

Oracle® Thesaurus Management System

Installation Guide

Release 4.6.2

E18826-03

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This guide describes how to install, configure, and upgrade Oracle Thesaurus Management System. It has been updated to include information on installing the database tier on Windows.

Oracle Thesaurus Management System Installation Guide, Release 4.6.2

E18826-03

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Preface

This guide describes how to install Oracle Thesaurus Management System (TMS) Release 4.6.2 both as an initial installation and as an upgrade from a previous release.

This preface contains the following topics:

- [Audience](#) on page x
- [Documentation Accessibility](#) on page viii
- [Finding Information and Patches on My Oracle Support](#) on page viii
- [Finding Oracle Documentation](#) on page ix
- [Related Documents](#) on page x
- [Conventions](#) on page x

Audience

The audience for this installation guide is database administrators (DBAs) and system administrators. Installing TMS requires the skills listed below. If you want assistance with your installation, engage Oracle Consulting.

Database Administrators

Installing TMS requires a level of knowledge equivalent to having mastered the material in the Oracle Architecture and Administration course for DBAs. You must be able to read and edit SQL*Plus scripts, run SQL scripts, and review logs for Oracle errors. For ongoing administration, additional training as a DBA is essential.

System Administrators

Installing and maintaining a TMS network requires expertise in the following skill areas:

- UNIX operating systems
 - Creating and managing user accounts and groups
 - Installing Oracle database software and patches
 - Identifying space on a file system for Oracle database tablespaces
 - Setting and using environment variables
- Microsoft Windows operating systems
 - Creating and managing user accounts and groups
 - Installing Oracle software

- Managing settings through the Control Panel and Administrative Tools
- Managing network printers
- Creating services

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

Finding Information and Patches on My Oracle Support

Your source for the latest information about Oracle Thesaurus Management System is Oracle Support's self-service Web site My Oracle Support (formerly MetaLink).

Before you install and use Oracle Thesaurus Management System, always visit the My Oracle Support Web site for the latest information, including alerts, White Papers, installation verification (smoke) tests, bulletins, and patches.

Creating a My Oracle Support Account

You must register at My Oracle Support to obtain a user name and password account before you can enter the Web site.

To register for My Oracle Support:

1. Open a Web browser to <https://support.oracle.com>.
2. Click the **Register** link to create a My Oracle Support account. The registration page opens.
3. Follow the instructions on the registration page.

Signing In to My Oracle Support

To sign in to My Oracle Support:

1. Open a Web browser to <https://support.oracle.com>.
2. Click **Sign In**.
3. Enter your user name and password.
4. Click **Go** to open the My Oracle Support home page.

Finding Information on My Oracle Support

There are many ways to find information on My Oracle Support.

Searching by Article ID

The fastest way to search for information, including alerts, White Papers, installation verification (smoke) tests, and bulletins is by the article ID number, if you know it.

To search by article ID:

1. Sign in to My Oracle Support at <https://support.oracle.com>.
2. Locate the Search box in the upper right corner of the My Oracle Support page.
3. Click the sources icon to the left of the search box, and then select **Article ID** from the list.
4. Enter the article ID number in the text box.
5. Click the magnifying glass icon to the right of the search box (or press the Enter key) to execute your search.

The Knowledge page displays the results of your search. If the article is found, click the link to view the abstract, text, attachments, and related products.

Searching by Product and Topic

You can use the following My Oracle Support tools to browse and search the knowledge base:

- **Product Focus** — On the Knowledge page under Select Product, type part of the product name and the system immediately filters the product list by the letters you have typed. (You do not need to type "Oracle.") Select the product you want from the filtered list and then use other search or browse tools to find the information you need.
- **Advanced Search** — You can specify one or more search criteria, such as source, exact phrase, and related product, to find information. This option is available from the **Advanced** link on almost all pages.

Finding Patches on My Oracle Support

Be sure to check My Oracle Support for the latest patches, if any, for your product. You can search for patches by patch ID or number, or by product or family.

To locate and download a patch:

1. Sign in to My Oracle Support at <https://support.oracle.com>.
2. Click the **Patches & Updates** tab. The Patches & Updates page opens and displays the Patch Search region. You have the following options:
 - In the **Patch ID or Number** field, enter the number of the patch you want. (This number is the same as the primary bug number fixed by the patch.) This option is useful if you already know the patch number.
 - To find a patch by product name, release, and platform, click the **Product or Family** link to enter one or more search criteria.
3. Click **Search** to execute your query. The Patch Search Results page opens.
4. Click the patch ID number. The system displays details about the patch. In addition, you can view the Read Me file before downloading the patch.
5. Click **Download**. Follow the instructions on the screen to download, save, and install the patch files.

Finding Oracle Documentation

The Oracle Web site contains links to all Oracle user and reference documentation. You can view or download a single document or an entire product library.

Finding Oracle Health Sciences Documentation

To get user documentation for Oracle Health Sciences applications, go to the Oracle Health Sciences documentation page at:

<http://www.oracle.com/technetwork/documentation/hsgbu-clinical-407519.html>

Note: Always check the Oracle Health Sciences Documentation page to ensure you have the latest updates to the documentation.

Finding Other Oracle Documentation

To get user documentation for other Oracle products:

1. Go to the following Web page:

<http://www.oracle.com/technology/documentation/index.html>

Alternatively, you can go to <http://www.oracle.com>, point to the Support tab, and then click **Documentation**.

2. Scroll to the product you need and click the link.
3. Click the link for the documentation you need.

Related Documents

This section lists the documents in the Oracle Thesaurus Management System documentation set, followed by their part number. The most recent version of each guide is posted on the Oracle Web site; see "[Finding Oracle Health Sciences Documentation](#)" on page x.

- *Oracle Thesaurus Management System Installation Guide* (Part E18826)
- *Oracle Thesaurus Management System User's Guide* (Part E18827)

The release notes and the release content document are also posted in the Oracle Health Sciences documentation library.

In addition, Oracle Thesaurus Management System customers can request a copy of the *Oracle Thesaurus Management System Technical Reference Manual* from Oracle Support.

Conventions

The following text conventions are used in this document:

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

Preparing to Install Oracle Thesaurus Management System

This chapter describes Oracle Thesaurus Management System's architecture, the hardware and software requirements, and the dependencies among the components. Before you begin installing or upgrading Oracle Thesaurus Management System (TMS), check that your environment meets the requirements.

This chapter includes the following topics:

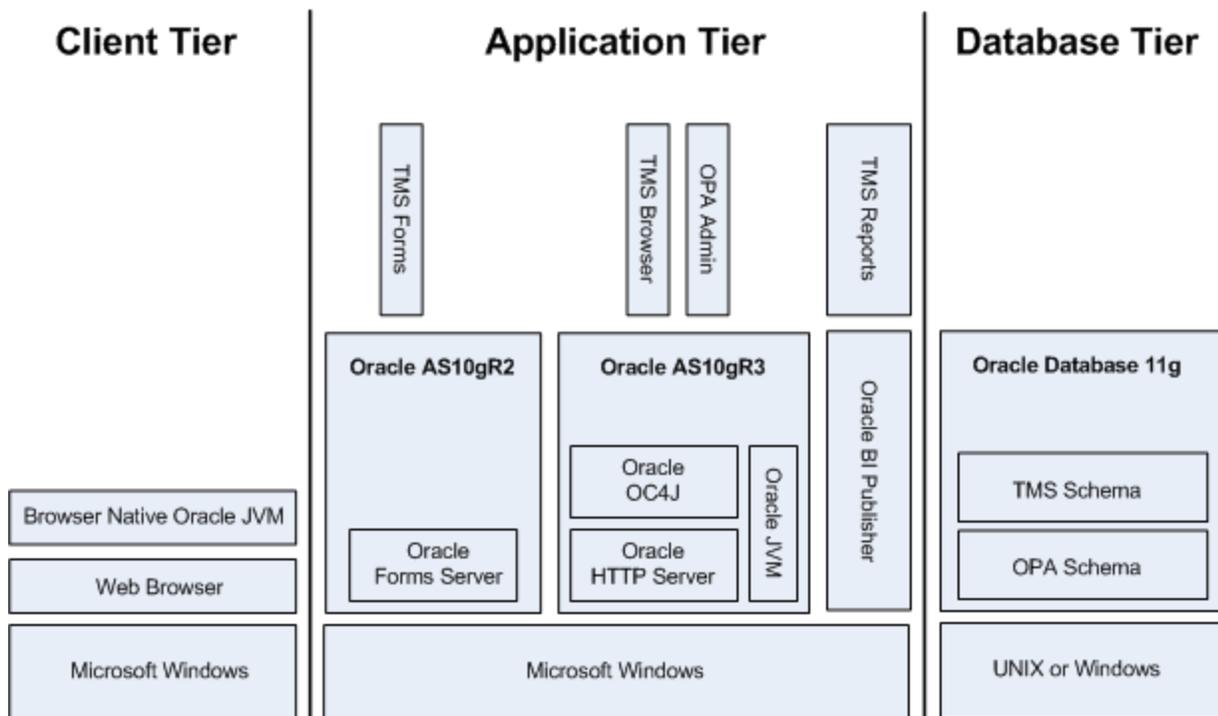
- [Section 1.1, "TMS Architecture"](#)
- [Section 1.2, "TMS Technology Stack"](#)
- [Section 1.3, "Product Organization and Related Installation Documentation"](#)
- [Section 1.4, "Choosing a Character Set"](#)
- [Section 1.5, "Planning a TMS Database Tier Installation"](#)
- [Section 1.6, "Planning a TMS Application Tier Installation"](#)
- [Section 1.7, "Planning a TMS Client Installation"](#)
- [Section 1.8, "Applying Oracle Critical Patch Updates"](#)
- [Section 1.9, "Applying the Latest TMS Patch Set"](#)

1.1 TMS Architecture

The architecture for TMS consists of three tiers: the database tier, the application tier, and the client tier.

[Figure 1-1](#) illustrates the architecture and technology stack for TMS.

Figure 1–1 TMS Architecture and Technology Stack



The **database tier** in a TMS environment includes the Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 software and the TMS database(s). In past releases, the database tier was called the back end.

The **application tier** includes:

- **TMS Forms Server** — The Forms Server performs all forms processing, communicates the display changes to the client, and calls forms to query, update, select, and delete data from the Database Server.
- **TMS Reports Server** — The Reports Server runs most batch reports, schedules all jobs, and creates PDF output for reports. Most TMS reports interface with the TMS Reports Server.

The **client tier** includes one or more clients, which communicate users' keystrokes and mouse movements to the application tier.

1.2 TMS Technology Stack

Table 1–1 lists the technology stack requirements for the database tier, the application tier, and the client tier for Release 4.6.2 of TMS.

For information about updates to the technology stack, see the following document on My Oracle Support:

Oracle Life Sciences Applications Supported Technology Stacks
Article ID 180430.1

Table 1–1 TMS Technology Stack

Database Tier	
Operating System	Oracle Enterprise Linux 5 Update 5 x86-64; 64-bit architecture (US English) Oracle Solaris SPARC 10; 64-bit architecture (US English) HP-UX Itanium 11i v3 (11.31); 64-bit architecture (US English) Windows Server 2008 Release 2, Service Pack 1; 64-bit architecture (US English)
Oracle Database	11g Release 2 (11.2.0.2.0) Enterprise Edition 64-bit
Application Tier	
Operating System	Microsoft Windows Server 2008; Release 2; Service Pack 1; 64-bit architecture
Oracle Application Server	Oracle Application Server 10g Release 2 (10.1.2.0.2) Oracle Application Server 10g Release 2 Patch Set 3 (10.1.2.3.0) Oracle Application Server 10g Release 3 (10.1.3.1.0) Oracle Application Server 10g Release 3 Patch Set 5 (10.1.3.5.0)
Client Tier	
Operating System	Microsoft Windows XP; Service Pack 1, 2, or 3; 32-bit architecture (US English) Microsoft Windows Vista; Service Pack 1; 32-bit architecture (US English) Microsoft Windows 7; Service Pack 1; 32-bit or 64-bit architecture (US English) Microsoft Windows Server 2008; Release 2; Service Pack 1; 64-bit architecture (US English)
Microsoft Internet Explorer	Supported version depends on operating system: Microsoft Windows XP: Internet Explorer 7 or 8 Microsoft Windows Vista: Internet Explorer 7 or 8 Microsoft Windows 7: Internet Explorer 8 or 9 Microsoft Windows Server 2008: Internet Explorer 8
Oracle Java Runtime Environment (JRE)	Java SE 6 Update 24 (Standard Edition, Version 1.6.0.24) or later

1.3 Product Organization and Related Installation Documentation

This section describes the name changes to the organizational unit that includes the TMS product and the additional documentation to review for important installation topics.

Oracle Health Sciences Global Business Unit

The Oracle TMS product is now part of the Oracle Health Sciences Global Business Unit (HSGBU). TMS was formerly part of the Oracle Life Sciences Applications (OLSA) and the Oracle Pharmaceutical Applications (OPA) organizations. During the installation, you will see references to OLSA and OPA in the software (such as in directory names, file names, and screen text) that have not been changed.

Release Notes, Bulletins, and White Papers

Visit the My Oracle Support Web site for the most up-to-date installation information, including alerts, release notes, bulletins, White Papers, and patches; see "[Finding Information and Patches on My Oracle Support](#)" on page viii.

The My Oracle Support Web site includes these important installation topics:

- *Oracle Life Sciences Applications Supported Technology Stacks* (Article ID 180430.1)
- *Oracle Thesaurus Management System Release Notes* (Part E18825-01)

- *OLSA 4.6.x and 4.7.x Known Install and Configuration Issues* (Article ID 386941.1)
- *Oracle Thesaurus Management System Installation Verification Test* (Article ID 398443.1)
- *Oracle Thesaurus Management System Patches* (Article ID 132626.1)
- *Oracle Clinical, Oracle Clinical Remote Data Capture Onsite, and Oracle Thesaurus Management System Security Configuration Guide* (Article ID 1300836.1)

1.4 Choosing a Character Set

Oracle Health Sciences supports certain character sets for each product or each combination of integrated products.

For TMS, Oracle strongly recommends that you use the UTF8 character set (default). TMS supports UTF8, US7ASCII, WE8ISO8859P1, or any single byte character set.

TMS uses the NLS_LANG environment variable to control the **language**, **territory**, and **character set** used for database connections. The NLS_LANG variable concatenates the three components as follows:

```
LANGUAGE_TERRITORY.CHARSET
```

The default installation configures the TMS application to use the following character set:

```
AMERICAN_AMERICA.UTF8
```

You must set the CHARSET component of the NLS_LANG variable to match the character set of the database.

Make sure you use the same character set on the database tier and the application tier. If you select US7ASCII for the database tier and UTF8 for the application tier, TMS stores some special characters incorrectly in the database.

1.5 Planning a TMS Database Tier Installation

This section describes the hardware and software requirements for the TMS database tier.

1.5.1 Database Tier Operating System Requirements

The database tier for TMS supports these operating systems:

- **Oracle Enterprise Linux 5 Update 5 x86-64** (64-bit versions only, US English)
- **Oracle Solaris SPARC 10** (64-bit versions only, US English)
- **HP-UX Itanium 11.31** (64-bit versions only, US English)
- **Windows Server 2008 Release 2, Service Pack 1** (64-bit architecture, US English)

To verify the operating system details, enter the following command:

```
uname -a
```

In addition, to verify the update version for Linux, enter the following command:

```
cat /etc/issue
```

To verify Windows operating system details, navigate to the Control Panel, then System and Security, then System.

1.5.2 Database Tier Character Set Requirements

For information about the guidelines and requirements for character sets, see [Section 1.4, "Choosing a Character Set."](#)

1.5.3 Database Tier System Requirements

For database tier system requirements, see the *Oracle Database 11g Release 2 (11.2) Installation Guide* for your respective operating system.

1.5.3.1 Compatibility with Oracle9i Database on Windows Database Servers

A Windows Database Server does not support multiple TMS code environments. Therefore, you cannot have Oracle9i Database and Oracle Database 11g on the same Windows computer.

1.5.3.2 Access on Windows Platforms

You must have the Windows Administrator user ID and password for the operating system.

1.5.3.3 Processors on Windows Platforms

TMS supports only Database Server computers with Intel processors.

1.5.3.4 Windows Database Server Requires Separate Oracle Home

A Windows Database Server cannot share a computer with the Forms Server or Reports Server components. The Database Server DLLs are incompatible with the Forms and Reports Servers DLLs.

1.5.4 Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 Requirements and Options

TMS requires Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1, Enterprise Edition.

1.5.4.1 Required Reading

Installing Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 to be compatible with your operating system and TMS requires information from different sources. Before you start the TMS installation, review the following documents:

- Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 installation documentation
- Latest platform-specific Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 installation bulletin that is available on My Oracle Support
- Latest supported component versions and alerts related to Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 and Oracle Health Sciences applications that are available on My Oracle Support

1.5.4.2 Oracle Text Option

Choose to install the Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 Text Option. Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 includes the Oracle Text Option, but note that installing and using it requires purchasing a separate license.

1.6 Planning a TMS Application Tier Installation

The application tier includes the Forms Server and Reports Server components. Oracle Application Server 10g Release 2 includes the Forms Server and Reports Server

components in the same installation. You can add extra Reports Servers by installing Oracle Application Server 10g Release 2 on additional computers.

1.6.1 Application Tier Operating System Requirements

For TMS, the Forms Server and Reports Server support the following operating system only:

Microsoft Windows Server 2008
Release 2
Service Pack 1
US English

1.6.2 Forms Server and Reports Server Requirements

The Forms Server, which is the TMS forms application, brokers transactions between clients and the Database Server. The Reports Server schedules TMS jobs and outputs to screen or printers.

The Forms Server and the Reports Server components have the same platform requirements. For installation instructions, see [Chapter 5, "Installing the TMS Front End Components."](#)

1.6.2.1 Permanent IP Address

Each server computer must have a permanent IP address.

1.6.2.2 Oracle Application Servers

TMS requires Oracle Application Server 10g Release 3 (Oracle AS10gR3) and Oracle Application Server 10g Release 2 Forms and Reports Services (Oracle AS10gR2).

1.6.2.3 Java Runtime Environment

The Java Runtime Environment, or JRE (also known as Java Virtual Machine or JVM), is the Java applet required to run a TMS session.

TMS supports Java SE 6 Update 24 (Standard Edition, Version 1.6.0.24) or later.

1.6.3 Installing TMS with Oracle Clinical

For installing and integrating Oracle Thesaurus Management System (TMS) with Oracle Clinical, you can install TMS and Oracle Clinical on the same application tier or on different application tiers. To integrate Oracle Clinical and TMS, both products must be installed on the same database.

1.7 Planning a TMS Client Installation

A client is the browser interface to the Forms Server. It displays data and transmits user actions to and from the Forms Server.

This section describes the requirements for a client.

1.7.1 Client Tier Operating System Requirements

TMS supports the following Microsoft operating systems for the client:

- Windows XP; Service Pack 1, 2, or 3; 32-bit architecture (US English)

- Windows Vista; Service Pack 1; 32-bit architecture (US English)
- Windows 7; Service Pack 1; 32-bit or 64-bit architecture (US English)
- Windows Server 2008; Release 2; Service Pack 1; 64-bit architecture (US English)

1.7.2 Client Tier Application Requirements

To access TMS, clients must have these applications installed:

- Microsoft Windows Internet Explorer.
 - For Windows XP: Internet Explorer 7 or 8
 - For Windows Vista: Internet Explorer 7 or 8
 - For Windows 7: Internet Explorer 8 or 9
 - For Windows Server 2008: Internet Explorer 8
- Java Runtime Environment (JRE). TMS supports Java SE 6 Update 24 (Standard Edition, Version 1.6.0.24) or later.

In addition, each client requires an intranet or internet connection.

1.8 Applying Oracle Critical Patch Updates

Every quarter, Oracle provides Critical Patch Updates (CPUs) to address security vulnerabilities. Install these patches on every computer with an Oracle Home. Check My Oracle Support for information about the latest patch tested with Oracle Health Sciences applications. Article ID 180430.1, *Oracle Health Sciences Supported Technology Stacks*, lists the latest CPUs supported and contains a link to the separate article about each one.

1.9 Applying the Latest TMS Patch Set

Check My Oracle Support article *Oracle Thesaurus Management System Patches* (Article ID 132626.1) for the latest patch set (4.6.4 or its successor) and apply it. See the patch set release notes for more information.

If you are installing your database on Windows, you must apply the latest patch set. TMS is not supported on Windows without Patch Set 4.6.4 or later.]

Installing Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 on UNIX

This chapter describes how to install Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 on a UNIX computer.

This chapter includes the following topics:

- [Section 2.1, "Performing Prerequisite Tasks for Installing Oracle Database 11g Release 2 \(11.2.0.2\) Patch Set 1"](#)
- [Section 2.2, "Installing Oracle Database 11g Release 2 \(11.2.0.2\) Patch Set 1"](#)
- [Section 2.3, "Changing Permissions for Running oraenv Script"](#)

You install the TMS database server code as part of your application tier installation. For instructions, see [Chapter 5, "Installing the TMS Front End Components."](#)

If you are upgrading to TMS 4.6.2, see [Chapter 7](#).

2.1 Performing Prerequisite Tasks for Installing Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1

To ensure that your platform meets the minimum requirements for installing the Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 product, you must perform the following preparatory tasks:

- [Create Owners, Groups, and Mount Points](#)
- [Configure Kernel Resources and Adjust Operating System Environment](#)
- [Install Latest Operating System Patches](#)

2.1.1 Create Owners, Groups, and Mount Points

To create the software owner, required groups, and mount points:

1. Create the software owner and groups:
 - Create a UNIX user to own the Oracle software. Typically, the user name is **oracle**.
 - Create two groups: one is the Oracle Inventory group; the other is the operating system DBA group. Typically, the group names are **oinstall** and **dba**, respectively.
2. Create mount points owned by the oracle user:
 - Create a software mount point of at least 10 GB.

- Create mount points to hold the database files, control files, and log files, respectively.
3. Test permissions. Ensure that the oracle user can write to the new mount points and all subdirectories.

2.1.2 Configure Kernel Resources and Adjust Operating System Environment

The performance of Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 relies on proper tuning of operating system parameters. In addition, if you are creating several Oracle instances, you might have to increase the amount of shared memory and semaphores on the system by setting kernel parameters.

For details, see the "Configure Kernel Parameters" section of the *Oracle Database 11g Release 2 Installation Guide* for your operating system.

2.1.3 Install Latest Operating System Patches

Download and install the latest operating system patches required for Oracle, if necessary. Review the latest platform-specific install bulletins for Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1.

2.2 Installing Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1

To support TMS Database Server, a UNIX computer requires the following version of Oracle Database software:

Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 Enterprise Edition

However, this requirement might change during the life of this document. Before you begin, check My Oracle Support for the latest requirement.

This section describes the following tasks required to install Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1:

- [Install Oracle Database 11g Release 2 \(11.2.0.2\) Patch Set 1](#)
- [Install Oracle Database 11g Release 2 \(11.2.0.2\) Patch Set 1 Examples](#)
- [Install Patch 10213073 to Oracle Database 11g Release 2 \(11.2.0.2\) Patch Set 1](#)
- [Install CPU/PSU 10248523](#)

2.2.1 Install Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1

To install Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1:

1. Locate the Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 software for your operating system on the Oracle Clinical 4.6.2 and Oracle Thesaurus Management System 4.6.2 *operating_system* Tech Stack Patches disk in the media pack:

Operating System	Zip Files
Oracle Enterprise Linux x86-64	p10098816_112020_Linux-x86-64_xof7.zip
Oracle Solaris SPARC	p10098816_112020_SOLARIS64_xof7.zip
HP-UX Itanium	p10098816_112020_HPUX-IA64_xof7.zip

2. Follow the instructions in the *Oracle Database 11g Release 2 (11.2) Installation Guide* for your respective operating system to install Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1.
3. Choose to install the Enterprise Edition option.

2.2.2 Install Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 Examples

Oracle Database Examples, which is required for Oracle Thesaurus Management System, includes the following items:

- Oracle JDBC Development Drivers
- Oracle Database Examples
- Oracle Product Demonstrations (optional)

To install Oracle Database Examples:

1. Navigate to the folder where you extracted the Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 software.
2. Change to the `examples` directory.
3. Start Oracle Universal Installer from the `examples` directory and install Oracle Database Examples.
4. Accept all the default values during the installation.

For more information about installing software and various Oracle product demonstrations from the Oracle Database Examples media, see the *Oracle Database Examples Installation Guide*.

2.2.3 Install Patch 10213073 to Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1

To install patch 10213073 to the Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 installation:

1. Locate the appropriate Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 patch for your operating system on the Oracle Clinical 4.6.2 and Oracle Thesaurus Management System 4.6.2 *operating_system* Tech Stack Patches disk in the media pack:

Operating System	Path	Zip File
Oracle Enterprise Linux x86-64	/patches	p10213073_112020_Linux-x86-64.zip
Oracle Solaris SPARC	/patches	p10213073_112020_SOLARIS64.zip
HP-UX Itanium	/patches	p10213073_112020_HPUX-IA64.zip

2. Extract the patch zip file to a location that is accessible to the Database Server.
3. Follow the operating system-specific instructions in the ReadMe file to apply patch 10213073 to the Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 installation. The ReadMe file is located at the top level of the patch set extraction location.

2.2.4 Install CPU/PSU 10248523

Every quarter, Oracle provides Critical Patch Updates (CPUs) to address security vulnerabilities, and Patch Set Updates (PSUs) to address proactive, critical fixes and security vulnerabilities.

CPU/PSU 10248523 is current as of this document release and current with the information in the *Oracle Health Sciences Applications Critical Patch Update for January 2011* note on My Oracle Support. Be sure to check My Oracle Support for the latest version of CPUs and PSUs, and then apply the latest patch approved for the Oracle Health Sciences applications.

To install CPU/PSU 10248523 to the Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 installation:

1. Locate the appropriate Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 patch for your operating system on the Oracle Clinical Oracle Thesaurus Management System 4.6.2 *operating_system* Tech Stack Patches disk in the media pack:

Operating System	Path	Zip File
Oracle Enterprise Linux x86-64	/patches	p10248523_112020_Linux-x86-64.zip
Oracle Solaris SPARC	/patches	p10248523_112020_SOLARIS64.zip
HP-UX Itanium	/patches	p10248523_112020_HPUX-IA64.zip

2. Extract the patch zip file to a location that is accessible to the Database Server.
3. Follow the operating system-specific instructions in the ReadMe file to apply patch 10248523 to the Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 installation. The ReadMe file is located at the top level of the patch set extraction location.

2.3 Changing Permissions for Running oraenv Script

With the Bourne shell, you use the Oracle environment-setting script (**oraenv**) when granting write access to the `ORACLE_HOME` directory.

However, the `oraenv` script gives an error if run by a non-Oracle user. To avoid this error, set the following directory and file permissions:

```
drwxrwxr-x 18 oracle  oinstall 1024 Apr 11 19:11 inventory
drwxrwxr-x  3 oracle  oinstall 1024 Apr 11 18:29 ContentsXML
-rwxrwxrwx  1 oracle  oinstall  492 Apr 11 13:15 oraclehomeproperties.xml
```

Installing Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 on Windows

This chapter describes how to set up a new Oracle Database Server on a Windows computer.

Note: The Oracle Thesaurus Management System (TMS) 4.6.2 database tier is supported on Windows only with Patch Set 4.6.4 or its successor.

Installing the Oracle Database Server on a Windows computer requires you to complete the following tasks:

- [Section 3.1, "Install Oracle Database 11g Release 2 \(11.2.0.2\) Patch Set 1"](#)
- [Section 3.2, "Install Oracle Database 11g Release 2 \(11.2.0.2\) Patch Set 1 Examples"](#)
- [Section 3.3, "Apply Patch Bundle 12767726"](#)
- [Section 3.4, "Install CPU/PSU 10248523"](#)

You install the TMS database server code as part of your application tier installation. For instructions, see [Chapter 5, "Installing the TMS Front End Components."](#)

If you are upgrading to TMS 4.6.2, see [Chapter 7](#).

3.1 Install Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1

To support Oracle Database Server, a Windows computer requires the following version of Oracle Database software:

**Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1
Enterprise Edition**

However, this requirement might change during the life of this document. Before you begin, check My Oracle Support for the latest requirement.

To install Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1:

1. Insert the *Oracle Clinical and Oracle Thesaurus Management System 4.6.2 Windows Tech Stack Patches* disk.
2. Locate the Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 software for Microsoft Windows (64-bit).
3. Follow the included instructions for installing Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1.

4. Choose to install the Enterprise Edition option.

3.2 Install Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 Examples

Oracle Database Examples, which is required for TMS, includes the following items:

- Oracle JDBC Development Drivers
- Oracle Database Examples
- Oracle Product Demonstrations (optional)

Note: You do not need to install any of the sample schemas. They are not required for either Oracle TMS or Oracle Clinical. You can add them later if you change your mind.

To install Oracle Database Examples:

1. Locate the Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 Examples software for Windows on the media pack. It is file win64_11gR2_examples.zip in the patches directory.
2. Install the software according to the *Oracle Database Examples Installation Guide*, which is also included on the media pack.
3. Accept all the default values during the installation.

3.3 Apply Patch Bundle 12767726

To apply Patch Bundle 12767726 to the Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 installation:

1. Locate the Patch Bundle 12767726 software for Windows on the media pack. It is file p12767726_112020_Win64.zip in the patches directory.
2. Extract the patch zip file to a location that is accessible to the Database Server.
3. Follow the instructions in the ReadMe file to apply the patch bundle to the Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 installation. The ReadMe file is located at the top level of the patch set extraction location.

3.4 Install CPU/PSU 10248523

Every quarter, Oracle provides Critical Patch Updates (CPUs) to address security vulnerabilities, and Patch Set Updates (PSUs) to address proactive, critical fixes and security vulnerabilities.

CPU/PSU 10248523 is current as of this document release and current with the information in the *Oracle Health Sciences Applications Critical Patch Update for January 2011* note on My Oracle Support. Be sure to check My Oracle Support for the latest version of CPUs and PSUs, and then apply the latest patch approved for the Oracle Health Sciences applications.

To install CPU/PSU 10248523 to the Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 installation:

1. Locate the patch on the Oracle Clinical Oracle Thesaurus Management System 4.6.2 WINNT Tech Stack Patches disk in the media pack.
2. Extract the patch zip file to a location that is accessible to the Database Server.
3. Follow the operating system-specific instructions in the ReadMe file to apply patch 10248523 to the Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 installation. The ReadMe file is located at the top level of the patch set extraction location.

Installing and Configuring Oracle Application Server

For Oracle Thesaurus Management System (TMS) 4.6.2, the required Oracle Application Server technology stack includes Oracle Application Server 10g Release 3 and its Patch Set 5, and Oracle Application Server 10g Release 2 and its Patch Set 3.

This chapter describes how to install and configure these components. It includes the following topics:

- [Section 4.1, "Installing the Oracle Application Server Technology Stack"](#)
- [Section 4.2, "Setting Up Oracle Application Server 10g Release 3 for SSL"](#)
- [Section 4.3, "Modifying the Oracle Process Manager Service"](#)
- [Section 4.4, "Applying Critical Patch Updates"](#)
- [Section 4.5, "Setting Up the SQL*Net Connections for Existing Databases"](#)

4.1 Installing the Oracle Application Server Technology Stack

To install the Oracle Application Server technology stack, you complete the following tasks:

- [Set the Windows Compatibility Mode for the setup.exe File](#)
- [Install Oracle Application Server 10g Release 2 \(10.1.2.0.2\)](#)
- [Apply Oracle Application Server 10g Release 2 Patch Set 3 \(10.1.2.3.0\)](#)
- [Install Oracle Application Server 10g Release 3 \(10.1.3.1.0\)](#)
- [Apply Oracle Application Server 10g Release 3 Patch Set 5 \(10.1.3.5.0\)](#)

4.1.1 Set the Windows Compatibility Mode for the setup.exe File

Before installing the Oracle Application Server technology stack on Windows 2008 server, you must set the compatibility mode for the setup.exe file for each component in the technology stack.

To set the Windows compatibility mode:

1. Right-click on a setup.exe file, and then select **Properties**.
2. Select the **Compatibility** tab.
3. Select **Run this program in compatibility mode for** check box, and then select **Windows Server 2008 (Service Pack 1)** from the list.

4. Click **OK** to save your changes.
5. Continue with the software installation.

4.1.2 Install Oracle Application Server 10g Release 2 (10.1.2.0.2)

Oracle Application Server 10g Release 2 provides forms and reports services.

To install Oracle Application Server 10g Release 2:

1. Close all running applications on the computer.
2. Log in to the application server using an account with system administrator privileges.

Caution: You cannot run the setup.exe file for Oracle Application Server 10g Release 2 on Microsoft Windows 2008. Oracle Universal Installer fails on start up because of compatibility issues with the operating system. Note that setting the Compatibility mode for the AS10gR2 setup.exe file does not resolve this known issue.

To work around this issue, you must start Oracle Universal Installer by running the setup.exe file for **Patch Set 3 (10.1.2.3.0) for Oracle Application Server 10g Release 2**. Once the Installer starts, you must change the source directory to the location of the Oracle Application Server 10g Release 2 installation files. The steps that follow provide detailed instructions.

3. Insert the Oracle Clinical 4.6.2 and Oracle Thesaurus Management System 4.6.2 disk.
4. Copy and extract the p5983622_10123_WINNT.zip file, which is Patch Set 3 (10.1.2.3.0) for Oracle Application Server 10g Release 2 Forms and Reports Services onto your application server.
5. Insert the Oracle Application Server Forms and Reports Services (10.1.2.0.2) Microsoft Windows (32-bit) disk. (This disk is included in the Oracle Clinical and Oracle Thesaurus Management System 4.6.2 Media Pack.)
6. Navigate to the setup.exe file for the Patch Set 3 software that you previously copied and extracted.
7. Set the Windows Compatibility mode for this setup.exe file. (See [Section 4.1.1, "Set the Windows Compatibility Mode for the setup.exe File"](#) for details.)
8. Use Windows Explorer or the command line to run the setup.exe file for the Patch Set 3 software.

The system briefly displays a DOS window while it checks your computer's compatibility, and then opens the Welcome screen.

9. Follow the instructions on the installation screens. For additional information about each screen, see [Section 4.1.2.1, "Attend to the Oracle Application Server 10g Release 2 Installation Screens."](#)

4.1.2.1 Attend to the Oracle Application Server 10g Release 2 Installation Screens

The Oracle Universal Installer guides you through the installation and configuration of Oracle Application Server.

Welcome

Click **Next** to continue the installation.

Specify File Locations

Define where to install Oracle Application Server 10g Release 2 (10.1.2.0.2). The directory into which you install this instance of Oracle Application Server is called the *ORACLE_AS10gR2_HOME*.

- **Source Path**

Caution: Do not accept the default value. Because you had to start Oracle Universal Installer by running the setup.exe file for **Patch Set 3 (10.1.2.3.0) for Oracle Application Server 10g Release 2**, the default value specifies the location of the source files for Patch Set 3.

Instead, click **Browse** to specify the location of the source files for the Oracle Application Server 10g Release 2 installation. For example, `D:\Disk xxxxxx-01\stage\products.xml`.

- **Destination Name:** Enter the home name of the application tier. For example, `AS10gR2`.
- **Destination Path:** Enter the complete directory path where this instance of Oracle Application Server will be installed. You can change the path to another location, or you can keep the default path. For example, `D:\oracle\AS10gR2`.

Click **Next**.

Available Product Components**Oracle Application Server Forms and Reports Services 10g**

Select the **Oracle Application Server Forms and Reports Services 10g 10.1.2.0.2** check box to install all components. Click **Next**.

Specify Port Configuration Options

Select **Automatic**, and then click **Next**.

Provide Outgoing Mail Server Information

The mail server is optional. It is not needed to run TMS.

Click **Next**.

Specify Instance Name and ias_admin Password

Complete this screen as follows:

- Enter a name for the Oracle Application Server 10g Release 2 instance you are installing. The suggested name for this instance is `AS10gR2`.

Oracle Application Server appends the host name and the domain name to the instance name you specify to form a complete instance name. For example, if you install an instance on a host computer named `comp1`, and you name the instance `AS10gR2`, then the full name of the instance is as follows:

```
AS10gR2.comp1.domain_name.com
```

- Enter and confirm a valid `ias_admin` password to use for the administration of this instance of Oracle Application Server.

Click **Next**.

Summary

Oracle Application Server Forms and Reports Services 10g 10.1.2.0.2

Review the installation details to verify that they are correct. To revisit earlier installation screens and make changes, click **Back**.

When you are ready to continue, click **Install**.

Install

The Install screen displays the progress of the installation. Oracle Universal Installer configures this instance of Oracle Application Server 10g Release 2. The configuration process can take several minutes. Do not interrupt the automated configuration.

You can view a log of this installation session at:

`\Program Files (x86)\Oracle\Inventory\logs\installActiontimestamp.log`

End of Installation

Scroll through and review the information on the End of Installation screen. Oracle Application Server 10g Release 2 saves this information in the following file:

`setupinfo.txt`

Oracle Universal Installer displays the location of the `setupinfo.txt` file near the top of the End of Installation section. Make note of this location in case you want to reference the file in the future.

When you have finished reviewing the installation information, click **Exit**. At the confirmation prompt, click **Yes** to exit from Oracle Universal Installer.

4.1.2.2 Apply Oracle Application Server 10g Release 2 Patch Set 3 (10.1.2.3.0)

To apply Patch Set 3 (10.1.2.3.0) to Oracle Application Server 10g Release 2 Forms and Reports Services:

1. Navigate to the location where you already copied and extracted the Patch Set 3 software.
(Patch Set 3 is the `p5983622_10123_WINNT.zip` file on the Oracle Clinical 4.6.2 and Oracle Thesaurus Management System 4.6.2 disk.)
2. Locate the `setup.exe` file for the Patch Set 3 software.
3. Set the Windows Compatibility mode for this `setup.exe` file. (See [Section 4.1.1, "Set the Windows Compatibility Mode for the setup.exe File"](#) for details.)
4. Execute `setup.exe` to start the Installer and follow the instructions on screen.

Note: During the installation, the system may display the following error message:

The procedure entry point `GetProcessImageFileNameW` could not be located in the dynamic link library `PSAPI.DLL`.

You can safely ignore this error message, and click **OK** to continue.

Note: Do not do any of the configuration steps described in the patch release notes.

4.1.2.3 Restart the Computer

To ensure that all configuration changes for Oracle Application Server 10g Release 2 and Patch Set 3 (10.1.2.3.0) are initialized, you must restart the computer before you continue with the next task in the installation process.

4.1.3 Install Oracle Application Server 10g Release 3 (10.1.3.1.0)

Oracle Application Server 10g Release 3 provides the latest Java environment for an TMS installation.

To install Oracle Application Server 10g Release 3:

1. Close all running applications on the computer.
2. Log in to the application server using an account with system administrator privileges.

Caution: You cannot run the setup.exe file for Oracle Application Server 10g Release 3 on Microsoft Windows 2008. Oracle Universal Installer fails on start up because of compatibility issues with the operating system. Note that setting the Compatibility mode for the AS10gR3 setup.exe file does not resolve this known issue.

To work around this issue, you must start Oracle Universal Installer by running the setup.exe file for **Patch Set 5 (10.1.3.5.0) for Oracle Application Server 10g Release 3**. Once the Installer starts, you must change the source directory to the location of the Oracle Application Server 10g Release 3 installation files. The steps that follow provide detailed instructions.

3. Insert the Oracle Clinical 4.6.2 and Oracle Thesaurus Management System 4.6.2 disk.
4. Copy the following two folders and extract the files, which are Patch Set 5 (10.1.3.5.0) for Oracle Application Server 10g Release 3:
 - V17522-01_1of2.zip
 - V17522-01_2of2.zip
5. Insert the Oracle SOA Suite 10g (10.1.3.1.0) for Microsoft Windows (32-bit) disk. (This disk is included in the Oracle Clinical and Oracle Thesaurus Management System 4.6.2 Media Pack.)
6. Navigate to the setup.exe file for the Patch Set 5 software that you previously copied and extracted.
7. Set the Windows Compatibility mode for this setup.exe file. (See [Section 4.1.1, "Set the Windows Compatibility Mode for the setup.exe File"](#) for details.)
8. Use Windows Explorer or the command line to run the setup.exe file for the Patch Set 5 software.

The system briefly displays a DOS window while it checks your computer's compatibility, and then opens the Welcome screen.
9. Follow the instructions on the installation screens. For additional information about each screen, see [Section 4.1.3.1, "Attend to the Oracle Application Server 10g Release 3 Installation Screens."](#)

4.1.3.1 Attend to the Oracle Application Server 10g Release 3 Installation Screens

The Oracle Universal Installer guides you through the installation of Oracle Application Server.

Welcome

Click **Next** to continue the installation.

Specify File Locations

Define where to install Oracle Application Server 10g Release 3. The directory into which you install this instance of Oracle Application Server is called the *ORACLE_AS10gR3_HOME*. You specify the full path to this directory.

- **Source Path**

Caution: Do not accept the default value. Because you had to start Oracle Universal Installer by running the setup.exe file for **Patch Set 5 (10.1.3.5.0) for Oracle Application Server 10g Release 3**, the default value specifies the location of the source files for Patch Set 5.

Instead, click **Browse** to specify the location of the source files for the Oracle Application Server 10g Release 3 installation. For example, `D:\Disk xxxxxx-01\stage\products.xml`.

- **Destination Name:** Enter the home name of the application tier. For example, `AS10gR3`.
- **Destination Path:** Enter the complete directory path where this instance of Oracle Application Server will be installed. You can change the path to another location, or you can keep the default path. For example: `D:\oracle\AS10gR3`.

Click **Next**.

Select a Product to Install

Select **Oracle Application Server SOA Suite 10.1.3.1.0**.

Click **Next**.

Select Installation Type

Oracle Application Server SOA Suite 10.1.3.1.0

Select **J2EE Server and Web Server (586MB)**, and then click **Next**.

Selecting this option installs and configures Oracle Container for J2EE (OC4J), including HTTP Server with SSL support, Oracle Enterprise Manager Application Server Control, and Oracle Process Manager and Notification Server (OPMN).

Specify Port Configuration Options

Select **Automatic**, and then click **Next**.

Administration Settings

You need to specify the following administration settings for this instance of Oracle Application Server 10g Release 3:

- Enter a unique name for this instance of Oracle Application Server 10g Release 3 you are installing.

- Enter and confirm an administrator password for this instance of Oracle Application Server 10g Release 3. Note that the administrator user name is **oc4jadmin**.
- Select the **Configure this as an Administration OC4J instance** check box.

In addition, specify the name of the default OC4J instance that is created by the Oracle Universal Installer.

Click **Next**.

Cluster Topology Configuration

You can ignore all settings on this screen. TMS does not use cluster topology. Click **Next**.

Summary

Oracle Application Server SOA Suite 10.1.3.1.0

Review the installation details to verify that they are correct. To revisit earlier installation screens and make changes, click **Back**.

When you are ready to continue, click **Install**.

Install

The Install screen displays the progress of the installation. Oracle Universal Installer configures this instance of Oracle Application Server 10g Release 3. The configuration process can take several minutes. Do not interrupt the automated configuration.

You can view a log of this installation session at:

`\Program Files (x86)\Oracle\Inventory\logs\installActionstimestamp.log`

End of Installation

The End of Installation screen reports whether the software installed successfully.

Scroll through and review the information, which includes the command for viewing the status of the server and the URL for accessing the Welcome page of the server.

In addition, you can view all this information in the `readme.txt` file located at:

`\ORACLE_AS10gR3_HOME\install\readme.txt`

When you have finished reviewing the installation information, click **Exit**. At the confirmation prompt, click **Yes** to exit from Oracle Universal Installer.

4.1.3.2 Apply Oracle Application Server 10g Release 3 Patch Set 5 (10.1.3.5.0)

To apply Patch Set 5 (10.1.3.5.0) to Oracle Application Server 10g Release 3:

1. Navigate to the location where you already copied and extracted the Patch Set 5 software.
(Patch Set 5 is the V17522-01_1of2.zip and V17522-01_2of2.zip folders on the Oracle Clinical 4.6.2 and Oracle Thesaurus Management System 4.6.2 disk.)
2. Locate the `setup.exe` file for the Patch Set 5 software.
3. Set the Windows Compatibility mode for this `setup.exe` file. (See [Section 4.1.1, "Set the Windows Compatibility Mode for the setup.exe File"](#) for details.)
4. Execute `setup.exe` to start the Installer and follow the instructions on screen.

Note: Do not do any of the configuration steps described in the patch release notes.

4.1.3.3 Configure the Oracle AS10gR3 Process Manager

Go to the Oracle Application Server 10g Release 3 Process Manager.

Change the startup type to **Automatic**.

4.1.3.4 Restart the Computer

To ensure that all configuration changes for Oracle Application Server 10g Release 3 and Patch Set 5 (10.1.3.5.0) are initialized, you must restart the computer before you continue with the next task in the installation process.

4.2 Setting Up Oracle Application Server 10g Release 3 for SSL

By default, TMS is set up to work with HTTPS, which combines the Hypertext Transfer Protocol with a Secure Sockets Layer (SSL) / Transport Layer Security (TLS) protocol. The SSL/TLS protocol provides encrypted communication, secure identification of a network Web server, and communications security over the Internet.

Therefore, you must ensure that the default URL for Oracle Application Server 10g Release 3 uses HTTPS. For example:

`https://server1.company_name.com.`

TMS will not run if the security certificate is not configured properly.

4.3 Modifying the Oracle Process Manager Service

To change the login properties of the Oracle AS10gR2 Process Manager Service to use the administrator account:

1. Log in as a user with system administrator privileges.
2. Open the Windows Control Panel.
3. Double-click **Administrative Tools**.
4. Double-click **Services**.
5. Select **Oracle AS10gR2 Process Manager Service**.
6. Open the **Action** menu, and then click **Properties**.
7. Click the **Log On** tab.
 - a. Set the account to a user with system administrator privileges.
 - b. Click **OK** to save your changes.
8. Close the Services dialog box.

Repeat the procedure to change the login properties of the Oracle AS10gR3 Process Manager Service to use the administrator account. Be sure to select the **Oracle AS10gR3 Process Manager Service**.

4.4 Applying Critical Patch Updates

Every quarter, Oracle provides Critical Patch Updates (CPUs) to address security vulnerabilities, and Patch Set Updates (PSUs) to address proactive, critical fixes and security vulnerabilities.

Table 4–1 lists the CPUs that are included on the Oracle Clinical 4.6.2 and Oracle Thesaurus Management System 4.6.2 disk in the media pack. These CPUs are current as of this document release and current with the information in the *Oracle Health Sciences Applications Critical Patch Update for January 2011* note on My Oracle Support. Be sure to check My Oracle Support for the latest version of CPUs and PSUs, and then apply the latest patch approved for the Oracle Health Sciences applications.

Before you run the OPatch utility to apply the October 2010 CPUs, set the OPatch compatibility as follows:

```
set OPATCH_PLATFORM_ID=215
```

Follow the instructions in the ReadMe file to apply these CPUs.

Table 4–1 Critical Patch Updates Included on the Media Pack

Patch	Purpose	Apply the Patch To...	Zip File
6640838	Oracle Universal Installer CPU	Oracle Application Server 10g Release 2	p6640838_10106_WINNT.zip
10031950	CPU	Oracle Application Server 10g Release 2	p10031950_10123_WINNT.zip
10031963	CPU	Oracle Application Server 10g Release 3	p10031963_101350_WINNT.zip

4.5 Setting Up the SQL*Net Connections for Existing Databases

To establish that SQL*Net connections can be created to connect the application server to all databases:

- Modify *ORACLE_AS10gR3_HOME*\network\admin\tnsnames.ora. Ensure that it contains an entry for each database.
- Modify *ORACLE_AS10gR2_HOME*\network\admin\tnsnames.ora. Ensure that it contains an entry for each database.

4.5.1 Test the Connection from the Application Servers to the Database

For the TMS application to work properly, the database must be able to communicate with the application servers.

To ensure that you can connect to the database from each application server:

1. Open a Microsoft DOS command window.
2. Test the connection from Oracle Application Server 10g Release 2:
 - a. Define the ORACLE_HOME environment variable:


```
set ORACLE_HOME=ORACLE_AS10gR2_HOME
```

 For example:


```
set ORACLE_HOME=D:\oracle\as10gr2
```
 - b. Use SQL*Plus to verify that you can connect to the database:

```
sqlplus system/password
```

3. Test the connection from Oracle Application Server 10g Release 3:

a. Define the ORACLE_HOME environment variable:

```
set ORACLE_HOME=ORACLE_AS10gR3_HOME
```

For example:

```
set ORACLE_HOME=D:\oracle\as10gr3
```

b. Use SQL*Plus to verify that you can connect to the database:

```
sqlplus system/password
```

4.5.2 Troubleshoot Network Connection Issues

If the system returns a connection error, you must resolve this problem before continuing with the installation of TMS.

Possible causes of errors include:

- The computer is not physically connected to the network.
- One of the databases does not exist.
- The network protocol software is not loaded on the computer. Try a remote login to check.
- The database or SQL*Net listener process is not started on the server.
- An incorrect connect string, user ID, or password was entered.
- The tnsnames.ora file is not present in the correct directory or does not contain the correct entries.

Installing the TMS Front End Components

The TMS Front End includes the TMS Forms Server component, the TMS Reports Server component, and the TMS Server (database server code) component.

Note: You do not need to have an installed Oracle database to create a Forms Server. However, you need a supported Oracle database to verify the installation.

This chapter includes the following topics:

- [Section 5.1, "Options for Installing the TMS Front End Components"](#)
- [Section 5.2, "Installing the TMS Front End"](#)
- [Section 5.3, "Installing the TMS Reports Server"](#)
- [Section 5.4, "Installing the TMS Database Server Code"](#)

5.1 Options for Installing the TMS Front End Components

When you run Oracle Universal Installer to install TMS, you select the product to install. As shown in [Figure 5-1](#), you can select to install the TMS Front End, the TMS Reports Server, or the TMS Server (database server code).

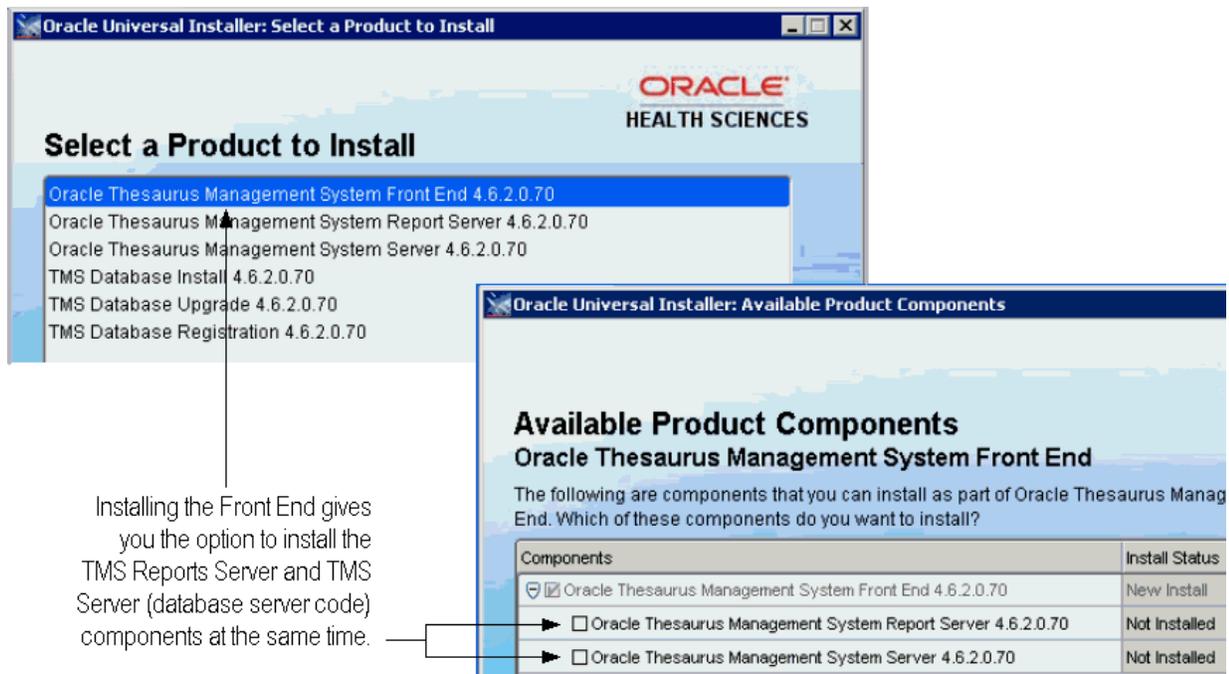
Installing the TMS Front End installs the TMS Forms Server component. In addition, when you select to install the TMS Front End, you can optionally install the TMS Reports Server and the TMS Server at the same time. See [Figure 5-1](#). Choose to include the Reports Server if you want to install the Reports Server on the same computer. For TMS, you always install the TMS Server (database server code) on the same computer as the TMS Front End.

For information about installing these components, see the following sections:

- [Section 5.2, "Installing the TMS Front End,"](#) which includes the TMS Forms Server.
- [Section 5.3, "Installing the TMS Reports Server."](#)
- [Section 5.4, "Installing the TMS Database Server Code,"](#) which is also called the TMS Server.

In addition to installing the TMS Front End components, you can select to install a new TMS database, upgrade existing TMS databases, and register TMS databases integrated with Oracle Clinical. See [Chapter 6, "Creating a TMS Database"](#) and [Chapter 7, "Upgrading Oracle Thesaurus Management System to Release 4.6.2"](#) for details.

Figure 5–1 Selecting a TMS Product to Install



5.2 Installing the TMS Front End

To install the TMS Front End:

1. Log in as a user with system administrator privileges.
2. Insert the Oracle Clinical 4.6.2 and Oracle Thesaurus Management System 4.6.2 disk.
3. Locate and run the following file:

```
tms\install\setup.exe
```

The Installer opens to the Welcome screen.

4. Follow the instructions on the installation screens. For additional information about each screen, see [Section 5.2.1, "Attend to the TMS Front End Installation Screens."](#)

5.2.1 Attend to the TMS Front End Installation Screens

The Oracle Universal Installer guides you through the installation and configuration of the TMS Front End.

Welcome

Click **Next** to continue the installation.

Select a Product to Install

Select **Oracle Thesaurus Management System Front End 4.6.2.0.XX** (where XX is the build number).

Click **Next**.

Specify Home Details

Enter values for the Oracle Home location you created when you installed Oracle Application Server 10g Release 2. This installation guide refers to this location as *ORACLE_AS10gR2_HOME*.

- **Name:** Select the name of the correct Oracle Home; for example, **AS10gR2**.
- **Path:** Browse for the path to the correct Oracle Home; for example, **D:\Oracle\AS10gR2**.

Click **Next**.

Available Product Components**Oracle Thesaurus Management System Front End**

Select the components that you want to install as part of the TMS Front End.

The Oracle Thesaurus Management System Front End 4.6.2.0.XX component is automatically selected. You can simultaneously install the TMS Reports Server and the TMS Server (database server code) on the same computer. To do so, select one or both of the following check boxes:

- Oracle Thesaurus Management System Report Server 4.6.2.0.XX
- Oracle Thesaurus Management System Server 4.6.2.0.XX

Note: If you choose to install the TMS Reports Server, additional screens appear in the Installer. Follow instructions in [Section 5.3, "Installing the TMS Reports Server."](#)

Oracle Thesaurus Management System Front End**Choose the Oracle AS10gR3 Home Directory**

Select the Oracle Home location you created when you installed Oracle Application Server 10g Release 3. This installation guide refers to this location as *ORACLE_AS10gR3_HOME*.

Oracle Thesaurus Management System Front End**Choose OPA Home Directory**

Specify the directory that is the root directory for installations of Oracle Health Sciences products. Typically, you respond with the path to the *opapps46* directory.

The recommended installation directory for Release 4.6.x is:

drive:\opapps46

This installation guide refers to this location as *OPA_HOME*.

Click **Next**.

Oracle Thesaurus Management System Front End**Enter OC4J Admin Password**

When you installed Oracle Application Server 10g Release 3, you created a password for the OC4J administrator. You must enter and confirm that password.

Oracle Thesaurus Management System Front End**Enter OPMN Port Number**

Enter the port number that the Oracle Process Manager and Notification Server (OPMN Server) uses. The default port number is 6004.

If you modified the default installation, you can check the following configuration file for the OPMN port number:

```
\ORACLE_AS10gR3_HOME\opmn\conf\opmn.xml
```

Note: The following screens do not appear if you already installed Oracle Clinical. In that case, the next screen is the Summary screen.

Oracle Thesaurus Management System Front End Choose NLS Language

Enter the NLS language setting that is appropriate for your database character set. The default value is AMERICAN_AMERICA.UTF8.

For information about the guidelines and requirements for character sets, see [Section 1.4, "Choosing a Character Set."](#)

Click **Next**.

Oracle Thesaurus Management System Front End Choose NLS Date Format

All Oracle Health Sciences applications require a date format with a four-digit year. For example, DD-MON-RRRR.

If the NLS_DATE_FORMAT entry in the system registry is configured, Oracle Universal Installer displays that value by default. Adjust or enter the date format.

Click **Next**.

Oracle Thesaurus Management System Front End Enter Report Queue Manager Machine

By default, the Oracle Universal Installer displays the IP address or the name of the computer that has the Report Queue Manager installed. Accept the default value.

Click **Next**.

Oracle Thesaurus Management System Front End Enter URL for the Report Queue Manager

Accept the default value. Click **Next**.

Oracle Thesaurus Management System Front End Reports Server Machine

Enter the name of the application-tier computer you want to use as the Reports Server, in *computer_name.domain_name* format. Click **Next**.

Oracle Thesaurus Management System Front End Enter the URL location of your custom documentation

If you have a directory for custom help, enter the URL location. Use the following syntax:

```
http://computer.domain:port/opa46/xhelp
```

Summary

Oracle Thesaurus Management System Front End 4.6.2.0.XX

The Summary screen provides information about the global settings, languages, space requirements, and products for this installation.

Review the installation details to verify that they are correct. To revisit earlier installation screens and make changes, click **Back**.

When you are ready to continue, click **Install**.

5.2.2 Update the Mandatory System Registry Values for TMS Front End

After you install Oracle Thesaurus Management System Front End, you need to add or update the following variables in the Windows System Registry for TMS reports to work:

- OPA_HTTPS_ENABLED
- OPA_XDO_PORT
- OPA_LOCAL_MT_URL

To update the Windows System Registry:

1. Open the Windows System Registry Editor.
2. Navigate to the following key:

```
\HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\ORACLE\ORACLE_
AS10gR2_HOME
```

3. Add the following entries to the registry:

```
OPA_HTTPS_ENABLED=1
```

```
OPA_XDO_PORT=HTTPS_PORT_NUMBER
```

where *HTTPS_PORT_NUMBER* specifies the port where SSL is installed for the Oracle Application Server 10g Release 3 server. For example, port 443.

4. Update the OPA_LOCAL_MT_URL value to include the **port number** for the Oracle Application Server 10g Release 3 HTTP Server. For example:

```
OPA_LOCAL_MT_URL=http://127.0.0.1:7777
```

5.3 Installing the TMS Reports Server

This section describes installing and configuring a Reports Server. The TMS Reports Server runs on Oracle Application Server 10g Release 2 Forms and Reports Services. It schedules batch jobs such as synchronization.

Note: If you install a Reports Server in a different gateway, or subnet, from the Forms Server, report outputs and log files are not created. There is a solution: see [Section 5.3.2, "Change to namingServices if Reports and Forms Server Use Different Subnets."](#)

To install the TMS Reports Server:

1. Log in as a user with system administrator privileges.
2. Insert the Oracle Clinical 4.6.2 and Oracle Thesaurus Management System 4.6.2 disk.
3. Locate and run the following file:

```
tms\install\setup.exe
```

The Installer opens to the Welcome screen.

4. Follow the instructions on the installation screens. For additional information about each screen, see [Section 5.3.1, "Attend to the TMS Reports Server Installation Screens."](#)

5.3.1 Attend to the TMS Reports Server Installation Screens

The Oracle Universal Installer guides you through the installation and configuration of the TMS Reports Server.

Welcome

Click **Next** to continue the installation.

Select a Product to Install

Select **Oracle Thesaurus Management System Report Server 4.6.2.0.XX** (where *XX* is the build number).

Click **Next**.

Specify Home Details

Enter values for the Oracle Home location you created when you installed Oracle Application Server 10g Release 2. This installation guide refers to this location as *ORACLE_AS10gR2_HOME*.

- **Name:** Select the name of the correct Oracle Home; for example, **AS10gR2**.
- **Path:** Browse for the path to the correct Oracle Home; for example, **D:\Oracle\AS10gR2**.

Click **Next**.

Oracle Thesaurus Management System Report Server Choose the Oracle AS10gR3 Home Directory

Select the Oracle Home location you created when you installed Oracle Application Server 10g Release 3. This installation guide refers to this location as *ORACLE_AS10gR3_HOME*.

Click **Next**.

Oracle Thesaurus Management System Report Server Choose OPA Home Directory

Specify the directory that is the root directory for installations of Oracle Health Sciences products. Typically, you respond with the path to the *opapps46* directory.

The recommended installation directory for Release 4.6.x is:

drive:\opapps46

This installation guide refers to this location as *OPA_HOME*.

Click **Next**.

Oracle Thesaurus Management System Report Server Enter OC4J Admin Password

When you installed Oracle Application Server 10g Release 3, you created a password for the OC4J administrator. You must enter and confirm that password.

Oracle Thesaurus Management System Report Server**Enter OPMN Port Number**

Enter the port number that the Oracle Process Manager and Notification Server (OPMN Server) uses. The default port number is 6004.

If you modified the default installation, you can check the following configuration file for the OPMN port number:

```
\ORACLE_ASI0gR3_HOME\opmn\conf\opmn.xml
```

Oracle Thesaurus Management System Report Server**Choose NLS Language**

Enter the NLS language setting that is appropriate for your database character set. The default value is AMERICAN_AMERICA.UTF8.

For information about the guidelines and requirements for character sets, see [Section 1.4, "Choosing a Character Set."](#)

Click Next.

Oracle Thesaurus Management System Report Server**Choose NLS Date Format**

All Oracle Health Sciences applications require a date format with a four-digit year. For example, DD-MON-RRRR.

If the NLS_DATE_FORMAT entry in the system registry is configured, Oracle Universal Installer displays that value by default. Adjust or enter the date format.

Click Next.

Oracle Thesaurus Management System Report Server**Enter Report Server Name**

By default, the Installer displays the name of this computer. Accept this default value.

Click Next.

Summary**Oracle Thesaurus Management System Report Server 4.6.2.0.XX**

The Summary screen provides information about the global settings, languages, space requirements, and products for this installation.

Review the installation details to verify that they are correct. To revisit earlier installation screens and make changes, click **Back**.

When you are ready to continue, click **Install**.

5.3.2 Change to namingServices if Reports and Forms Server Use Different Subnets

If you install a Reports Server in a different subnet, or gateway, from the Forms Server, report outputs and log files are not created.

The solution is to change the way Reports Servers discover other Reports Servers from the Multicast method, which is the default in Oracle Application Server 10g Release 2, to the namingService method. For instructions, download the following document from My Oracle Support:

Title: *How to Switch Between Multicast and NamingService in Reports 10.1.2*

Article ID: 337619.1

Related information is available in documents 336911.1 and 367567.1.

5.4 Installing the TMS Database Server Code

You install the TMS database server code on the Forms Server.

To install the TMS database server code:

1. Log in as a user with system administrator privileges.
2. Insert the Oracle Clinical 4.6.2 and Oracle Thesaurus Management System 4.6.2 disk.
3. Locate and run the following file:

```
tms\install\setup.exe
```

The Installer opens to the Welcome screen.

4. Follow the instructions on the installation screens. For additional information about each screen, see [Section 5.4.1, "Attend to the TMS Database Server Code Installation Screens."](#)

5.4.1 Attend to the TMS Database Server Code Installation Screens

The Oracle Universal Installer guides you through the installation and configuration of the TMS database code server.

Welcome

Click **Next** to continue the installation.

Select a Product to Install

Select **Oracle Thesaurus Management System Server 4.6.2.0.XX** (where *XX* is the build number).

Click **Next**.

Specify Home Details

Enter values for the Oracle Home location you created when you installed Oracle Application Server 10g Release 2. This installation guide refers to this location as *ORACLE_AS10gR2_HOME*.

- **Name:** Select the name of the correct Oracle Home; for example, **AS10gR2**.
- **Path:** Browse for the path to the correct Oracle Home; for example, **D:\Oracle\AS10gR2**.

Click **Next**.

Oracle Thesaurus Management System Server

OPA Home Directory

Specify the directory that is the root directory for installations of Oracle Health Sciences products. Typically, you respond with the path to the *opapps46* directory.

The recommended installation directory for Release 4.6.x is:

```
drive:\opapps46
```

This installation guide refers to this location as *OPA_HOME*.

Click **Next**.

Summary

The Summary screen provides information about the global settings, languages, space requirements, and products for this installation.

Review the installation details to verify that they are correct. To revisit earlier installation screens and make changes, click **Back**.

When you are ready to continue, click **Install**.

Creating a TMS Database

This chapter describes how to create a new Oracle database for use with Oracle Thesaurus Management System (TMS).

Your Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 installation must be complete before you can install the TMS database. In addition, you must first install the TMS database server code in the application tier; see [Section 5.4, "Installing the TMS Database Server Code."](#)

Single TMS Database or Master Database in a Distributed Environment If you plan to use only one TMS database, or if you are using replication to distribute data among multiple databases, perform the steps in the following sections on the single or master database:

- [Section 6.1, "Review Database Requirements and Recommendations \(All Databases\)"](#)
- [Section 6.2, "Install TMS Database Objects \(Single or Master Database\)"](#)
- [Section 6.4, "Load the TMS Jar File \(All Databases\)"](#)
- [Section 6.5, "Load Reports \(All Databases\)"](#)
- [Section 6.6, "Create a TMS Administrator User Account \(All Databases\)"](#)
- [Section 6.7, "Register Databases Integrated with Oracle Clinical"](#) (This step is required only if you are integrating TMS with Oracle Clinical.)
- [Section 6.8, "Load Dictionaries \(Single or Master Database\)"](#)

Note: For master databases, see also [Section 6.9, "Complete Distributed Environment Setup."](#)

Slave Databases If you are installing multiple databases in a distributed environment, perform the steps in the following sections on each slave database:

- [Section 6.1, "Review Database Requirements and Recommendations \(All Databases\)"](#)
- [Section 6.3, "Install TMS Database Objects \(Slave Databases Only\)"](#)
- [Section 6.4, "Load the TMS Jar File \(All Databases\)"](#)
- [Section 6.9, "Complete Distributed Environment Setup"](#) This section includes tasks to be done on both the master and slave databases.
- [Section 6.5, "Load Reports \(All Databases\)"](#)

- [Section 6.6, "Create a TMS Administrator User Account \(All Databases\)"](#)

6.1 Review Database Requirements and Recommendations (All Databases)

Before you install the TMS database component, review the following requirements and recommendations — such as SID names, tablespace sizes, memory management, and initialization parameters — for each TMS database you plan to install.

Note: Repeat these requirements for each new database you create.

6.1.1 Start with a New Database Instance

Oracle recommends that you set up a new database instance so that neither TMS nor its installation process interferes with other applications. However, you can install TMS on an existing database instance.

6.1.2 Use Lowercase SID Name with Oracle Clinical

If you are integrating your TMS environment with Oracle Clinical, ensure that the SID name uses lowercase letters only. SIDs with uppercase letters cause conflicts in the Oracle Clinical Data Extract module.

6.1.3 Check Required Tablespaces

[Table 6–1](#) lists the tablespaces, along with their minimum size, required for TMS. Make sure the database contains these tablespaces. The best practice is to create them with the *Autoextend On* option, to avoid running out of space.

In addition, you may need to increase the minimum sizes for your installation.

Table 6–1 Required Tablespaces and Sizes

Tablespace	Minimum Size
SYSTEM	900 MB
TEMP	100 MB
UNDOTBS1	700 MB
USERS	500 MB
SYSAUX	600 MB

6.1.4 Use the Database Configuration Assistant

To create a new database, use the Database Configuration Assistant. For instructions about the Database Configuration Assistant, see the Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1 documentation, including online help and the *Oracle Database Installation Guide 11g Release 2 (11.2)* for the appropriate operating system.

6.1.5 Select Required Components

When you create a TMS database, select the following mandatory components:

- Oracle Text
- Oracle JVM

- Oracle XML DB

6.1.6 Use Automatic Memory Management

Oracle recommends that you use Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1's Automatic Memory Management feature for a new or an upgraded TMS database.

6.1.7 Set Initialization Parameters

Table 6–2 lists the required and recommended initialization parameters in the `init.ora` file for TMS. For those parameters that accept a value from within a range, the values in the table are minimum values.

Tip: Table 6–2 arranges the parameters in alphabetical order. In the Database Configuration Assistant, you can select the Parameter column to sequence the parameters in the same order.

Note: If you make any changes to the initialization parameters, be sure to stop and restart the database in order to acquire the new parameter settings.

Table 6–2 Required and Recommended Initialization Values in the `init.ora` File

Parameter	Value	Comments
COMPATIBLE	11.2.0.2.0	Specifies the release with which the Oracle server must maintain compatibility.
DB_BLOCK_SIZE	16384 bytes	You cannot change this value after you create the database.
DB_CACHE_SIZE	150 MB	Recommended value for 50 to 60 concurrent users. Adjust this value according to your organization's needs.
DB_DOMAIN	<i>company.com</i>	Make this value the same as your company domain name.
DB_FILES	200	Oracle adds needed space to the control files up to the number specified in the <code>DB_FILES</code> parameter.
EVENT	31151 trace name context forever, level 0x100	Required for HTML generation. NOTE: Do not include the <code>EVENT</code> parameter when you create the database. Once the database is created, you can add the <code>EVENT</code> parameter to the <code>init.ora</code> file.
JAVA_POOL_SIZE	50 MB	Recommended value for 50 to 60 concurrent users. You can change the value of this parameter after installation.
JOB_QUEUE_PROCESSES	10	Developer-specific parameter. You can change the value of this parameter after installation.
LARGE_POOL_SIZE	50 MB	Recommended value for 50 to 60 concurrent users.
MEMORY_MAX_TARGET	1000 MB (minimum)	Adjust this value according to your organization's needs.
MEMORY_TARGET	1000 MB (minimum)	Adjust this value according to your organization's needs.
NLS_DATE_FORMAT	<i>DD-MON-RRRR</i> (default value)	Determines the format in which client applications running on the Windows server transfer date information to and from the database. The format must specify the year as <code>RRRR</code> .
NLS_LENGTH_SEMANTICS	BYTE	The <code>CHAR</code> value for this parameter is not supported.
OPEN_CURSORS	800 or greater	You can change the value of this parameter after installation.
OPTIMIZER_FEATURES_ENABLE	9.2.0	Acts as an umbrella for enabling a series of optimizer features based on an Oracle release number. TMS uses the optimizing features of Oracle9i.

Table 6–2 (Cont.) Required and Recommended Initialization Values in the init.ora File

Parameter	Value	Comments
OPTIMIZER_MODE	CHOOSE	If you run Oracle Clinical's statistics-gathering scripts, the CHOOSE value sets Oracle9i's Optimizer to apply the execution plan that best minimizes response time. See the <i>Oracle9i Concepts Guide</i> and the <i>Oracle9i Tuning Guide</i> for more information. (CHOOSE is the default value when you specify 9.2.0 as the value of OPTIMIZER_FEATURES_ENABLE.)
OS_AUTHENT_PREFIX	"OP\$"	Enter the double quotes symbol (").
PGA_AGGREGATE_TARGET	200 MB	Recommended value for 50 to 60 concurrent users. You can change the value of this parameter after installation.
REMOTE_LOGIN_PASSWORDFILE	EXCLUSIVE	The database must be set up to use password file authentication.
REMOTE_OS_AUTHENT	FALSE	NOTE: Do not include the REMOTE_OS_AUTHENT parameter when you create the database. Once the database is created, you can add the REMOTE_OS_AUTHENT parameter to the init.ora file. REMOTE_OS_AUTHENT is an obsolete parameter. When you start up a database that has this setting, TMS displays the following warning: ORA-32004: obsolete and/or deprecated parameter(s) specified. ORACLE instance started. You can safely ignore this warning.
SEC_CASE_SENSITIVE_LOGON	FALSE	Lets you enter passwords without case sensitivity.
SESSIONS	500	You can change the value of this parameter after installation.
SGA_MAX_SIZE	600 MB (minimum)	Recommended value for 50 to 60 concurrent users. Adjust this value according to your organization's needs.
SGA_TARGET	600 MB (minimum)	Recommended value for 50 to 60 concurrent users. Adjust this value according to your organization's needs.
SHARED_POOL_SIZE	150 MB (minimum)	Recommended value for 50 to 60 concurrent users. You can change the value of this parameter after installation.
UNDO_MANAGEMENT	AUTO	Specifies which undo space management mode the system uses. When set to AUTO, the instance starts in Automatic Undo Management (AUM) mode.
UTL_FILE_DIR	<i>opa_home</i> \xmltemp	Specifies each directory you access. If this environment is exclusively an Oracle Thesaurus Management System environment, you do not have to set this parameter. However, if you share this environment with Oracle Clinical or Oracle Adverse Event Reporting System (AERS), you must specify entries to support Oracle Clinical PDF layout generation and Oracle AERS. In a Windows environment, samples of the valid syntax are as follows: UTL_FILE_DIR=c:\e2b\import UTL_FILE_DIR=c:\opapps\xmltemp In a UNIX environment, UTL_FILE_DIR requires an entry with two specified paths: one with and one without a trailing slash. Add these lines before any other UTL_FILE_DIR entries: UTL_FILE_DIR=/usr/opapps/oc/xmltemp/ UTL_FILE_DIR=/usr/opapps/oc/xmltemp

6.1.8 Modify tnsnames.ora

Add an entry to the tnsnames.ora file for the database. Add the tnsnames entry to the tnsnames.ora file on any existing Oracle Thesaurus Management System Forms Servers or Reports Servers. The tnsnames.ora entry must match the Oracle SID. In addition, if you are installing TMS with Oracle Clinical, the tnsnames.ora entry must be in lowercase.

6.2 Install TMS Database Objects (Single or Master Database)

This section describes how to add TMS database objects to each Oracle database that you will use for TMS.

About the *Master Database* Terminology

The procedures in this section describe how to install a database that you will use either as a single database in a non-distributed environment or as the master database in a distributed environment. These procedures and the Oracle Universal Installer screens use the term *master database* even when you are installing in a non-distributed environment.

About Installing New Databases in a Standalone Environment

If you plan to run TMS in a distributed environment and if you install a new database in a TMS *standalone* environment — that is, one not integrated with Oracle Clinical — you must run the following replication scripts after completing the installation:

- opasrc01.sql
- opasrc02.sql

For information about running these scripts, see [Section 6.9.5, "Setting Up and Starting Symmetric Replication."](#)

You do not have to run these replication scripts for a non-distributed standalone TMS database, or when you add a new database to a replicated TMS installation that is integrated with Oracle Clinical.

6.2.1 Unlock Accounts Before Installing the TMS Database

The Installer prompts you for passwords to several system accounts. In Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1, some accounts are locked. Before you run the Installer, check these accounts. Unlock them if necessary. You will need to set their passwords when you run the Installer.

Make sure the following accounts are unlocked: SYSTEM, CTXSYS, XDB, and SYS.

When you have finished installing the database, relock any accounts that were locked except for SYSTEM and SYS, which should not be locked.

6.2.2 Start Installing the TMS Database

To start to install the TMS database:

1. Log in to the server computer using an account with system administrator privileges.
2. Insert the Oracle Clinical 4.6.2 and Oracle Thesaurus Management System 4.6.2 disk.

3. Locate and run the setup.exe file:

```
tms\install\setup.exe
```

The Installer opens to the Welcome screen.

4. Follow the instructions on the installation screens. For additional information about each screen, see [Section 6.2.3, "Attend to the TMS Database Installation Screens."](#)

6.2.3 Attend to the TMS Database Installation Screens

The Oracle Universal Installer guides you through the installation and configuration of a TMS database.

Welcome

Click **Next** to continue the installation.

Select a Product to Install

Select **TMS Database Install 4.6.2.0.XX** (where *XX* is the build number).

Click **Next**.

Select Installation Type

TMS Database Install 4.6.2.0.XX

Select **Master** and click **Next**.

Specify Home Details

Enter values for the Oracle Home location you created when you installed Oracle Application Server 10g Release 2. This installation guide refers to this location as *ORACLE_AS10gR2_HOME*.

- **Name:** Select the name of the correct Oracle Home; for example, **AS10gR2**.
- **Path:** Browse for the path to the correct Oracle Home; for example, **D:\Oracle\AS10gR2**.

Click **Next**.

TMS Database Install

TMS Server Code Home Directory

Accept the default value for the directory path of the database server code. Click **Next**.

TMS Database Install

Enter database connect string

Enter the database name. An alias must exist in *tnsnames.ora* for this database.

Note: The Installer sets the LOCAL registry setting to default all connections to this database.

TMS Database Install

NLS Settings

- **NLS_LANG** — Enter the NLS language setting that is appropriate for your database character set. Oracle recommends the *AMERICAN_AMERICA.UTF8* setting. For information about the guidelines and requirements for character sets, see [Section 1.4, "Choosing a Character Set."](#)
- **NLS_DATE_FORMAT** — Enter a valid date value. All Oracle Health Sciences applications require a date format with a four-digit year. Oracle recommends *DD-MON-RRRR*.

Click **Next**.

TMS Database Install**Warning: Stop PSUB process**

If you are integrating TMS with Oracle Clinical, stop the PSUB process on the database at this point, restarting it only after you have completely installed TMS.

TMS Database Install**Directory for data tablespace datafiles**

Enter the directory for TMS data tablespace files in the appropriate syntax for your operating system, including a trailing slash. Use the same database name you entered as the connect string. For example, `/u01/oradata/database_name/`.

TMS Database Install**Directory for index tablespace datafiles**

Enter the directory for TMS index tablespace files in the appropriate syntax for your operating system, including a trailing slash. The Installer enters the path you entered for tablespace datafiles as the default.

TMS Database Install**Enter Password for *schema***

In a series of Installer screens, enter the passwords for SYS, SYSTEM, CTXSYS, OPA, RXC, TMS, TDX, BC4J_INTERNAL, and OPS\$TMSBROWSER. You will need these passwords later.

TMS Database Install**Ignore Tablespace Creation Errors**

This setting controls whether the Installer ignores errors that occur when creating the tablespaces. Tablespace creation can fail for several reasons.

The default value is No. In general, you do not want the Installer to ignore tablespace creation errors. For example, you want the Installer to report an error if there is not enough space to create the tablespace.

On the other hand, if you are reinstalling into an existing TMS database, the tablespace creation fails because the tablespace already exists. In this case, you do not need to know about the error.

Click **Next**.

Information

The Information screen reports that the Installer will start a SQL*Plus session to complete the database installation. The screen confirms the name of the database installation, the location of the scripts used for the installation, and the location of the log file that you can view for the progress of the installation. Click **Next**.

Summary**TMS Database Install 4.6.2.0.XX**

The Summary screen provides information about the global settings, languages, space requirements, and products for this installation.

Click **Install**. The Installer starts an SQL*Plus session to complete the installation.

End of Installation

The End of Installation screen provides information about the installation, including whether the processes completed without errors.

When you have finished reviewing the installation information, click **Exit**. At the confirmation prompt, click **Yes** to exit from Oracle Universal Installer.

6.2.4 Check the Database Log File

For each database installation you perform, the Installer creates the following log file in the INSTALL directory:

```
tmsinst_database_name.log
```

Always check the log file for status, messages, and errors.

6.3 Install TMS Database Objects (Slave Databases Only)

If you are not using TMS in a distributed environment, skip this section. If you plan to use TMS in a distributed environment, use the instructions in this section to install each slave database in the environment.

As in the master database installation, you can modify the initial tablespace sizes. See [Section 6.1.3, "Check Required Tablespaces"](#) for information.

About Installing New Databases in a Standalone Environment

If you plan to run TMS in a distributed environment and if you install a new database in a TMS *standalone* environment — that is, one not integrated with Oracle Clinical — you must run the following replication scripts after completing the installation:

- opasrc01.sql
- opasrc02.sql

For information about running these scripts, see [Section 6.9.5, "Setting Up and Starting Symmetric Replication."](#)

You do not have to run these replication scripts for a non-distributed standalone TMS database, or when you add a new database to a replicated TMS installation that is integrated with Oracle Clinical.

About Unlocking Accounts

In Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1, some accounts are locked. You must unlock the accounts and verify their passwords before installing a database.

Locked accounts include the **CTXSYS** account, which is the database account that owns the *interMedia* context indexes.

To install the slave database objects:

1. Log in to the server computer using an account with system administrator privileges.
2. Insert the Oracle Clinical 4.6.2 and Oracle Thesaurus Management System 4.6.2 disk.
3. Locate and run the setup.exe file:

```
tms\install\setup.exe
```

The Installer opens to the Welcome screen.
4. Follow the instructions on the installation screens.

To install a slave database, follow the installation screens described for a master database installation in [Section 6.2.3, "Attend to the TMS Database Installation Screens"](#) with these exceptions:

- In the Select Installation Type installer screen, select **Slave**.
- In the Master Database installer screen, specify the master instance you installed.

6.3.1 Check the Database Log File

For each database installation you perform, the Installer creates the following log file in the INSTALL directory:

```
tmsinst_database_name.log
```

Always check the log file for status, messages, and errors.

6.4 Load the TMS Jar File (All Databases)

To load the TMS jar file into each database:

1. Connect to the TMS application server as the `opareps` user.
2. Point to the database by setting the environment variables.
3. Change to the following directory:

```
OPA_HOME\tms\install
```

4. Load the `tms_http.jar` file manually into each database:

```
ORACLE_AS10gR2_HOME\bin\loadjava -user tms/password -force -definer  
-verbose -resolve tms_http.jar
```

6.5 Load Reports (All Databases)

If you installed TMS in the database using the full Oracle AS10gR2 installation then you can skip this manual procedure. You may verify the reports have been loaded successfully.

If you have installed TMS in the database using the Oracle AS10gR2 Forms and Reports Services, you must perform this manual procedure:

1. Transfer directory `OPA_HOME\tms\install\reports` to the database server.
2. Point to the database by setting the environment variables.
3. Change directories to the directory above the report folder.
4. Load the reports by entering the following command:

```
sqlldr opa/opa_password control=reports/tmsreports.ctl  
log=reports/tmsreports_database.log
```

6.6 Create a TMS Administrator User Account (All Databases)

This section describes creating an administrator-level TMS user, which is defined as a user with the `OPA_ADMIN` role. Users with this role have access to the Define Users window in TMS, which enables them to create additional users in the database.

Note: If the user already has an Oracle Clinical OPS\$ user account in the same database, you only need to grant the user the OPA_ADMIN role (see Step 4 only).

To create a new Oracle account for a user:

1. Connect to SQL*Plus as system and run the following script:
`OPA_HOME\tms\install\tmsadduser.sql`
2. Enter a user ID. If the user account also accesses Oracle Clinical, enter the string OPS\$ at the beginning of the user ID.
3. Enter a password for this user. Do not use the identified externally clause; explicitly assign a password.

4. Grant the user the OPA_ADMIN role:

```
grant OPA_ADMIN to user_id
```

6.7 Register Databases Integrated with Oracle Clinical

If you are installing TMS in the same database as Oracle Clinical, you must register the database by running the TMS Installer.

Note: Run TMS database registration on slave databases only **after** you have followed instructions in [Section 6.9.5, "Setting Up and Starting Symmetric Replication."](#)

6.7.1 Start the Installer to Register Databases

To register databases that are integrated with Oracle Clinical:

1. Log in to the server computer using an account with system administrator privileges.
2. Insert the Oracle Clinical 4.6.2 and Oracle Thesaurus Management System 4.6.2 disk.
3. Locate and run the setup.exe file:

```
tms\install\setup.exe
```

The Installer opens to the Welcome screen.

4. Follow the instructions on the installation screens. For additional information about each screen, see [Section 6.7.2, "Attend to the TMS Database Registration Screens."](#)

6.7.2 Attend to the TMS Database Registration Screens

The Oracle Universal Installer guides you through registering a TMS database.

Welcome

Click **Next** to continue the installation.

Select a Product to Install

Select **TMS Database Registration 4.6.2.0.XX** (where XX is the build number).

Click **Next**.

Specify Home Details

Enter values for the Oracle Home location you created when you installed Oracle Application Server 10g Release 2. This installation guide refers to this location as *ORACLE_AS10gR2_HOME*.

- **Name:** Select the name of the correct Oracle Home; for example, **AS10gR2**.
- **Path:** Browse for the path to the correct Oracle Home; for example, **D:\Oracle\AS10gR2**.

Click **Next**.

TMS Database Registration TMS Server Code Home Directory

Accept the default value for the directory path of the database server code. Click **Next**.

TMS Database Registration Enter Password for *schema*

In a series of Installer screens, enter the passwords for the SYSTEM, RXC, and TMS accounts. You will need these passwords later.

TMS Database Registration Enter the global name of TMS database

Enter the global name of the TMS database; for example, *tms462.us.oracle.com*. A SQL*Net TNS alias must exist with the same name; see [Section 4.5, "Setting Up the SQL*Net Connections for Existing Databases."](#)

To find the global name, connect to SQL*Plus and enter:

```
select * from global_name
```

TMS Database Registration Enter the global name of Oracle Clinical database

Enter the global name of the Oracle Clinical database. A SQL*Net TNS alias must exist with the same name.

To find the global name, connect to SQL*Plus and enter:

```
select * from global_name
```

Information

The Information screen reports that the Installer will start a SQL*Plus session to complete the database registration. The screen confirms the location of the scripts used and the location of the log file that you can view for the progress of the installation.

Click **Next**.

Summary TMS Database Registration 4.6.2.0.XX

The Summary screen provides information about the global settings, languages, space requirements, and products for this installation.

Click **Install**. The Installer starts an SQL*Plus session to complete the installation.

End of Installation

The End of Installation screen provides information about the installation, including whether the processes completed without errors.

When you have finished reviewing the installation information, click **Exit**. At the confirmation prompt, click **Yes** to exit from Oracle Universal Installer.

6.8 Load Dictionaries (Single or Master Database)

See the *Oracle Thesaurus Management System User's Guide* for information about loading dictionaries.

If you are installing TMS with AERS in a distributed environment, you must load the AERS-TMS dictionaries onto the master database before creating an export file and importing it to the slave databases.

You can load dictionaries at any time. However, if you are installing TMS in a distributed environment, even without AERS, you may want to load dictionaries now so as to avoid doing another export/import later.

6.9 Complete Distributed Environment Setup

This section applies only if you are setting up a distributed environment. It includes the following topics:

- [Section 6.9.1, "Export Data from the Master Database"](#)
- [Section 6.9.2, "Import Data to the Slave Database"](#)
- [Section 6.9.3, "Clean Up after Export and Import"](#)
- [Section 6.9.4, "Complete the Creation of the Slave Database"](#)
- [Section 6.9.5, "Setting Up and Starting Symmetric Replication"](#)
- [Section 6.9.6, "Register Slave Databases Integrated with Oracle Clinical"](#)

6.9.1 Export Data from the Master Database

If you are installing a distributed environment, you must create an export file of the master database, which you then import into the slave database.

To export data from the master database:

1. Log in to the master database server.
2. Set up a physical directory as follows:
 - a. Create a new directory. For example: /u01/app/dmp.
 - b. Grant read and write permission to the Oracle database.
 - c. Verify that the tmsrepexp.dmp file does not exist in the directory. The Data Pump export will fail with an error if the tmsrepexp.dmp file already exists.
3. Create directory object on the master database:
 - a. Connect to the master database as the SYS user:

```
sqlplus sys/password as sysdba
```
 - b. Create a directory object called TMS_REP_DIR and then map it to the physical directory you created in the previous step.

```
CREATE OR REPLACE DIRECTORY TMS_REP_DIR AS 'PHYSICAL_DIR_ON_MASTER';
```

For example:

```
CREATE OR REPLACE DIRECTORY TMS_REP_DIR AS '/u01/app/dmp';
```

- c. Grant directory privilege to TMS:

```
GRANT READ, WRITE ON DIRECTORY TMS_REP_DIR TO TMS;
```

4. Place `tms.par` in your working directory.
5. Point local variables to the database.
6. Invoke the Data Pump Export utility:

```
expdp tms/password PARFILE=tms.par
```

By default, the Data Pump Export utility creates a log file named `export.log`. Note that you can use the `LOGFILE` parameter to customize the name of the log file. For example:

```
expdp tms/password PARFILE=tms.par LOGFILE=my_export.log
```

7. Verify that the `tmsrepexp.dmp` file and an export log file are created in the physical directory you created in Step 2.
8. Open the export log file and verify that no errors occurred.

6.9.2 Import Data to the Slave Database

At every slave database, import the export file from the master database.

To import data to the slave database:

1. Log in to the slave database server.
2. Set up a physical directory as follows:
 - a. Create a new directory. For example: `/u01/app/dmp`.
 - b. Grant read and write permission to the Oracle database.
 - c. Transfer the `tmsrepexp.dmp` file from the master database server to this directory.
3. Create directory object on the slave database:

- a. Connect to the slave database as the `SYS` user:

```
sqlplus sys/password as sysdba
```

- b. Create a directory object called `TMS_REP_DIR` and then map it to the physical directory you created in the previous step.

```
CREATE OR REPLACE DIRECTORY TMS_REP_DIR AS 'PHYSICAL_DIR_ON_MASTER';
```

For example:

```
CREATE OR REPLACE DIRECTORY TMS_REP_DIR AS '/u01/app/dmp';
```

- c. Grant directory privilege to TMS:

```
GRANT READ, WRITE ON DIRECTORY TMS_REP_DIR TO TMS;
```

4. Point local variables to the database.
5. Invoke the Data Pump Import utility:

```
impdp tms/password CONTENT=ALL DIRECTORY=TMS_REP_DIR
DUMPFILE=tmsrepep.dmp TABLE_EXISTS_ACTION=SKIP
```

By default, the Data Pump Import utility creates a log file named `import.log`. Note that you can use the `LOGFILE` parameter to customize the name of the log file. For example:

```
impdp tms/password CONTENT=ALL DIRECTORY=TMS_REP_DIR
DUMPFILE=tmsrepep.dmp TABLE_EXISTS_ACTION=SKIP
LOGFILE=my_export.log
```

6. Open the import log file and verify that no errors occurred.

6.9.3 Clean Up after Export and Import

To clean database objects and log files after you export and import data:

1. Drop directory object as SYS user:

```
REVOKE READ, WRITE ON DIRECTORY TMS_REP_DIR FROM tms;
DROP DIRECTORY TMS_REP_DIR;
```

2. Delete the dump and log files from the physical directory.
3. Complete this procedure on each master database and each slave database.

For additional information about Oracle Data Pump, see the *Oracle Database Utilities 11g Release 2 (11.2)* documentation.

6.9.4 Complete the Creation of the Slave Database

On the TMS application server for each slave database, set the local variable and run the `TMSUPGSLAVE.SQL` script. This script generates a log file in the install directory called `tmsupgslave_database_name.log`.

Note: Despite the "UPG" in its name, `TMSUPGSLAVE.SQL` is the correct script for initial TMS slave database installations.

To set the local variable and run `TMSUPGSLAVE.SQL`, enter:

```
set LOCAL=database_name
cd OPA_HOME\tms\install
sqlplus system/password
start tmsupgslave.sql
```

6.9.5 Setting Up and Starting Symmetric Replication

This section describes how to set up symmetric replication for the first time (for new installations), and how to resume it (for upgrades). The steps required depend on your installation configuration.

- If you do not plan to use TMS in a distributed environment, skip this section.
- If you are creating a new installation, perform all the steps in this section.
- If you are upgrading, proceed to [Section 6.9.5.2, "Start Replication on the Master Database."](#)

If you choose to utilize symmetric replication, refer to the Oracle database manual that describes symmetric replication in detail. The instructions in this section provide the minimal list of the required tasks.

If you are establishing a distributed environment, you should enable symmetric replication for every TMS database.

Database Link and Privileges Changes

TMS users who use TMS for omission management and all users who perform replication must have a TMS database user account on *either* the master or local databases. In previous versions, TMS required that such users have accounts on both the master and local instances, but this is no longer necessary.

Integrated Installation

If you plan to integrate TMS with Oracle Clinical in a replicated environment, you must delete the Oracle Clinical RXA_READ public database link. Make sure you suspend Oracle Clinical replication, and then delete the RXA_READ link.

TMS creates its own public database link that does not contain connection information such as user ID and password. Oracle Clinical replication will use the TMS public link instead of RXA_READ.

6.9.5.1 Preliminary Steps to Start Replication

To start replication following an initial installation of Release 4.6.2 (that is, you are not upgrading from a previous TMS release), complete the steps described in the following sections:

- [Section 6.9.5.1.1, "Check the initdbname.ora File"](#)
- [Section 6.9.5.1.2, "Run the opasrc01.sql Script"](#)
- [Section 6.9.5.1.3, "Run the opasrc02.sql Script"](#)

6.9.5.1.1 Check the initdbname.ora File For every database in your TMS installation, check that the `initdbname.ora` file contains the following specifications:

- `JOB_QUEUE_PROCESSES` — At least 1
- `GLOBAL_NAMES` — TRUE

6.9.5.1.2 Run the opasrc01.sql Script The `opasrc01.sql` script sets up common symmetric replication components for one database. You run this script once for each database in your installation.

To run the `opasrc01.sql` script:

1. Connect to the database as the `SYSTEM` user.
2. Run `opasrc01.sql`:


```
@OPA_HOME/tms/install/opasrc01
```
3. Respond to the prompts as follows:
 - a. **Enter the name for local database:** Enter the name of the database to which you are connected.
 - b. **Enter the name for remote database:** Press Enter. This script does not require the name of the remote instance.
4. Repeat these steps for every database in your TMS installation.

6.9.5.1.3 Run the opasrc02.sql Script The opasrc02.sql script sets up common symmetric replication components. You run this script from each database location for each database location. For example, if you have three databases — A, B, and C — you must run the script six times: A for B, B for A, A for C, C for A, B for C, and C for B.

To run the opasrc02.sql script:

1. Connect to one of the databases as the SYSTEM user.
2. Run opasrc02.sql:

```
@OPA_HOME/tms/install/opasrc02
```
3. Respond to the prompts as follows:
 - a. **Enter the name for local database:** Enter the name of the database to which you are connected.
 - b. **Enter the name for remote database:** Enter the name of the remote database for which you want to create linkage.
 - c. **Enter password:** Enter the passwords for the SYSTEM and REPSYS schema on the local database, and the REPSYS schema on the remote database.

You may ignore errors indicating that database links already exist.

4. Repeat from each database location for each database location. Each time you run the script, enter the database to which you are connected at the "local database" prompt and the remote database at the "remote database" prompt.

6.9.5.2 Start Replication on the Master Database

This section describes how to start replication on the master instance in a distributed environment. Complete this procedure when you are starting replication for the first time after an initial installation and when you are starting symmetric replication after upgrading to TMS 4.6.2.

To start replication on the master database:

1. Connect to the master site as the REPSYS user.
2. Create the master replication group, generate support, and resume symmetric replication activity on the master site:

```
start tmsmsrdefine
start tmsmsrgeneratesupport
start tmsmsrresumeactivity
```

3. Connect as the TMS user.
4. Create the materialized view logs on the master site:

```
start tmsmsrmvlog
```

6.9.5.3 Start Replication on Each Slave Instance

This section describes how to start replication on a slave instance in a distributed environment. Complete this procedure on each slave instance when you are starting replication for the first time after an initial installation and when you are starting replication after the upgrade to TMS 4.6.2.

For setting up multiple slave instances, suspend the master replication group for setting up slave 2, and later resume the replication activity for both Oracle Clinical (if suspended) and TMS.

To start replication on a slave instance in a distributed environment:

1. On each Materialized View Site (slave site), connect to SQL*Plus as the REPSYS user and create the materialized view group:

```
start tmsssrdefine
```

When the system prompts for the master database, enter *master_site*.

2. On each slave site, connect as the TMS user and create the materialized views:

```
start tmsssrcmv
```

When the system prompts for the master database, enter *master_site*.

3. On each Materialized View Site (slave site), connect as the REPSYS user and add the materialized views to the Materialized View and Refresh Groups:

```
start tmssrmvrep
start tmssrmvref
```

4. On each Materialized View Site (slave site), connect as the SYSTEM user and compile all invalid:

```
start compile_all_invalid
```

5. On each Materialized View Site (slave site), connect as the REPSYS user and refresh the Materialized View Group:

```
exec dbms_refresh.refresh('TMS');
```

6. On each Materialized View Site (slave site), connect as the TMS user and run the following script to complete TMS processing:

```
start tmsscomplete
```

- If you are completing an initial installation, this script populates the TMS_DEF_INSTANCES table.
- If you are upgrading your installation, this script reports for which X_areas you need to run batch validation (or its equivalent). See [Example 6-1, "Results of tmsscomplete Script"](#) for more details.

Example 6-1 Results of tmsscomplete Script

For Oracle Clinical (System=OCL) Source Data, run batch validation for the following X_Areas. For non-Oracle Clinical Source Data, run the equivalent of Oracle Clinical's batch validation for the following X_areas

SYSTEM	X_AREA
ES1	0
ES2	1
OCL	101
OCL	102

Based on these sample results, you need to run batch validation for the studies with a CLINICAL_STUDY_ID of 101 and 102, and the equivalent of batch validation for external systems ES1 and ES2.

6.9.6 Register Slave Databases Integrated with Oracle Clinical

This step is required only if you are integrating TMS with Oracle Clinical. Follow instructions in [Section 6.7, "Register Databases Integrated with Oracle Clinical."](#)

Upgrading Oracle Thesaurus Management System to Release 4.6.2

This chapter describes the recommended approach to upgrading an existing Oracle Thesaurus Management System (TMS) installation to Release 4.6.2. You can use the instructions in this chapter to upgrade from one of the following releases:

- Release 4.5.2
- Release 4.6.0
- Release 4.6.1

This chapter includes the following topics:

- [Section 7.1, "Upgrade to Oracle Database 11g Release 2 \(11.2.0.2\) Patch Set 1"](#)
- [Section 7.2, "Upgrade Cloned Databases"](#)
- [Section 7.3, "Install the Application Tier"](#)
- [Section 7.4, "Install the TMS Front End"](#)
- [Section 7.5, "Repair TMS Data"](#)
- [Section 7.6, "Upgrade a Single or Master TMS Database"](#)
- [Section 7.7, "Upgrade Slave TMS Databases \(Distributed Environments Only\)"](#)
- [Section 7.8, "Applying the Latest Patch Set"](#)

Note: Even if you have TMS integrated with Oracle Clinical, re-registering databases for integration with Oracle Clinical is not required during an upgrade.

7.1 Upgrade to Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1

Upgrade the database to Oracle Database 11g Release 2 (11.2.0.2) Patch Set 1. Install all the Enterprise Edition options. For details, see [Chapter 2, "Installing Oracle Database 11g Release 2 \(11.2.0.2\) Patch Set 1 on UNIX."](#)

7.2 Upgrade Cloned Databases

If you have cloned a database, access the following document on My Oracle Support:

Cloning Oracle Clinical and TMS 4.6.x Databases
Article ID: 883213.1

Be sure to follow all the instructions in the document, including running the `tmschown.sql` script, the `opachown.sql` script, and if you are using Oracle Clinical with TMS, the `chown.sql` script, *before* doing the upgrade.

7.3 Install the Application Tier

Install and configure the required Oracle Application Server technology stack, including Oracle Application Server 10g Release 2 and its Patch Set 3, and Oracle Application Server 10g Release 3 and its Patch Set 5. Follow instructions in [Chapter 4](#), "Installing and Configuring Oracle Application Server."

7.4 Install the TMS Front End

Install the TMS front end, including the server code; follow instructions in [Chapter 5](#), "Installing the TMS Front End Components."

7.5 Repair TMS Data

Ensure that you applied the data diagnostic and repair patches (or their successors) listed in this section to your TMS 4.6.1 or TMS 4.6.0 data.

7.5.1 Repairing TMS 4.6.1 Data

Follow the patch instructions to apply the following patches to *each* TMS 4.6.1 database in your entire TMS installation:

- **Patch TMS_4.6.1.8** (or its successor). Includes scripts to find and fix the data affected by Bug 10131304. When VTA approval was required, omissions that matched a nonapproved VTA were not displayed in the Distinct Verbatim Term Omissions tab of the Classify VT Omissions window.

This error occurred, in part, because the system assigned such terms an internal `DEF_SEARCH_ID` of 2, which means it was manually classified, instead of an internal `DEF_SEARCH_ID` of 11, which means it matched an unapproved VTA. Terms with an internal `DEF_SEARCH_ID` of 2 are not displayed in the Distinct Verbatim Term Omissions tab. This patch corrects the processing of new terms. The Find script finds all existing affected terms and populates a Find table with these records. The Fix script updates the `DEF_SEARCH_ID` to 11 for the terms identified by the Find script.

- **Patch TMS_4.6.1.3** (or its successor). Includes scripts to find and fix the data affected by Bug 9171740. This patch fixes the following error that occurs when you import Oracle Clinical accounts into OPA accounts in the Define Users window:

```
ORA-0001: unique constraint (OPA.OPA_ACCOUNTS_UK1) violated
```

The error is due to duplicate records in the `OPA_ACCOUNTS` table. A duplicate record has a different account ID for the same `account_name` and `instance_name`. You use the Find and Fix scripts to identify and fix existing duplicate records.

7.5.2 Repairing TMS 4.6.0 Data

Follow the patch instructions to apply the following patch to *each* TMS 4.6.0 database in your entire TMS installation:

- **Patch TMS_4.6.0.32** (or its successor). Includes scripts to find and fix the data affected by Bug 9408584.

7.6 Upgrade a Single or Master TMS Database

Follow the instructions in this section when you are upgrading a single TMS database or, if you have a distributed environment, to upgrade the master TMS database. You must perform the tasks described in previous sections first.

To upgrade the TMS databases, complete the following tasks:

- [Section 7.6.1, "Suspend Symmetric Replication \(Distributed Environment Only\)"](#)
- [Section 7.6.2, "Start the Database Upgrade"](#)
- [Section 7.6.3, "Attend to the TMS Database Upgrade Installation Screens"](#)
- [Section 7.6.4, "Check Installation Log for Errors"](#)
- [Section 7.6.5, "Upgrade TMS Reports"](#)
- [Section 7.6.6, "Configure DSI Import"](#)
- [Section 7.6.7, "Load Dictionaries"](#)
- [Section 7.6.8, "Create an Export File \(Distributed Environments Only\)"](#)

7.6.1 Suspend Symmetric Replication (Distributed Environment Only)

If you are running in a distributed environment, suspend symmetric replication and drop the replication group before you patch the Oracle Database 11g or the TMS databases by following the instructions in this section. Ensure that you use the suspend scripts that are in your TMS server code area.

Table 7–1 Symmetric Replication Suspend Scripts and Instructions

Run Script	Where?	For Where?	Parameters	Purpose and Comments
tmsmupgrrsuspend.sql	Master instance	Master instance	None	Purpose: Suspends replication activity for all sites. Comment: Wait until the dba_repgroup view has a status of QUIESCED on the master instance and all slave instances.
tmsmupgrrdrop.sql	Master instance	Master instance	None	Purpose: Drops replication group for all sites. Comment: Wait until the dba_repatlog view is empty on the master instance and on all slave instances.

To suspend replication:

1. Log in to the server using an account with system administrator privileges.
2. Open a MS-DOS command window.
3. Change to the *OPA_HOME* directory where the install scripts are located, for example:

```
cd c:\opapps46\tms\install
```

4. Set the local name for your master site:

```
set local=Master_Site
```

Note: Ensure that you explicitly set the local name so that the system does not use the Oracle **local** registry variable by mistake. For this reason, it is best to run the upgrade scripts from the Command window, rather than from SQL*Plus.

5. Issue these commands:

```
sqlplus repsys/password
start tsmupgsrsuspend
```

6. Unschedule the push operation from each slave site to the master site and from the master to each slave. Unschedule as many jobs as necessary to ensure that no scheduled push jobs remain.

Connect to each site as REPSYS and issue this command:

```
exec dbms_defer_sys.unschedule_push('remote_site');
```

7. Connect as REPSYS at each slave site and run the following script. On each updateable snapshot site (slave site), this script drops the TMS Snapshot Replication and Refresh Groups.

```
start tmssrddrop
```

8. Connect as TMS at each slave site and run the following script. This step drops the TMS replicated tables on all sites.

```
start tmssrddroptables
```

9. Connect as TMS at the master site and run the following script, which drops the TMS Snapshot Logs at the master site.

```
start tmsmsrddropmvlog
```

10. Connect as REPSYS on the master site and issue the following command, which drops the TMS Master Replication Group.

```
start tsmupgsrddrop
```

Note: You must follow steps in [Section 7.6](#) to upgrade the master database before proceeding to the next step.

7.6.2 Start the Database Upgrade

To begin the database upgrade:

1. Log in as a user with system administrator privileges.
2. Insert the Oracle Clinical 4.6.2 and Oracle Thesaurus Management System 4.6.2 disk.
3. Locate and run the following file:

```
tms\install\setup.exe
```

The Installer opens to the Welcome screen.

4. Follow the instructions on the installation screens. For more information about each screen, [Section 7.6.3, "Attend to the TMS Database Upgrade Installation Screens."](#)

7.6.3 Attend to the TMS Database Upgrade Installation Screens

The Oracle Universal Installer guides you through the process of upgrading a TMS database.

Welcome

Click **Next** to continue the installation.

Select a Product to Install

Select **TMS Database Upgrade 4.6.2.0.XX** (where *XX* is the build number).

Click **Next**.

Select Installation Type

TMS Database Upgrade 4.6.2.0.XX

Select **Master** and click **Next**.

Specify Home Details

Enter values for the Oracle Home location you created when you installed Oracle Application Server 10g Release 2. This installation guide refers to this location as *ORACLE_AS10gR2_HOME*.

- **Name:** Select the name of the correct Oracle Home; for example, **AS10gR2**.
- **Path:** Browse for the path to the correct Oracle Home; for example, **D:\Oracle\AS10gR2**.

Click **Next**.

TMS Database Upgrade

TMS Server Code Home Directory

Accept the default value for the directory path of the database server code. Click **Next**.

TMS Database Upgrade

Enter database connect string

Enter the database name. An alias must exist in your *tnsnames.ora* file for this database.

Note: The Installer sets the LOCAL registry setting to default all connections to this database.

TMS Database Upgrade

NLS Settings

- **NLS_LANG** — Enter the NLS language setting that is appropriate for your database character set. Oracle recommends the *AMERICAN_AMERICA.UTF8* setting. For information about the guidelines and requirements for character sets, see [Section 1.4, "Choosing a Character Set."](#)

- **NLS_DATE_FORMAT** — Enter a valid date value. All Oracle Health Sciences applications require a date format with a four-digit year. Oracle recommends DD-MON-RRRR.

Click **Next**.

TMS Database Upgrade

Warning: Stop PSUB process

If you are integrating TMS with Oracle Clinical, stop the PSUB process on the database at this point, restarting it only after you have completely installed TMS.

TMS Database Upgrade

Directory for data tablespace datafiles

Enter the directory for TMS data tablespace files in the appropriate syntax for your operating system, including a trailing slash. Use the same database name you entered as the connect string. For example, `/u01/oradata/database_name/`.

TMS Database Upgrade

Enter Password for *schema*

In a series of Installer screens, enter the passwords for SYS, SYSTEM, CTXSYS, OPA, TMS, and RXC. You will need these passwords later.

TMS Database Upgrade

Ignore Tablespace Creation Errors

This setting controls whether the Installer ignores errors that occur when creating the tablespaces. Tablespace creation can fail for several reasons.

The default value is No. In general, you do not want the Installer to ignore tablespace creation errors. For example, you want the Installer to report an error if there is not enough space to create the tablespace.

On the other hand, if you are reinstalling into an existing TMS database, the tablespace creation fails because the tablespace already exists. In this case, you do not need to know about the error.

Click **Next**.

Information

The Information screen reports that the Installer will start a SQL*Plus session to complete the database upgrade. The screen confirms the name of the database installation and the location of the log file that you can view for the progress of the installation. Click **Next**.

Summary

TMS Database Upgrade 4.6.2.0.XX

The Summary screen provides information about the global settings, languages, space requirements, and products for this installation.

Click **Install**. The Installer starts an SQL*Plus session to complete the installation.

End of Installation

The End of Installation screen provides information about the installation, including whether the processes completed without errors.

When you have finished reviewing the installation information, click **Exit**. At the confirmation prompt, click **Yes** to exit from Oracle Universal Installer.

7.6.4 Check Installation Log for Errors

When you upgrade from TMS 4.6.1 to TMS 4.6.2, the installation log file may report the following error:

```
".....
Connected.
BEGIN tms_dsi_xml_schema.InstallSchemas; END

*
ERROR at line 1:
ORA-02303: cannot drop or replace a type with type or table dependents
ORA-06512: at "XDB.DBMS_XMLSCHEMA_INT", line 3
ORA-06512: at "XDB.DBMS_XMLSCHEMA", line 14
ORA-06512: at "TMS.TMS_DSI_XML_SCHEMA", line 35
ORA-06512: at line 1

finished TMSUPG
TMS will now attempt to validate any invalidate objects...
...."
```

This error occurs because the `tmsupg.sql` upgrade script executes `tms_dsi_xml_schema.InstallSchemas` before attempting to validate any invalid objects. Execution of `tms_dsi_xml_schema.InstallSchemas` fails if the database has invalid objects.

If this error occurs, you need to:

1. Run `compile invalid` until all database objects have been made valid.
2. Run `tms_dsi_xml_schema.InstallSchemas` manually. See [Section 7.6.6, "Configure DSI Import"](#) for details.

7.6.5 Upgrade TMS Reports

Follow instruction in this section **only if** you are upgrading from TMS 4.6.1. If you are upgrading from 4.5.2 or 4.6, following instructions in [Section 6.5, "Load Reports \(All Databases\)"](#) **instead**.

To upgrade reports, run a script that deletes the existing seeded reports and then loads new ones:

1. In the MS-DOS command window, change directories to `OPA_HOME\tms\install`.
2. Log in to SQL*Plus as the **opa** user:


```
set LOCAL=database_name
sqlplus opa/opa_password
```
3. Define variables and run `opa_xdo_seeddata.sql`:


```
SQL> define product=TMS
SQL> define oracle_home=ORACLE_10GR2_HOME
SQL> start opa_xdo_seeddata.sql
```
4. Enter opa password when prompted. Press enter once if the script pauses.
5. Load the reports from the database server, following instructions in [Section 6.5, "Load Reports \(All Databases\)"](#).

7.6.6 Configure DSI Import

If you plan to use disconnected system integration (DSI), enter following commands:

```
set LOCAL=databasename
sqlplus tms/password
exec tms_dsi_xml_schema.InstallSchemas;
```

7.6.7 Load Dictionaries

If you need to upgrade any dictionaries or load new dictionaries and are installing a distributed environment, this is a good time to do it since you have suspended replication and will next do an export/import. However, you can load dictionaries at any time; it does not need to be within the context of a TMS upgrade.

If you are installing TMS with AERS in a distributed environment, you must load the AERS-TMS dictionaries onto the master database before creating an export file and importing it to the slave databases.

See the *Oracle Thesaurus Management System User's Guide* for information about loading dictionaries.

7.6.8 Create an Export File (Distributed Environments Only)

If you are upgrading a distributed environment, follow instructions in [Section 6.9.1](#), "Export Data from the Master Database."

7.7 Upgrade Slave TMS Databases (Distributed Environments Only)

Follow the instructions in this section to upgrade existing TMS 4.5.2 or TMS 4.6 slave databases to Release 4.6.2 in a distributed environment.

Note: TMS 4.6.1 does not support replication. If you are upgrading from TMS 4.6.1, you can skip this section.

- [Section 7.7.1](#), "Upgrade Slave Databases"
- [Section 7.7.2](#), "Upgrade TMS Reports"
- [Section 7.7.3](#), "Configure DSI Import"
- [Section 7.7.4](#), "Start Symmetric Replication"

7.7.1 Upgrade Slave Databases

To upgrade each slave instance to TMS Release 4.6.2:

1. Start the Oracle Universal Installer on the TMS application server. (See [Section 7.6](#), "Upgrade a Single or Master TMS Database" for details.) Choose the Slave Installation type from the Product Installer screen.
2. Import data from the master instance. Perform this task on the database server. At every slave database, import the export file you created in the previous task .

See [Section 6.9.2](#), "Import Data to the Slave Database" for more information.

Note: You must first create an export file of the master database; see [Section 6.9.1](#), "Export Data from the Master Database."

3. On the TMS application server, set the LOCAL variable and run the tmsupgslave.sql script by entering the following commands in a MS-DOS window:

```
cd OPA_HOME\tms\install
sqlplus system/password
start tmsupgslave.sql
```

The script generates a log file in the install directory named tmsupgslave_ *database_name*.log.

Note: When upgrading a slave database to release 4.6.2, the following types of errors occur in the tmsupg_ *database_name*.sql log file:

```
Warning: Package created with compilation errors. (and appended
PLSQL errors with line numbers)
Warning: Package Body created with compilation errors. (and
appended PLSQL errors with line numbers) ORA-00942: table or view
does not exist
ORA-01775: looping chain of synonyms
ORA-04063: view "TMS.view_name" has errors
```

As long as there are no errors in the log file, tmsupgslave_ *database_name*.sql, and there are no invalid OPA/TMS objects in the database after the upgrade, the upgrade can be considered successful and these errors can be ignored.

7.7.2 Upgrade TMS Reports

Follow instruction in this section **only** if you are upgrading from TMS 4.6.1. If you are upgrading from 4.5.2 or 4.6, following instructions in [Section 6.5, "Load Reports \(All Databases\)"](#) **instead**.

To upgrade reports, run a script that deletes the existing seeded reports and then loads new ones:

1. In the MS-DOS command window, change directories to OPA_HOME\tms\install.
2. Log in to SQL*Plus as the opa user:

```
set LOCAL=database_name
sqlplus opa/opa_password
```

3. Define variables and run ops_xdo_seeddata.sql:

```
SQL> define product=TMS
SQL> define oracle_home=ORACLE_10GR2_HOME
SQL> start opa_xdo_seeddata.sql
```

4. Enter opa password when prompted. Press enter once if the script pauses.
5. Load the reports from the database server, following instructions in [Section 6.5, "Load Reports \(All Databases\)"](#).

7.7.3 Configure DSI Import

If you plan to use disconnected system integration (DSI), enter following commands:

```
set LOCAL=databasename  
sqlplus tms/password  
exec tms_dsi_xml_schema.InstallSchemas;
```

7.7.4 Start Symmetric Replication

Start replication, following instructions in [Section 6.9.5.2, "Start Replication on the Master Database"](#) and [Section 6.9.5.3, "Start Replication on Each Slave Instance."](#)

7.8 Applying the Latest Patch Set

Check My Oracle Support article *Oracle Thesaurus Management System Patches* (Article ID 132626.1) for the latest patch set (4.6.4 or its successor) and apply it. See the patch set release notes for more information.

If you are installing your database on Windows, you must apply the latest patch set. Oracle Thesaurus Management System 4.6.2 is not supported on Windows without Patch Set 4.6.4 or later.

Completing a New TMS Installation or Upgrade

This chapter includes the following topics:

- [Section 8.1, "Patch TMS"](#)
- [Section 8.2, "Change the Password for the opaconfig User"](#)
- [Section 8.3, "Set Up Database Connections"](#)
- [Section 8.4, "Update HTML Browser and Web Search Engine Bookmarks"](#)
- [Section 8.5, "Test the TMS Forms Server"](#)
- [Section 8.6, "Download the Java Virtual Machine to Client Computers"](#)
- [Section 8.7, "Add a Link to the TMS Launch Page for the HTML Browser"](#)
- [Section 8.8, "Configure the Document Repository"](#)
- [Section 8.9, "Define and Load Dictionaries"](#)

8.1 Patch TMS

Check My Oracle Support Article ID 132626.1, *Oracle Thesaurus Management System Patches*, for information about patches. See ["Finding Information and Patches on My Oracle Support"](#) on page viii.

8.2 Change the Password for the opaconfig User

The Users page in Oracle Enterprise Manager 10g Application Server Control provides the options that let you change user passwords, add users, and delete users for the OPAAdmin application.

To change the password for the opaconfig user:

1. Open a Web browser and enter your URL to the Oracle Application Server Forms and Reports Services Welcome page:
computer-name.company-name.com
2. Click the **Log on to Oracle Enterprise Manager 10g Application Server Control** link to open the Application Server Home page.
3. Log in as user `ias_admin` with the password you set when you installed the Application Server.
4. Select the appropriate instance.

5. Click the **opa** OC4J instance.
6. Click the **Applications** tab.
7. Click the **opaadmin** link.
8. Click the **Administration** tab.
9. Expand the **Security** administration task, and then select the Go to Task icon for Security Provider.
10. Click the **Realms** tab.
11. Locate the **jazn.com** realm, and then click the number in its **Users** column.
12. Click the **opaconfig** user name.
 - a. Enter the old password, enter the new password, and then confirm your new password.
 - b. Click **Apply**. Note that the user name remains opaconfig.
13. Restart the **opa** OC4J instance.

8.3 Set Up Database Connections

Use the OPAAAdmin application to set up the necessary database connections to be used with the TMS HTML Browser. The information that you enter for each database via the OPAAAdmin application is saved in the OpaConfig.xml file on the application server.

For each database:

1. Enter the OPAAAdmin application by opening a browser to the following URL:
`http://server.domain/opaadmin/opaConfig.do`
2. Enter your database values for the following fields:
 - Database Name = Name of your database
 - Host = Host name of your database
 - Port = Port number of your database
 - Sid = Database SID
 - Determine the existing BC4J password for your environment and specify it here.
 - Determine the existing TMS Browser password for your environment and specify it here.
 - Specify Default = true to identify the default database used by RDC Onsite users.
3. Select **Save**.

8.4 Update HTML Browser and Web Search Engine Bookmarks

This section is applicable only if you are upgrading from a previous release. If you are performing a new installation, skip this section.

If you have saved bookmarks for the HTML Browser (called the "Dictionary Browser" or "Light Browser" in earlier releases) or the Web Search Engine on any clients in your

installation, you must update them to the TMS 4.5 locations by making the changes described in this section.

Update every bookmark on every client. Bookmarks are not replicated among clients.

Export Netscape Bookmarks

Netscape Navigator is not supported as a client for this release. If you have any bookmarks you want to carry forward into the new release, export them from Netscape to Internet Explorer.

Update HTML Browser Bookmarks

In TMS 4.0 and later, the Dictionary Browser URL was:

```
http://server.domain:port/DAD/tms_user_browser.Home
```

where:

- *server.domain* is the TMS application server through which you connect
- *port* is the port used for connections to the Dictionary Browser
- *DAD* is the Database Access Descriptor for the database you want to browse

Update these URLs to the following format:

```
http://server.domain:port/tms/tmsLogin.uix
```

Direct Old Web Search Engine Bookmarks to the HTML Browser

The Web Search Engine became obsolete in TMS 4.5, and all of its functionality included in the Source Data and Document Repository searches in the updated HTML Browser.

The Web Search Engine URL was:

```
http://server.domain/DAD/tms_user_doc.home
```

where:

- *server.domain* is the TMS application server
- *DAD* is the Database Access Descriptor for the database to which you are connecting

Change the URL for Web Search Engine bookmark to the URL for the updated HTML Browser.

8.5 Test the TMS Forms Server

Confirm that you can start TMS from this Forms Server before you set up each TMS client.

To test the deployment:

1. Open a browser.
2. Connect to the Oracle Health Sciences URL to start TMS.

The URL has the following syntax:

```
http://computer_name.domain/opa46/launch.htm
```

3. Click the **Launch** hyperlink, which initiates the download of the Java Virtual Machine (JVM).

8.6 Download the Java Virtual Machine to Client Computers

To download the Java Virtual Machine (JVM) onto each client computer:

1. Open a browser.
2. Connect to the Oracle Health Sciences URL.

The URL includes the path variable you specified in [Section 8.5, "Test the TMS Forms Server."](#) For example, for the default path variable **opa46**, the URL is:

```
http://computer_name.domain/opa46/launch.htm
```

The first time you open TMS, the system prompts you to download JVM. This download is required. It is also available from a link on the Launch page.

8.7 Add a Link to the TMS Launch Page for the HTML Browser

If you plan to use the HTML Browser from this TMS application server, add an HTML Browser link to the TMS Launch page.

You can create links for more than one database. The URLs you create here bypass the single machine/port/instance combination in the `bc4j.xcfg` file.

You can set up links for either autologin or the login page, where users are prompted for their user name and password.

- The user and schema necessary for autologin (`ops$tmsbrowser`) is created automatically on each database during installation.
- To set up a link to the TMS Login page, it is not necessary to have the same user name and password on each database. Users must log in using their own user names and passwords.

To add an HTML Browser link to the TMS Launch page:

1. Open the Launch Oracle Pharmaceutical Applications page in a text editor:
`OPA_HOME/html/launch.htm`
2. Search for the text "Oracle Health Sciences User Group."
3. Under the `</tr>` tag on the next line, add lines like those shown in [Example 8-1](#), which shows links to two databases displayed on two separate lines. The information in the actual anchor tag must be as shown, with actual values substituted for the variables as described below. To set up an autologin link, use the anchor line in [Example 8-2](#).
4. Save the Launch page. Verify the link connects to the HTML Browser login page.

Example 8-1 Sample HTML Lines for Adding an HTML Browser Link to the TMS Login Page

```
<tr>
<td><center><b><font face="Arial,Helvetica"><font size=+1><a href=
"http://server.domain/tms/tmsLogin.uix">
HTML Browser db1</a></font></b></center></td>
<td><font face="Arial,Helvetica">Launch HTML Browser</font></td>
</tr>
<tr>
<td><center><b><font face="Arial,Helvetica"><font size=+1><a href=
"http://server.domain:7881/tms/tmsLogin.uix?event=setDb&dbJDBCurl=machine:port:db2">
HTML Browser db2</a></font></b></center></td>
<td><font face="Arial,Helvetica">Launch HTML Browser</font></td>
</tr>
```

These lines add a new row for the HTML Browser under the "Oracle Health Sciences User Group" link. The variables in these lines mean the following:

server is the TMS application server to which you are connected

domain is the domain for your TMS application server; for example, us.oracle.com.

machine is the name of the database server on which your TMS database resides; for example, opasolaris5.

port is the port you use to connect to that database. The default value for Oracle databases is 1521.

db is the name of the database to which you want to connect; for example, sun5x12.

Note: The default port value that TMS uses to connect to the application server is 7881.

Example 8–2 HTML Anchor Line for an Autologin HTML Browser Link

```
"http://server.domain:7881/tms/tmsLogin.uix?event=doAutoLogin&dbJDBCurl=machine:port:db1"
```

Substitute the line above for the anchor line in the sample code shown in [Example 8–1](#).

8.8 Configure the Document Repository

The Document Repository enables TMS users to search and customize a set of documents and, if Oracle Clinical is installed, patient data as well.

If you plan to use the Document Repository in the HTML Browser, follow instructions in the *Oracle Thesaurus Management System User's Guide* chapter on the HTML Browser for the following tasks:

- Creating the Document Index
- Choosing a Proxy Server and Configuring its Settings
- Setting Categories for Web Document Groups
- Defining Document Server Refresh Rules
- Defining Document Servers
- Generating a List of Accessible Documents
- Populating the Document Index

8.9 Define and Load Dictionaries

See the *Oracle Thesaurus Management System User's Guide* for information about defining TMS dictionaries in the user interface and loading dictionary data.

For sample load scripts, download the following document from My Oracle Support:

Title: *Sample Maintenance Scripts for MedDRA, MedDRA Primary Path, MedDRA SMQ, WHO-Drug, and SNOMED*

Article ID: 258975.1

