for the S_NQ_SCHED database created in Section 4.4.2, "Creating a Scheduler Database and Tables for SQL Server".

5. Exit the Job Manager.

6. Start the Oracle BI Scheduler Service from Windows Start Menu (Settings > Control Panel > Administrative Tools > Services).

4.7 Further Configuration

For details of configuring BI Publisher, see the Appendices of the *Oracle Business Intelligence Infrastructure Installation and Configuration Guide.*

For an overview, suggestions, links, and tutorials on using this software, access the web page *Welcome to Oracle Business Intelligence Enterprise Edition (10.1.3.2)*, available on the drive on which you installed the software:

```
<installation drive>:\\OracleBI\index_bi_ee.html
```

For additional configuration details, or for configuration beyond the scope of this quick installation, see the companion documentation for this release:

- *Oracle Business Intelligence Infrastructure Installation and Configuration Guide*

- *Oracle Business Intelligence Presentation Services Administration Guide*

- *Oracle Business Intelligence Server Administration Guide*

- *Oracle Business Intelligence Scheduler Guide*

- *Oracle Business Intelligence Answers, Delivers, and Interactive Dashboards User Guide*

- *Oracle Business Intelligence Network Deployment Guide*

5 Additional Resources

For more information, see these Oracle resources:

- Accessing Related Oracle BI Documentation:

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

- Oracle BI Documentation Library CD-ROM
- Oracle BI platform-specific documentation on Oracle BI Disk 1

Printed documentation is available for sale in the Oracle Store at:

```
http://oraclestore.oracle.com
```

You can also contact your Oracle representative to purchase printed documentation.

To download free release notes, installation documentation, white papers, or other collateral, please visit the Oracle Technology Network (OTN). You must register online before using OTN; registration is free and can be done at

```
http://www.oracle.com/technetwork/community/join/overview/index.html
```

If you already have a user name and password for OTN, then you can go directly to the documentation section of the OTN Web site at

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

5.1 Oracle Support Services

If you purchased Oracle Product Support, you can call Oracle Support Services for assistance. Oracle Support Services include phone assistance, version updates and access to our service offerings. You have access to phone support 24 hours a day, 7 days a week. In the U.S.A., you can call Product Support at 1-800-223-1711.

Ensure that you have your CSI (CPU Support Identifier) number ready when you call. (Keep the CSI number for your records, because it is your key to Oracle Support Services.) The Oracle Store sends the CSI number to you in an e-mail alert when it processes your order. If you do not have your CSI number and you are in the U.S.A., you can look up your CSI number by accessing our online Order Tracker which provides detailed order information. Go to the Oracle Store and click on Order Tracker located above the top navigation bar.

For Oracle Support Services locations outside the U.S.A., call your local support center for information on how to access support. To find the local support center in your country, visit the Support Web Center at:

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

At the Support Web Center you will find information on Oracle Support Services, such as:

■ contact information

- instructions on how to access electronic services
- helpful Web sites
- Support Resources
- Oracle Support Portfolio
- Oracle Support Services news

With Oracle Product Support, you have round-the-clock access to MetaLink, Oracle Support Services premier Web support offering. MetaLink offers you access to installation assistance, product documentation, and a technical solution knowledge base.

It has technical forums, where you can post questions about your Oracle products and receive answers from Oracle Technical Support Analysts and other Oracle users. The questions and answers remain posted for the benefit of all users.

MetaLink options include:

- Technical Assistance Request (TAR) access
- patch downloads
- bug database query access
- product life-cycle information

You can access MetaLink at:

```
http://metalink.oracle.com/
```

5.2 Version Updates

If you do not have a currently supported license, you can purchase the most recent version of an Oracle product from the Oracle Store (`http://oraclestore.oracle.com`).

If you do have a currently supported license, then you can place non-urgent requests for version update shipments through the iTAR feature on MetaLink. You will need to log the iTAR type as a U.S. Client Relations/Non-Technical Request.

You can also request Version Update shipments in the U.S.A. by calling Client Relations. When requesting a Version Update, please provide the following information to the Client Relations Analyst:

- CSI number
- contact information
- platform
- product name
- shipping address

- version number of the product

Outside the U.S.A., please call your local Oracle Support Center.

5.3 Premium Services

For information on our Premium Services, including onsite support, Oracle*GOLD*, remote services, and upgrade packages, visit the Support Web Center at `http://www.oracle.com/support` or call your Support Sales Representative in the U.S.A at 1-800-833-3536.

5.4 Quick Reference

Resource	Contact Information/ Web Site
Purchase additional products, full-use licenses, version updates, and documentation in the U.S.A.	`http://oraclestore.oracle.com`
Access technical resources for developers	`http://www.oracle.com/technology`
Access installation documentation	`http://www.oracle.com/technology`
Access information about technical support	`http://www.oracle.com/support`

Resource	Contact Information/ Web Site
Locate local Oracle Support Centers outside the U.S.A.	`http://www.oracle.com/support`
	Select **Contact Support**
Locate local Oracle offices outside the U.S.A.	`http://www.oracle.com/us/corporate/contact/index.html`
Call Client Relations in the U.S.A.	1-800-223-1711
Speak with your sales representative in the U.S.A.	1-800-ORACLE-1

6 Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible, with good usability, to the disabled community. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Accessibility standards will continue to evolve over time, and Oracle is actively engaged with other market-leading technology vendors to address technical obstacles

so that our documentation can be accessible to all of our customers. For more information, visit the Oracle Accessibility Program Web site at:

`http://www.oracle.com/accessibility/`

6.1 Accessibility of Code Examples in Documentation

Screen readers may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should appear on an otherwise empty line; however, some screen readers may not always read a line of text that consists solely of a bracket or brace.

6.2 Accessibility of Links to External Web Sites in Documentation

This documentation may contain links to Web sites of other companies or organizations that Oracle does not own or control. Oracle neither evaluates nor makes any representations regarding the accessibility of these Web sites.

6.3 TTY Access to Oracle Support Services

Oracle provides dedicated Text Telephone (TTY) access to Oracle Support Services within the United States of America 24 hours a day, seven days a week. For TTY support, call 800.446.2398.