

Server Preparation Guide Prospect 8.0



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What's New in this Guide

The following table documents changes that were made to the *Server Preparation Guide* in this release.

Table 1: What's new

Section	Description
Software Requirements	The list of software requirements has been modified: more third-party packages have been added to the list of required software.
Software Requirements	Solaris 10 is now supported.
Software Requirements	A new version of Perl is required.
Configuring Oracle	A new section has been added to support the new "Automatic Program Global Area (PGA) Memory Management" introduced in version 9.2 of Oracle. For more information, see Setting PGA_AGGREGATE_TARGET on page 45.

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1 About This Documentation

The *Server Preparation Guide* contains the basic instructions for installing and setting up Solaris and Oracle software as the foundation for Prospect® software. This guide is customized to support Prospect® 8.0 (Release 8.0.4).

This document is located on the Prospect server installation CD in Adobe Portable Document Format (PDF) and can be found at `/cdrom/cdrom0/ServerPrep.pdf`.

This guide was last updated 07 December 2007.

Please see the current release notes on this product for a list of revision dates for all Prospect publications.

1.1 Audience

This guide is intended for experienced system administrators, database administrators, installers, or supervisors who are responsible for setting up and configuring the Prospect system. In general, the reader of this guide is referred to as "*you*." By contrast, "*we*" refers to the Prospect development and technical staff who support this product.

1.2 Required Skills and Knowledge

The *Server Preparation Guide* requires that you have the following knowledge:

- Sun Microsystems' hardware
- Local area network (LAN) and wide area network (WAN) connectivity
- Sun Microsystems' Solaris UNIX operating system, as a system administrator
- A UNIX editor (such as `vi` or `emacs`)
- Oracle database software, as a database administrator.

1.3 Document Conventions

This document uses the typographical conventions shown in the following table:

Table 1: General Document Conventions

Format	Examples	Description
ALL UPPERCASE	<ul style="list-style-type: none"> • GPS • NULL • MYWEBSERVER 	Acronyms, device names, logical operators, registry keys, and some data structures.
<u>Underscore</u>	See Document Conventions	For links within a document or to the Internet. Note that TOC and index links are not underscored. Color of text is determined by browser settings.
Bold	<ul style="list-style-type: none"> • Note: The busy hour determiner is... 	Heading text for Notes, Tips, and Warnings.
SMALL CAPS	<ul style="list-style-type: none"> • The STORED SQL dialog box... • ...click VIEW... • In the main GUI window, select the FILE menu, point to NEW, and then select TRAFFIC TEMPLATE. 	Any text that appears on the GUI.
<i>Italic</i>	<ul style="list-style-type: none"> • A <i>busy hour</i> is... • A web server <i>must</i> be installed... • See the <i>User Guide</i> 	New terms, emphasis, and book titles.
Monospace	<ul style="list-style-type: none"> • <code>./wminstall</code> • <code>\$ cd /cdrom/cdrom0</code> • <code>/xml/dict</code> • <code>http://java.sun.com/products/</code> • <code>addmsc.sh</code> • <code>core.spec</code> • Type OK to continue. 	Code text, command line text, paths, scripts, and file names. Text written in the body of a paragraph that the user is expected to enter.
Monospace Bold	<pre>[root] # pkginfo grep -i perl system Perl5 On-Line Manual Pages system Perl 5.6.1 (POD Documenta- tion) system Perl 5.6.1</pre>	For contrast in a code example to show lines the user is expected to enter.
<Mono- space italics>	<pre># cd <oracle_setup></pre>	Used in code examples: command-line variables that you replace with a real name or value. These are always marked with arrow brackets.
[square bracket]	<pre>log-archiver.sh [-i] [-w] [-t]</pre>	Used in code examples: indicates options.

1.4 User Publications

Prospect software provides the following user publications in HTML or Adobe Portable Document Format (PDF) formats.

Table 2: Prospect User Documentation

Document	Description
<i>Administration Guide</i>	Helps an administrator configure and support Prospect core server software to analyze network performance and perform other network or database management tasks.
<i>Administrator's Quick Reference Card</i>	Presents the principal tasks of a Prospect core server administrator in an easy-to-use format.
<i>Expressions Technical Reference</i>	Provides detailed information about expressions used in special calculations for reports.
<i>Installation Guide</i>	Instructions for installing and configuring the Prospect software.
<i>Open Interface API Guide</i>	Describes how the Open Interface tool enhances your access to information about database peg counts and scenarios.
<i>Performance Data Reference</i>	Provides detailed information including entity hierarchies, peg counts, primitive calculations, and forecast expressions specific to your organization.
<i>Release Notes</i>	Provides technology-specific and late-breaking information about a given Prospect release and important details about installation and operation.
<i>Server Preparation Guide</i>	Provides instructions for installing and setting up Solaris and Oracle software before you install Prospect software.
<i>Server Sizing Tool Guide</i>	Helps an administrator use the sizing tool to calculate the system space needed for the Prospect software and database.
<i>User Guide</i>	Provides conceptual information and procedures for using Prospect software for performance and trending analysis.

1.4.1 Viewing the Desktop Client Help Publications

To view the desktop client Help publications, select a guide from the HELP menu of the Prospect graphical user interface or press F1 for context-sensitive Help. To update the Help files, click the HELP menu on the Prospect Explorer, and select UPDATE ALL HELP FILES.

When Help files are updated, they are downloaded automatically from the Prospect server to the Prospect client. A message box notifies you when this download occurs.

1.4.2 Viewing the Publications in PDF

All of the user publications are available in Adobe Portable Document Format (PDF). To open a PDF, you need the Adobe Acrobat Reader. You can download Adobe Acrobat Reader free of charge from the Adobe Web site. For more details about the Acrobat Reader, see the Adobe Web site <http://www.adobe.com/>.

1.5 *Training and Technical Support*

Both training and technical support are available for Prospect software. For technical support, contact us at prospect@us.ibm.com. For training, contact us at training@vallent.com.

For more information on product training courses, contact your delivery management team at:

- Americas: tivamedu@us.ibm.com
- Asia Pacific: tivtrainingap@au1.ibm.com
- EMEA: tived@uk.ibm.com

2 Server Preparation Process

Before you can install the Prospect server, you must install the foundation software—Solaris and Oracle—plus system components, such as Perl, that are required by the Prospect server. The following is an overview of the server preparation process:

1. Plan hardware and software requirements.
See [Hardware Requirements](#) and [Software Requirements](#).
2. Configure the server operating system.
See [Installing and Configuring Solaris](#).
3. Install Oracle.
See [Installing Oracle](#).
4. Configure Oracle and the database.
See [Configuring Oracle](#).
5. Install the system components that are prerequisite to installing the Prospect server software.
See [Installing the Prospect System Components](#).

The sections that follow provide instructions on steps you need to take to ensure that all the supporting software is installed and configured correctly.

Topics

[Check Server Guidelines](#)
[Access to Server Through a Firewall](#)

2.1 Check Server Guidelines

There are several guidelines for installation and setup of the Prospect server, including the following:

- The installation and setup is described in [Create the Prospect UNIX Userid Account](#).
- The documented procedures are to be used on a dedicated system that has not yet been configured; that is, Solaris only:
 - No Oracle software or configuration
 - No Prospect software or configuration
 - No third-party or shareware kits, and so on.
- The procedures do not address network administration details that are site-specific. The baseline system configuration does not use NIS, NIS+, DNS, network-defined service names, and so on.
- All name service resolution should first use local files, especially for accounts, including

```
/etc/passwd  
/etc/group  
/etc/shadow
```

The `/etc/nsswitch.conf` file must have one of the following name service configuration entries:

- For stand-alone configurations:

```
passwd: files  
group: files
```

- For NIS+ configurations:

```
passwd: files nisplus  
group: files nisplus
```

See [Making Administrative Changes at Your Installation Site \(Optional\)](#).

When creating user accounts, especially `flexpm` and `oracle`, follow the instructions carefully. This includes setting the UID:GID settings.

There are several principles to note:

- Pre-existing files—if they exist with previous UID:GID assignments—should be re-assigned and mapped to the correct and standard `flexpm:dba` or `oracle:dba` assignments, for example:

```
$ find / -local -user 1234 -exec chown flexpm:dba "{}" \;  
$ find / -local -user 4567 -exec chown oracle:dba "{}" \;
```

This corrects any problems with pre-existing files.

2.2 *Access to Server Through a Firewall*

Client computers use two ports to connect to the Prospect server:

- FX port — Most queries from the Prospect client, status monitor, auto downloader, and DSMonitor use this port. (DSMonitor is a process that registers for updates from the DataServer.) By default, the FX port number is the base port plus four (4). For example, if the base port is 6440, the FX port number would be 6444.
- Event port — Prospect Alarm receives alarm updates through this port. By default, the Event port number is the base port plus three (3).

If a firewall exists between client computers and the Prospect server, then you need to make sure that both the FX and Event ports are opened in the firewall; otherwise, the client may not function correctly.

You can find additional information about port numbers in the *Administration Guide*.

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Server Preparation Process

3 Hardware Requirements

This chapter describes the minimum hardware required for installing Prospect software.

Before you can install the Prospect software, you need to configure your hardware and operating system according to the recommendations in the Server Sizing tool. Please refer to the *Server Sizing Tool Guide* for more information about using the Server Sizing tool.

3.1 Hardware Requirements for the Prospect Server

For the minimum hardware requirements for the Prospect server, please refer to the *Prospect Server Sizing Tool Guide*.

The following table lists the minimum peripheral requirements for the Prospect server:

Table 3: Minimum Peripheral Requirements for the Prospect Server

<i>Minimum Peripherals</i>
One CD-ROM drive
At least one 10 Base-T network interface card; (a 10/100 Base-T dual-speed interface is recommended).

Important: The use of redundant array of independent disks (RAID) technology is recommended, but not required, for a minimum configuration. RAID levels 0, 1, 0 +1, 3 and 5 are compatible with Prospect databases. For more information on RAID, please refer to the *Server Sizing Tool Guide*.

If you plan to support eight or more switches with this installation, contact your customer support representative for custom sizing information. Custom sizing might be required for optimal performance. Custom sizing for larger systems is necessary to accurately determine hardware specifications and Oracle configuration setting (such as optimal extent sizes).

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Hardware Requirements

4 Software Requirements

The section of the guide reviews the software requirements for the Prospect product.

Topics

[Server Software Requirements](#)
[Backup Software](#)

4.1 *Server Software Requirements*

The following software is required by the Prospect server.

- Solaris UNIX operating system: SunOS 5.9 (Solaris 9).
- Sun StorEdge RAID Manager (if you plan to use disk arrays), or other disk management software.
- Sun Solstice DiskSuite for Solaris or other disk management/configuration software — if you plan to have multiple internal disk drives that you want to stripe, or if you want to use other RAID technologies on your system disks.
- Netscape Communicator 4.7 or later, or another browser/communications software package for Solaris.
- Adobe Acrobat Reader (current version).
- Oracle database software, as described in the following section. The Prospect software supports Oracle 9i.
- Perl 5.6.1 (installed with Solaris 9)
- Java Runtime Environment version 1.4.2_13.
- JBoss version 4.0.5 or later (available for download from <http://labs.jboss.com/>).
- `gtar`, `gzip`, and `gunzip` binaries. For Solaris 9, this requirement can be met with patch 118191-01.
- `gtar`, `gzip`, and `gunzip` GNU/FSF archive file utilities.

Make sure that `/usr/bin` and `/usr/sfw/bin` are in your path. Enter the following commands to locate `gtar` and `gunzip`:

```
which gtar
which gunzip
```

These commands return the path to `gtar` and `gunzip` on your system. If these utilities are not found, add `/usr/sfw/bin` to the path in your `.profile` file.

- Microsoft Excel 2000

4.1.1 Oracle 9i Requirements

For Oracle9i, the Prospect server requires Oracle Enterprise Edition, Version 9.2.0.1.0 database software, including partition licenses and patch 9.2.0.6.

4.2 Backup Software

It is advisable to perform periodic backups of the Prospect data you want to protect. The backup software you choose can be installed at any time during the Prospect system installation process. However, it is usually more convenient to install the backup software before installing the Prospect server application software.

5 Installing and Configuring Solaris

It is recommend you use an interactive installation of Solaris. This installation method allows you to tailor the installation process to your specific needs and to choose where to locate co-packaged software.

Topics

[Install Solaris](#)

[Set Up the System Disk](#)

[Configure UNIX](#)

[Configure the Prospect Server](#)

[Install Required Applications for Viewing Documentation](#)

[Check System Requirements for Oracle](#)

5.1 *Install Solaris*

Installing Solaris requires you to perform several installation steps. The first step is to establish operating system startup configurations. Refer to [Configure UNIX](#) for instructions on configuring the operating system to meet your specific requirements.

Perform a standard interactive installation of Solaris.

5.2 *Set Up the System Disk*

The following table shows system disk partitioning recommendations for the Prospect server based on a 9.2-GB internal system disk. These recommended disk-partitioning parameters apply only to the system disk. The database disk allocation is done separately by using data that the Server Sizing tool generated. If you choose to use mirroring for your system disk, you need at least two 9.2-GB system disks, and you need to install Solstice DiskSuite or other volume-management software.

Note: If this Prospect installation needs to support eight or more switches, contact your customer support representative for custom sizing information. Custom sizing may be required for optimal performance of the Prospect system. Custom sizing for larger systems is necessary to

accurately determine hardware specifications and Oracle configuration setting (such as optimal extent sizes).

Table 4: System Disk Configuration Example

<i>File System</i>	<i>Recommended Size for 9.2 GB Disk</i>	<i>Remarks</i>
/	500 MB	Root
/tmp	700 MB	Do not undersize the /tmp file system.
overlap	9.2 GB	Associated with sector s2. Do not change.
swap	1 GB (Minimum)	Sizing for swap is normally 50 to 100 percent of the amount of installed RAM. However, the Prospect system requires at least 1 GB of swap, or three times the amount of RAM, whichever is larger.
/u01	4.7 GB	Oracle and the Prospect application are installed in this file system. Note: Please use the recommended size for disk space as specified in the Sizing Tool.
/opt	900 MB	Sizing for /opt is based on a complete installation of Solaris, including AnswerBooks and Common Desktop Environment (CDE).
/usr	1024 MB	Solaris requires more space in the /usr file system.

5.3 Configure UNIX

After you have completed the primary installation steps for the Solaris operating system and rebooted, you need to complete the secondary UNIX configuration steps. These include installing patches, configuring the network, and possibly setting up user accounts.

5.3.1 Install Latest Solaris Patch Cluster

Sun Microsystems periodically updates its list of recommended patches for Solaris. Sun provides these patches in a distribution called a patch cluster. For more information about current and recommended patches, see Sun's Web site at <http://docs.sun.com/> or <http://store.sun.com/>. Install the most recent recommended patch cluster.

You need to install the following Daylight Savings Time-related patches:

- Solaris 9 - 113225-03 or later and 112874-33 or later
- Solaris 10 - 122032-01 or later and 119689-07 or later

5.3.2 Configure Your Network

If you are using Domain Name System (DNS) or Network Information Service Plus (NIS+) systems, you need to add the Prospect host to the databases of these systems.

5.3.3 Set Up Solaris User Accounts

Log on as `root` when you first install Solaris. Create additional user accounts if needed after you complete the initial installation steps.

Related Topics

[Configuring UNIX User Accounts](#)

5.4 *Configure the Prospect Server*

This section describes the preliminary steps you must take before you install the Prospect and Oracle software.

5.4.1 Install Solaris Patches Required by RAID Manager

Solaris patches must be installed before you install the Solaris RAID Manager software. To determine which patches you need to install, identify the version of Solaris you are using and compare it to the patch lists in the *RAID Manager Release Notes*.

5.4.2 Install RAID Manager Software

Unless you have a very small network, use disk arrays, which require software to manage them. If you are using Sun StorEdge Disk arrays, use Sun StorEdge RAID Manager. If you are using other disk arrays, use that manufacturer's software. You must follow several important steps to properly install the RAID Manager software. You should refer to the *Sun StorEdge RAID Manager Installation and Support Guide for Solaris* document for complete installation instructions, or the instructions for your specific type of disk array software.

After you install the RAID Manager software, use the RAID Manager graphical user interface (GUI) icons to create logical units (LUNs) for your file systems. You also choose the RAID level for each logical unit.

5.4.3 Create the Oracle and Prospect File Systems

Although RAID and Volume Management capabilities are required for production systems at most Prospect sites, a simpler approach is to use disks and file systems.

In this case, create file systems on individual disks. Set up the file systems that are to contain Oracle tablespace, rollback segments, and data and control files.

Creating the Prospect File Systems

The following file systems are required:

/u01, /u02, /u03, /u04, /u05, /u06

For detailed descriptions of the Prospect server file systems, see the *Server Sizing Tool Guide*.

Note: If your system contains an Oracle installation and a Prospect (**flexpm**) database instance, skip the following procedure and go to [Installing the Prospect System Components](#).

To create the Prospect file systems

1. Log on to the computer on which you are installing the Prospect server with `root` permissions, then invoke the Korn shell.

Example

```
$ su root
[root] # exec ksh
```

2. Assign a device for each of the file systems.

Example:

```
/u01 /dev/oracle
/u02
```

The /u01 disk is different from the others in that it is usually created first, and because the Oracle and Prospect software are installed on it.

3. Make UFS file systems using `newfs -v <dev name>`.
4. Examine the file systems before mounting using `fsck -y <dev name>`.
5. For a setup not using `forcedirectio` (see [Using forcedirectio to Increase Performance](#)), add mount table entries in `/etc/vfstab` for each file system.

Example:

```
/dev/dsk/c0t0d0s7 /dev/rdisk/c0t0d0s7 /u01 ufs 2 yes -
```

6. Mount the file systems and check disk space availability using the `mount <file system>` and the `df -k <file system>` commands:

Using forcedirectio to Increase Performance

Sun Microsystems best practices for Solaris and Oracle installations recommends using the `forcedirectio` mount option for file systems that store Oracle data files. The `forcedirectio` option forces input/output (I/O) operations to bypass Solaris file buffering and caching. The `bypass` lets you combine the performance benefits of raw file systems with the manageability and flexibility of traditional file systems. The `forcedirectio` option typically results in 10 percent to 15 percent faster sequential reads.

Caution: Use the `forcedirectio` option on Solaris UNIX file systems. Other third-party file systems provide similar functionality. If you are using a third-party file system, such as Veritas, consult the company documentation for instructions on turning off file system buffering.

To set up the `forcedirectio` option on existing Prospect servers

1. Edit the `/etc/vfstab` file to include the `forcedirectio` option. Log on to the computer on which you are installing the Prospect server with `root` permissions, then invoke the Korn shell.

Example

```
$ su - root
[root] # exec ksh
```

2. The seventh column in `/etc/vfstab` is the mount option column. In this column, change the value from `-` to `forcedirectio` for the file systems containing Oracle data files. For standard installations, these are file systems `/u02` through `/u06`.

Example

```
/dev/dsk/c2t0d0s6 /dev/rdisk/c2t0d0s6 /u02 ufs 3 yes -
```

becomes

```
/dev/dsk/c2t0d0s6 /dev/rdisk/c2t0d0s6 /u02 ufs 3 yes forcedirectio
```

Caution: For standard installations, enable `forcedirectio` on file systems `/u02` through `/u06` only. Do not enable `forcedirectio` on file system `/u01`—the `/u01` file system does not contain Oracle data files.

3. The `forcedirectio` setup changes occur during the next system reboot. These changes are only a performance improvement; if they are the only changes requiring a reboot, schedule the reboot for the next available maintenance period. For information about scheduled maintenance, see the *Administration Guide*.
4. Add the `forcedirectio` option, to the table entries in `/etc/vfstab`:

Example:

```
/dev/dsk/c2t0d0s6 /dev/rdisk/c2t0d0s6 /u02 ufs 3 yes forcedirectio
```

5.4.4 Configuring UNIX User Accounts

This section describes the procedures for configuring UNIX user accounts.

Create the UNIX User Account for Oracle

You can use the command line interface or the Solaris Admintool GUI. The following procedure describes how to create the user accounts using the command line interface.

Note: If your system already has Oracle installed, skip the following procedures and go to [Create the Prospect UNIX Userid Account](#) on page 27. The example in step 2 uses `oracle` as the UNIX user account for Oracle.

To create user accounts using the command line interface

1. Log on to the computer on which you are installing the Prospect server with `root` permissions, then invoke the Korn shell.

Example

```
$ su - root
[root] # exec ksh
```

Modify the name services configuration file as follows:

```
[root] # cp -p /etc/nsswitch.conf /etc/nsswitch.conf.bak
[root] # edit /etc/nsswitch.conf
passwd: files
group: files
```

2. Set up the entries for the UNIX user account for Oracle using the following commands:

Set up a variable for the home directory. If Oracle is installed in a different directory, the variable's value should be changed accordingly.

```
[root] # export ORACLE_BASE ; ORACLE_BASE="/u01/apps/oracle/"
```

Add the definition for the `dba` group (the following uses a sample value of 600):

```
[root] # /usr/sbin/groupadd \
-g "600" "dba" \
;
```

Add the definition for the UNIX user account for Oracle (the following uses sample values of 600 and 10021):

```
[root] # /usr/sbin/useradd \
-c "Oracle R-DBMS Admin" \
-d "${ORACLE_BASE}" \
-s "/bin/ksh" \
-u "10021" -g "600" "oracle" \
;
[root] # /bin/pwconv
```

Add the password (the following uses a sample password of `manager`):

```
[root] # passwd oracle
Password: manager
```

Create the logon home directory:

```
[root] # FLEXPM_BASE="/u01/apps/WatchMark/FlexPM"
[root] # export FLEXPM_BASE
```

```
[root] # mkdir -p "${ORACLE_BASE}"
[root] # chown oracle:dba "${ORACLE_BASE}"
```

3. Restore the name services configuration file as follows:

```
[root] # cp -p /etc/nsswitch.conf.bak /etc/nsswitch.conf
```

Refresh the Name-Services cache daemon as follows:

```
[root] # /etc/init.d/nscd stop
[root] # /etc/init.d/nscd start
```

Using an Existing Installation of Oracle

Prospect installation and configuration procedures depend on the Oracle logon account settings described in the preceding procedure. If the Oracle home directory, group ID, or user ID does not match the settings shown, make the following adjustments:

To adjust the Oracle home directory, group ID, or user ID

1. Log on to the computer on which you are installing the Prospect server with `root` permissions, then invoke the Korn shell.

Example

```
$ su - root
[root] # exec ksh
```

2. To use an alternative home directory for Oracle, create a symbolic link.

```
[root] # rmdir /u01/apps/oracle
[root] # mkdir -p /u01/apps
[root] # ln -s ~oracle /u01/apps/oracle
```

In this case, the following commands select the same directory:

```
[root] # cd ~oracle ; pwd
[root] # cd /u01/apps/oracle ; pwd
[root] # cd ${ORACLE_BASE} ; pwd
```

It is assumed that `ORACLE_BASE` is set by the logon profile and, in this case, is equivalent to the following:

```
ORACLE_BASE='echo ~oracle'
ORACLE_BASE="/u01/apps/oracle"
```

3. To change to an alternative group ID number for `dba`, make the change after performing the procedure [Create the Prospect UNIX Userid Account](#).

Create the Prospect UNIX Userid Account

The Prospect system requires the following installation directory to be associated with the Prospect UNIX userid logon account:

```
~Prospect UNIX userid -> /u01/apps/WatchMark/FlexPM
```

Note: The following examples use flexpm as the Prospect UNIX user ID.logon.

To configure UNIX accounts

1. Set up the entries for the Prospect UNIX userid logon using the following commands:

Set up a variable for the logon home directory:

```
[root] # export FLEXP_HOME ; \  
FLEXP_HOME="/u01/apps/WatchMark/FlexPM"
```

Add the definition for the Prospect UNIX userid account (the following uses sample values of **flexpm**, 600 and 10020:

```
[root] # /usr/sbin/useradd \  
-c "Prospect User" \  
-d "${FLEXP_HOME}" \  
-s "/bin/ksh" \  
-u "10020" -g "600" "flexpm" \  
;  
[root] # /bin/pwconv
```

Add the logon password (the following uses a sample password of **manager**):

```
[root] # passwd flexpm  
Password: manager
```

Create the logon home directory. The following uses a sample user ID of flexpm and group ID of dba:

```
[root] # mkdir -p "${FLEXP_HOME}"  
[root] # chown flexpm:dba "${FLEXP_HOME}"
```

Making Administrative Changes at Your Installation Site (Optional)

Some system administrators can have local policies for network and user account configuration that are different from those described in this guide. If required, you can incorporate changes to user account parameters at this point in the system configuration.

5.5 *Install Required Applications for Viewing Documentation*

Unless you have an alternative way to view documentation, you need to install the following applications. Obtain these from the respective vendors:

- A current version of Adobe Acrobat Reader.
Download the file from Adobe's web site: <http://www.adobe.com>.
- A current version of Netscape Communicator.
Download the file from Sun's web site: <http://www.sun.com>.

5.6 *Check System Requirements for Oracle*

In preparation for installing Oracle, refer to the installation disc and consult the Oracle installation guide; for example:

```
[root] # cd /cdrom/cdrom0
[root] # netscape doc/unixdoc/solaris.920/index.htm
```

1. Follow the recommended procedure in Oracle's installation guide. Check the Solaris system requirements carefully, especially the kernel patch revision.

```
[root] # uname -v
```

2. Verify that the following system packages are installed. Review the resulting output from the following command, and see that each of the packages is listed:

```
[root] # pkginfo -i | sort | grep system.*SUNW
```

system	SUNWarc	Archive Libraries
system	SUNWbtool	CCS tools bundled with SunOS
system	SUNWhea	SunODS Header Files
system	SUNWlibm	Sun WorkShop Bundled libm
system	SUNWsprot	Solaris Bundled tools
system	SUNWtoo	Programming Tools

These packages are on the Solaris installation discs.

Important: Make sure you install these packages before proceeding—you cannot install the Oracle database management system without them.

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Installing and Configuring Solaris

6 Installing Oracle

This chapter describes the procedure for installing and running Oracle software when it is used with the Prospect server on a Solaris server platform.

For additional background, detailed requirements and analysis, and the complete set of Oracle software installation instructions, see the *Oracle Installation Guide* on the CD-ROM.

Install Oracle9i Enterprise Edition 9.2.0.6 for Solaris (32-bit); do not install the Oracle9i client or Oracle Programmer.

When installing Oracle, use the following directories:

```
ORACLE_BASE    ->  /u01/apps/oracle
ORACLE_HOME    ->  /u01/apps/oracle/product/9.2.0
```

The current release of Prospect requires Oracle 9.2.0.6 with patches as described in [Install Oracle9i Patches](#).

Note: Perform the installation using `oracle` user permissions. Do not run the Oracle Universal Installer (OUI) as `root`.

To install Oracle9i products, you need to perform the following procedures:

1. [Start the Installer](#).
2. [Select Default Installation Parameters](#).
3. [Perform Miscellaneous Tasks](#).
4. [Complete the Installation](#)
5. [Stopping Agent Control](#)
6. [Install Oracle9i Patches](#)

6.1 *Start the Installer*

The Installer is a Java-based interface that uses the X Window system. Use a workstation with an X Window display, not a console. Start the Installer according to the following procedure.

To start the Installer

1. Use the following commands on the X session host to enable access to the X Window server.

```
% xhost +
```

Note: Please make sure that the xhost command is available in your PATH environment variable. For Solaris, include `/usr/openwin/bin` in the PATH.

2. Use `telnet` or `rlogin` to log on to the database server host. Use the Prospect Oracle logon account:

```
% rlogin 'hostname' -l oracle
```

Substitute the appropriate server name for `hostname`.

3. Set the `DISPLAY` variable so that the Installer can access the X Window server:

```
[oracle] $ export DISPLAY ; DISPLAY='hostname':0.0
```

Substitute the appropriate display `hostname`.

4. Set two variables for installation parameters.

```
[oracle] $ export ORACLE_BASE ; ORACLE_BASE='/u01/apps/oracle'
[oracle] $ export ORACLE_HOME ; ORACLE_HOME='/u01/apps/oracle/product/
9.2.0'
```

5. There are two discs in the Oracle 9.2.0.1.0 Enterprise Edition CD-ROM set, Disk 1 and Disk 2. Start the Installer if you are using the CD-ROM image. Locate the CD-ROM mount-point directory. Use that directory as the working directory:

```
[oracle] $ cd /cdrom/cdrom0
```

6. Run the Installer in the background by using the ampersand (`&`).

```
[oracle] $ /cdrom/cdrom0/runInstaller &
```

This allows the command shell to accept additional commands.

7. Follow the system prompt to eject Disc 1 and replace it with Disc 2.

6.2 *Select Default Installation Parameters*

Select default installation parameters such as product components, component locations, and authentication methods.

To select default installation parameters

1. After the WELCOME dialog box opens, click NEXT. the INVENTORY LOCATION dialog box opens. Enter the inventory base directory in the text box:

Location: /u01/apps/oracle/oraInventory

This directory is \${ORACLE_BASE}/oraInventory.

The Installer creates the following:

```
/var/opt/oracle           -- directory
/var/opt/oracle/oraInst.loc -- text file
/u01/apps/oracle/oraInventory -- directory
```

2. The UNIX GROUP NAME dialog box opens.

Enter **dba** in the text box. Click NEXT.

The Installer builds a program and prompts you to run it:

Use a terminal window (dtterm or xterm) and root permissions. Run the following commands:

```
$ su root
[root] # /tmp/orainstRoot.sh
```

3. The FILE LOCATIONS dialog box opens.

Enter or verify path names in the text boxes. The default value for the NAME text box is Home1, use the default value.

Source: /cdrom/oracle9i/stage/products.jar
Destination: /u01/apps/oracle/product/9.2.0

The destination path is \${ORACLE_HOME}.

Click NEXT.

4. The LOADING PRODUCT INFORMATION dialog box opens, reads the product file, and loads product definitions.

Check the products listed. Click INSTALL to start the installation activity.

Note: If Oracle products are currently installed on this system, the Installer bypasses the following two steps because the file /var/opt/oracle/oraInst.loc exists.

5. The AVAILABLE PRODUCT COMPONENTS dialog box opens. Use the default selections as the baseline.

Include the following selections:

- Oracle Installation Products
 - Oracle Universal Installer
- Oracle9i Enterprise Edition options .

Remove the following selections (optional):

Note: Removing these selections saves disk space. The database administrator might choose to install them, but these components are not required for the Prospect server, and they can be installed separately any time after the main Oracle installation.

- Oracle HTTP Server
- Oracle Enterprise Manager Products
 - Oracle Management Server
 - Oracle Enterprise Manager Client
 - Oracle Enterprise Manager Web Site
 - Oracle Enterprise Manager Quick Tours
 - Oracle interMedia
 - Oracle Intelligent Agent

You can also remove the dialog box selection for the following items unless required for local administrative purposes.

- Oracle9i Enterprise Edition 9.2.0.1.0
 - Oracle Product Options 9.2.0.1.0
 - Oracle Visual Information Retrieval
- Oracle9i Enterprise Edition 9.2.0.1.0
 - Oracle Enterprise Manager Products 9.2.0.1.0
 - Oracle Agent Extensions 9.2.0.1.0
 - Oracle eBusiness Management Extensions
- Oracle9i Enterprise Edition 9.2.0.1.0
 - Oracle9i Server 9.2.0.1.0
 - Legato Storage Manager (LSM)

Click NEXT.

6. The INSTALLATION TYPES dialog box opens.

Select the CUSTOM installation type.

Make sure that the Installer is selected at this point. You need it when installing additional features, including any required patch sets.

7. The COMPONENT LOCATIONS dialog box opens. Enter or verify path name in the text box:

Destination: /u01/apps/oracle/oui

This is the destination for Oracle Universal Installer 2.2.0.18.0.

Click NEXT.

8. The PRIVILEGED OPERATING SYSTEM GROUP dialog box opens. Click NEXT. Accept the default.
9. The AUTHENTICATION METHODS dialog box opens. Click NEXT. The Installer displays the prompt CREATE DATABASE.
 - a. Select NO.
 - b. Click NEXT.
10. Continue with [Perform Miscellaneous Tasks](#).

6.3 *Perform Miscellaneous Tasks*

Perform the following miscellaneous tasks as required.

To perform miscellaneous tasks

1. The Installer builds a program and prompts you to run it:

Use a terminal window (`dtterm` or `xterm`) and `root` permissions. Run the following commands:

```
$ su - root  
[root] # $ORACLE_HOME/root.sh
```

2. The shell program prompts for the directory location. Enter the following:

```
/usr/local/bin
```

Note: The files in this directory are typically not used; you can delete them.

3. When the shell program completes, return to the Installer window.
4. On the Installer, the **SETUP PRIVILEGES** dialog box is now open. Click **OK**, then click **NEXT**.
5. The **CONFIGURATION TOOLS** window opens. The program starts the Net8 Configuration Assistant.
6. Click **CANCEL** to exit the Net8 Configuration Assistant. A confirmation dialog box opens. Click **YES**.

An **ERROR** dialog box might open indicating that one or more tools have failed to run. Click **OK**.

6.4 *Complete the Installation*

Complete the installation using the following procedures.

To finish the installation

1. The WELCOME dialog box opens. Click EXIT.
2. A confirmation dialog box opens. Click YES.

The installation of Oracle 9.2.0.1.0 is complete.

6.5 *Stopping Agent Control*

Before you can continue to the next stage ([Install Oracle9i Patches](#)), you need to stop the intelligent agent process.

Return to the window where you ran RUNINSTALLER. Enter the following commands:

```
[oracle] $ cd /u01/apps/oracle/product/9.2.0/bin  
[oracle] $ ./agentctl stop
```

This stops the intelligent agent process. You can now apply the Oracle 9.2.0.6 patch.

6.6 *Install Oracle9i Patches*

This release of the Prospect server requires the following foundation:

Oracle system software release and patch set, consisting of:

- Oracle9i Enterprise Server - Version 9.2.0.1.0
- Oracle9i Database Server Release 2, Patch Set - Version 9.2.0.6.0 obtained from Oracle Metalink

Important! You must first complete the procedure to install Oracle 9.2.0.1.0 in [Installing Oracle](#) before performing the procedure in this section.

In addition, check that there is enough disk space available. The complete set of patch files requires 350 MB.

To install the Oracle9i patches, follow the instructions provided by Oracle that are included with the patch set.

7 Configuring Oracle

The procedures in this chapter are performed to complete the configuration parameters for the Oracle database. These procedures include setting up accounts, configuring environments and changing the Solaris kernel parameters.

Topics

[Configure the Kernel Parameters for Oracle](#)
[Configure TNS, Listener, and Oracle Auto-Start](#)
[Configure Disks for Oracle Tablespace](#)
[Generate the Database Creation Scripts](#)
[Setting `initflexpm.ora` Parameters](#)
[Setting `PGA_AGGREGATE_TARGET`](#)
[Create the Oracle Database Instance](#)
[Configure External Procedures](#)

7.1 *Configure the Kernel Parameters for Oracle*

You need to set the UNIX kernel parameters properly to accommodate the shared memory requirements of the Oracle server. The Oracle database cannot start if the Prospect server has inadequate shared memory allocated.

To configure the kernel parameters for Oracle

1. Log on as `flexpm` to the computer on which you are installing the Prospect server.
2. Change to the following directory:

```
$ cd /cdrom/cdrom0/oracle_setup
```
3. Run `oracle_setup.ksh`, which copies the `oracle_setup` directory from the CD to a directory on the local computer.

You are prompted for a destination on the local computer.

Important! Record the path to the destination directory on the local computer. This path `<oracle_setup>` is used in a number of tasks.

4. Log on to the computer on which you are installing the Prospect server with `root` permissions, then invoke the Korn shell.

Example

```
$ su - root
[root] # exec ksh
```

5. Locate the files needed for configuring Oracle, and use the setup program as follows:

```
[root] # export DB_CONNECT=flexpm/flexpm@flexpm
[root] # cd <oracle_setup>
[root] # ./setup-oracle-db -system
```

Note: Ignore “.profile not found” message

This command creates a new file `/etc/system.wm` and saves the old file as `/etc/system.00` before updating `/etc/system`. Use `/etc/system.00` or `/etc/system.wm` to revert to the old file if needed.

The setup program updates the kernel parameters required by Oracle. For example:

- `shmsys:shminfo_shmmax`
- `shmsys:shminfo_shmmin`
- `shmsys:shminfo_shmmni`
- `shmsys:shminfo_shmseg`
- `semsys:seminfo_semmni`
- `semsys:seminfo_semmsl`
- `semsys:seminfo_semmns`
- `semsys:seminfo_semopm`
- `semsys:seminfo_semvmx`

Oracle cannot run without the shared memory configuration.

6. The setup program adds two entries to `/etc/hosts` to guarantee that the host name and alias are defined locally. These entries need to be added to the network services databases, such as DNS or NIS+. Consult the network administrator to make sure that the additions are made.

Note: If you remove these entries, certain host name references in this guide might be incorrect. Think of the entries as symbolic rather than actual host names.

7. Restart the Solaris kernel to use the new parameters. Reboot the system using the following:

```
[root] # /etc/reboot
```


7.2 Configure TNS, Listener, and Oracle Auto-Start

Now you need to configure Oracle Transparent Network Substrate (TNS), Listener, and Oracle Auto-Start. Perform the following procedure.

To configure TNS, Listener, and Oracle Auto-Start

1. Log on to the computer on which you are installing the Prospect server with `root` permissions, then invoke the Korn shell.

Example

```
$ su - root
[root] # exec ksh
```

2. Create a symbolic link if Oracle was not installed in `/u01/apps/`.

If Oracle is not installed in `/u01/apps/oracle`, you must create a symbolic link from `/u01/apps/` to the actual location. For example, if Oracle was installed in the `/u02/apps/oracle` directory, you would type the following commands:

```
[root] # cd /u01/apps/
[root] # ln -s /u02/apps/oracle /u01/apps/oracle
```

3. After changing these settings, export the following variables.

```
[root] # export ORACLE_BASE="/u01/apps/oracle"
[root] # export ORACLE_HOME="${ORACLE_BASE}/product/9.2.0"
[root] # export PATH="${ORACLE_HOME}/bin:${PATH}"
[root] # export LD_LIBRARY_PATH="${ORACLE_HOME}/lib:${LD_LIBRARY_PATH}"
[root] # export DB_CONNECT=flexpm/flexpm@flexpm
[root] $ export FLEXPM_HOME= \
    "/u01/apps/WatchMark/FlexPM/EricssonGGU/ProspectBase"
```

Locate the files needed for configuring Oracle, and use the setup program as follows:

```
[root] # cd <oracle_setup>
[root] # ./setup-oracle-db -server
```

The program installs several files to configure Oracle services and to enable Oracle Auto-Start:

```
/var/opt/oracle/oratab
/etc/init.d/dbora
/etc/rc*.d/K10dbora
/etc/rc*.d/S99dbora
/u01/apps/oracle/product/9.2.0/network/admin/tnsnames.ora
/u01/apps/oracle/product/9.2.0/network/admin/listener.ora
/u01/apps/oracle/product/9.2.0/bin/dbstart
/u01/apps/oracle/product/9.2.0/dbs/*flexpm.ora
```

If you use more than one database instance, modify the file `/var/opt/oracle/oratab` for the instances needed.

7.3 *Configure Disks for Oracle Tablespace*

Sizing of the file systems (or disk volumes) that contain Oracle tablespace, data and control files is determined by calculations made during system planning.

Caution! Using the setup program in this step removes any previous database files in the /u0*/flexpm/ directories, including files *.dbf and *.ctl. This is required when creating a new database instance, but it destroys the existing flexpm database instance.

Use the setup program to create directories where the flexpm database files are created and maintained.

```
$ su - root
[root] # exec ksh
[root] # export ORACLE_BASE=/u01/apps/oracle
[root] # export ORACLE_HOME="${ORACLE_BASE}/product/9.2.0"
[root] # export DB_CONNECT=flexpm/flexpm@flexpm
[root] # cd <oracle_setup>
```

Then, enter the following command:

```
[root] # ./setup-oracle-db -drives
```

To examine these directories you can use the df and ls commands:

```
[root] # df -k /u0[1-6]/flexpm
[root] # ls -ld /u0[1-6]/flexpm
```

In this case, **flexpm** is the database instance name.

7.4 Configure the Oracle Database Instance

You are provided a file (`results.txt`) containing parameters that determine the sizing and structure of the Oracle database instance. This file is used in the following procedure.

7.4.1 Before You Begin

Transfer the `results.txt` file to the `/tmp` directory on the server where Prospect is to be installed.

7.5 Generate the Database Creation Scripts

Use the following procedure to generate the database creation scripts.

To generate the database creation script

1. Log on as `flexpm` to the computer where Prospect server is to be installed.
2. Generate the database creation scripts using the parameters generated by the Server Sizing tool by typing the following commands.

```
$ cd <oracle_setup>
$ export ORACLE_BASE=/u01/apps/oracle
$ export ORACLE_HOME="${ORACLE_BASE}/product/9.2.0"
$ export DB_CONNECT=flexpm/flexpm@flexpm
$ ./setup-oracle-db -sizing
```

This procedure creates the following files in `<oracle_setup>/flexpm`:

- `initflexpm.ora`
- `configflexpm.ora`
- `create_DB_flexpm.sql`
- `create_RBS_TS_flexpm.sql`
- `catalog_scripts.sql`

Important! Check the listing for available disk space and space required. The procedure in [Create the Oracle Database Instance](#) fails if the sizing for new tablespace data files exceeds the available disk space.

3. Update the Oracle configuration.

Log on with `root` permissions, then invoke the Korn shell.

Example

```
$ su - root
[root] # exec ksh
[root] # export ORACLE_BASE=/u01/apps/oracle
```

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```
[root] # export ORACLE_HOME="${ORACLE_BASE}/product/9.2.0"
[root] # export DB_CONNECT=flexpm/flexpm@flexpm
[root] # export FLEXPM_BASE=/u01/apps/WatchMark/FlexPM
[root] # export FLEXPM_HOME=/u01/apps/WatchMark/FlexPM
```

Type the following commands:

```
[root] # cd <oracle_setup>
[root] # ./setup-oracle-db -config
```

This installs the newly created files in their respective directories:

```
/u01/apps/oracle/admin/flexpm/create/
/u01/apps/oracle/admin/flexpm/pfile/
/u01/apps/oracle/product/9.2.0/dbs/
```

4. The previous step should set ownership on the Oracle configuration files. You can do this manually where necessary, for example:

```
[root] # cd /u01/apps/oracle/admin/flexpm
[root] # chown -R oracle:dba .
```

Note: If you have not implemented archive logs, the command `chown` returns an error message for `arch` files. In such a case, you can ignore the error message.

7.6 *Setting initflexpm.ora Parameters*

Once the `initflexpm.ora` file is created, a database administrator should evaluate these parameters and increase them as required.

The first parameter, `shared_pool_size`, is recommended to be 200 MB. This size should be sufficient regardless of the number of network elements loading into the Prospect server or the amount of memory configured in the server. The related parameter `shared_pool_reserved_size` should be 1 MB.

Support for the `db_block_lru_latches` parameter was dropped in Oracle 9i. You can remove the value for this parameter.

The `compatible` parameter should be set to the currently supported, installed Oracle version, which should be 9.2.0.6.0.

The `log_checkpoint_interval` parameter defaults to 1048579. This is sufficient unless the redo logs on the server exceed 512 MB. A much safer recommendation is to set this parameter to 0, which is suitable for all sizes of redo logs.

7.7 *Setting PGA_AGGREGATE_TARGET*

The database parameter `PGA_AGGREGATE_TARGET` is being set in order to use the new "Automatic Program Global Area (PGA) Memory Management" introduced in version 9.2 of Oracle.

An initial value of 32M for `PGA_AGGREGATE_TARGET` is used to activate this new feature. Once the value is non-zero, the `WORKAREA_SIZE_POLICY` is automatically set to AUTO.

The value 32M is not suitable for production systems and should be changed based on Oracle's recommendations. Please see Oracle software's Note: 223730.1 Automatic PGA Memory Management in 9i for details on tuning this parameter.

We recommend that `PGA_AGGREGATE_TARGET` have a minimum value of 512M.

7.8 Create the Oracle Database Instance

Use the following procedure to create the Oracle database instance.

1. Log on as `oracle` to connect to the host.
2. Export the shell environment variables by typing the following.

```
export ORACLE_BASE="/u01/apps/oracle"
export ORACLE_HOME="${ORACLE_BASE}/product/9.2.0"
export TNS_ADMIN="${ORACLE_BASE}/network/admin"
export PATH="${ORACLE_HOME}/bin:${PATH}"
export LD_LIBRARY_PATH="${ORACLE_HOME}/lib:${LD_LIBRARY_PATH}"
export ORACLE_SID="flexpm"
export DB_CONNECT=flexpm/flexpm@flexpm
export FLEXPM_BASE=/u01/apps/WatchMark/FlexPM
export FLEXPM_HOME=/u01/apps/WatchMark/FlexPM
```
3. Use the `setup` program as follows. This step creates the `flexpm` database control files, tablespace, and other files:

```
[oracle] $ cd <oracle_setup>
[oracle] $ ./setup-oracle-db -create
```

If the available disk space is not sized properly, the processing may abort or stall. Database creation might take several minutes.

Log files are retained and each action is recorded. Any problems that occurred are noted in the log files:

```
${ORACLE_BASE}/admin/flexpm/create/create_DB_flexpm.log
${ORACLE_BASE}/admin/flexpm/create/create_RBS_TS_flexpm.log
${ORACLE_BASE}/admin/flexpm/create/catalog_scripts.log
```

4. Use the `setup` program to show information about the disk volumes and files:

```
[oracle] $ cd <oracle_setup>
[oracle] $ ./setup-oracle-db -review system/manager@flexpm
```

You can use these commands at any time for monitoring space during normal Prospect operations. The `setup` program shows information about the disk volumes and files, and uses SQL queries to monitor tablespace usage.

The command results are retained in temporary files that are available for future reference. For example:

```
$ ls -l /var/tmp/${DBUSER}/*monitor*
$ ls -l /var/tmp/${DBUSER}/*.mm-dd-HH-MM*
```

The actual time and date should be used in place of `mm-dd-HH-MM`.

7.8.1 Confirm Environment Variables

The Prospect software requires that a variable `WM_ORACLEVERSION` be set. Valid values for this environment variable are:

- ORACLE9
- ORACLE9i

7.9 Configure External Procedures

Prospect software uses Oracle external procedure calls with the Oracle Listener to establish a connection between the user and the Oracle database. Enabling external procedures with the Listener is a two fold task: configuring the external procedures, and testing the Listener to ensure the external procedures are configured correctly.

In this section of the guide, you configure the external procedures. You then test the Listener only after you have installed Prospect software on the server. For testing instructions, see the *Installation Guide*.

7.9.1 Single Schema

In a single schema configuration, the existing `listener.ora` and `tnsnames.ora` are nearly complete. Please use the sample files located at the end of this section as a guide to the required modifications for your existing files. In particular, verify that your `EXTPROC`, `PLSExtProc` and the `ENVS` values are set. Your files should be a close match to the examples provided.

Note: The exception is the `__<SCHEMA>` tag, which is used for the multiple schema configuration outlined below.

7.9.2 Multiple Schemas

This section provides the procedures to configure Oracle listeners to support a multiple-schema environment for Oracle external procedures. The need for multiple listeners and environments is due to a restriction that Oracle software has on the `EXTPROC_CONNECTION_DATA` service name. Each schema installed requires a separate version of the external libraries. This allows them to be updated independently.

Notes:

1. If your Oracle configuration is not standard, then the following instructions could require modification. If assistance is required, please contact your customer support representative.
 2. These steps must be performed for each schema on the server. If you start your Oracle database using `dbora`, `dbstart`, or `dbshut`, please adjust the scripts to support the new listener.
-

Create or Modify Listeners

Follow this procedure to create or modify listeners.

To create or modify listeners

1. Log on as the `oracle` user and go to `${ORACLE_BASE}/network/admin`. This is the normal location for the `listener.ora` and `tnsnames.ora` files.

```
$ cd ${ORACLE_BASE}/network/admin
```

2. Create a new directory that is specific for the schema. Change the directory to this location. This example uses `flexpm` as a schema name.

```
$ mkdir flexpm
```

```
$ cd flexpm
```

3. Create the following files in this new directory. As examples, use the sample files located at the end of this section as templates.

- `set_tns`—This file consists of one line, which names the full path to the new listener directory. Create the `set_tns` file by following the instructions in step 4.
- `listener.ora`—This file lists host names, dedicated services, and trace and log output
- `tnsnames.ora`—This file provides the ability to reference oracle databases by a simple alias

4. Create the `set_tns` file by modifying the following `set_tns` example file to contain the correct directory name. You will use this to change the environment when you start and stop the listener process. The following is a sample `set_tns` file. For `<SCHEMA>`, substitute the appropriate value for your system.

```
TNS_ADMIN=/u01/apps/oracle/network/admin/<SCHEMA>
export TNS_ADMIN
```

5. Modify the files `listener.ora` and `tnsnames.ora`, substituting appropriate values for the `HOSTNAME`, `PORTNUM`, `SCHEMA`, and `FLEXPM_HOME` tags. Modify the `ENVS` variable to use the Prospect installation path. The `PORTNUM` tag must be unused, and unique among the listeners on the system.

6. Verify that you can read the libraries listed in the `ENVS` variable of the `listener.ora` file.

7. Set the listener environment to your local directory.

```
$ . ./set_tns
```

8. If you created a listener, then start it. If you have modified an existing listener, then stop and re-start it. Use the full `listener_<SCHEMA>` name. For `<SCHEMA>`, substitute the appropriate value for your system, for example:

```
$ lsnrctl
LSNRCTL> start listener_flexpm
```

Sample Oracle Configuration Files

Use the following samples as templates. Wherever you see a term in italics and angle brackets (for example, `<SCHEMA>`), substitute an appropriate value for your system. Do not enter the angle brackets in the file.

Example `set_tns`

```
TNS_ADMIN=/u01/apps/oracle/network/admin/<SCHEMA>
```

```
export TNS_ADMIN
```

Example listener.ora

Note: The indents in this file are critical for successful file processing. If you copy and paste the template from this document, you may lose the fidelity of the indents. Moreover, some of the lines in this document wrap, which may also cause problems when the file is processed.

```
LOG_DIRECTORY_LISTENER_<SCHEMA> = /u01/apps/oracle/network/log
LOG_FILE_LISTENER_<SCHEMA> = listener_<SCHEMA>.log

#TRACE_LEVEL_LISTENER_<SCHEMA> = ADMIN
#TRACE_FILE_LISTENER_<SCHEMA> = listener.trc

LISTENER_<SCHEMA> =
  (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = TCP) (HOST = <HOSTNAME>) (PORT = <PORTNUM>))
      (ADDRESS = (PROTOCOL = IPC) (KEY = EXTPROC_<SCHEMA>))
    )
  )

SID_LIST_LISTENER_<SCHEMA> =
  (SID_LIST =
    (SID_DESC =
      (GLOBAL_DBNAME = flexpm)
      (ORACLE_HOME = /u01/apps/oracle/product/9.2.0)
      (SID_NAME = flexpm)
    )
    (SID_DESC =
      (SID_NAME = PLSExtProc_<SCHEMA>)
      (ORACLE_HOME= /u01/apps/oracle/product/9.2.0)
      (ENVS="EXTPROC_DLLS=<FLEXPM_HOME>/pm/lib/wm/libWmExtProc.so,LD_LIBRARY_PATH=<FLEXPM_HOME>/pm/lib/wm:<FLEXPM_HOME>/pm/lib/tp:<FLEXPM_HOME>/pm/lib/ln/ora")
      (PROGRAM = extproc)
    )
  )
#.
```

Example tnsnames.ora

Note: The indents in this file are critical for successful file processing. If you copy and paste the template from this document, you may lose the fidelity of the indents. Moreover, some of the lines in this document wrap, which may also cause problems when the file is processed.

```
EXTPROC_CONNECTION_DATA =
    (DESCRIPTION =
        (ADDRESS_LIST =
            (ADDRESS = (PROTOCOL = IPC) (Key = EXTPROC_<SCHEMA>))
        )
        (CONNECT_DATA =
            (SID = PLSExtProc_<SCHEMA>) (PRESENTATION = RO)
        )
    )

FLEXPM =
    (DESCRIPTION =
        (ADDRESS_LIST =
            (ADDRESS = (PROTOCOL = TCP) (HOST =<HOSTNAME>) (PORT =
<PORTNUM>))
        )
        (CONNECT_DATA =
            (SID = flexpm )
        )
    )
```

7.10 Example dbora File

This sample dbora file starts both the listener and listener_<SCHEMA> processes, and stops them. The example file uses listener_flexpm as listener_<SCHEMA>. Except for substituting your schema name for <SCHEMA>, everything else must be identical.

```
## startup database listener processes

Program="${ORACLE_HOME}/bin/lsnrctl"
Process="TWO_TASK='' ORACLE_SID='${ORACLE_SID}' ${Program} start"

if test ! -f "${Program}"
then echo "?(0) missing program: \"${Program}\" 1>&2 ; exit 1
fi

echo ": ${Process}" ; echo ":"

case ${INVOKE_USER} in
oracle) sh -c "${Process}" ;;
root|*) su - ${ORACLE_USER} -c "${Process}" ;;
esac

RC="$?" ; echo ": Status='${RC}'" ; echo ":"
## startup database listener_flexpm processes

Program="${ORACLE_HOME}/bin/lsnrctl"
Process="TWO_TASK='' ORACLE_SID='${ORACLE_SID}' ${Program} start
listener_flexpm"

if test ! -f "${Program}"
then echo "?(0) missing program: \"${Program}\" 1>&2 ; exit 1
fi

echo ": ${Process}" ; echo ":"

case ${INVOKE_USER} in
oracle) sh -c "${Process}" ;;
root|*) su - ${ORACLE_USER} -c "${Process}" ;;
esac

RC="$?" ; echo ": Status='${RC}'" ; echo ":"
;;

stop )
```

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```
## shutdown database listener processes

Program="${ORACLE_HOME}/bin/lsnrctl"
Process="TWO_TASK='' ORACLE_SID='${ORACLE_SID}' ${Program} stop"

if test ! -f "${Program}"
then echo "?( $0) missing program: \"${Program}\" 1>&2 ; exit 1
fi

echo ": ${Process}" ; echo ":"

case ${INVOKE_USER} in
oracle) sh -c "${Process}" ;;
root|*) su - ${ORACLE_USER} -c "${Process}" ;;
esac

## shutdown database listener processes

Program="${ORACLE_HOME}/bin/lsnrctl"
Process="TWO_TASK='' ORACLE_SID='${ORACLE_SID}' ${Program} stop
listener_flexpm"

if test ! -f "${Program}"
then echo "?( $0) missing program: \"${Program}\" 1>&2 ; exit 1
fi

echo ": ${Process}" ; echo ":"

case ${INVOKE_USER} in
oracle) sh -c "${Process}" ;;
root|*) su - ${ORACLE_USER} -c "${Process}" ;;
esac
```

8 Installing the Prospect System Components

The Prospect server installation package is delivered on the Prospect server installation CD-ROM disc. It contains all of the Prospect system components. You must install and configure Solaris and Oracle before installing the Prospect system components.

Important! Refer to the Release Notes included with the software for any late-breaking information related to your release.

Topics

[Before You Begin](#)
[Prepare to Install the Prospect System](#)
[Install Java 2 SDK \(JDK\)](#)
[Install Oracle XDK \(XML Development Kit\)](#)

8.1 *Before You Begin*

You need to have the following installed on your system in order to complete the installation:

- `gtar`, `gzip`, and `gunzip` GNU/FSF archive file utilities.

Make sure that `/usr/bin` and `/usr/sfw/bin` are in your path. Enter the following commands to locate `gtar` and `gunzip`:

```
which gtar
which gunzip
```

These commands return the path to `gtar` and `gunzip` on your system. If these utilities are not found, add `/usr/sfw/bin` to the path in your `.profile` file.

- Make sure that you have `/usr/perl5/5.6.1` on your server.
- Viewing the user publications requires a browser that supports dynamic HTML and a PDF viewer that supports Acrobat version 5.0.5 or later.

8.2 *Prepare to Install the Prospect System*

To prepare the Prospect system installation, perform the following steps.

To prepare the Prospect system installation

1. Log on to the computer on which you are installing the Prospect server with `root` permissions, then invoke the Korn shell.

Example

```
$ su - root
[root] # exec ksh
```

2. Insert and mount the Prospect server installation disc.

```
[root] # cd /cdrom/cdrom0
[root] # ls -al
```

3. Review the file listing received in step 2, and confirm that the Prospect server installation disc contains the following files:

- These files provide detailed information about installing and configuring Prospect.

```
ReleaseNotes.pdf
Documentation/InstallGuide.pdf
```

- These files assist in system planning:

```
SizingTool/SizingTool.pdf
SizingTool/SizingTool.xls
```

- The Prospect installer:

```
wminstall
```

4. Use the following commands to view the documentation files:

```
[root] # acroread ./ReleaseNotes.pdf
[root] # acroread ./Documentation/InstallGuide.pdf
```

Both Acrobat Reader and Netscape Navigator should already be installed on your system. If you need to install them, see [Install Required Applications for Viewing Documentation](#) on page 29. If these tools are not currently available on the Solaris system, use another system or Windows computer to view the PDF documents from the Prospect CD-ROM discs.

8.3 *Install Java 2 SDK (JDK)*

The Java 2 SDK, Standard Edition is a development environment for running and building applications, applets, and components using the Java programming language. If you either do not have the SDK installed on your system, or if it is not version 1.4.2_13, then you need to install the Java 2 SDK, Standard Edition, version 1.4.2_13. This version is required because of changes to Daylight Saving Time in 2007.

- To determine whether the Java SDK is installed on your computer, use the following command:

```
$ javac
```

If the Java SDK is installed and in your current path, the system prints a help message. If the SDK is not installed, the system prints a “not found” message.

- To determine the Java version, use the following command:

```
$ java -version
```

The response should be:

```
java version "1.4.2_13"
```

To install the SDK, download the software from <http://java.sun.com/products/archive/>.

8.4 *Install Oracle XDK (XML Development Kit)*

The Prospect server requires that you install Oracle XDK (XML development kit) version 8.1.7 or later. To install Oracle XDK, refer to the Oracle document “How to Reload the JVM in 9.2.0.x”, note #209870.1. This document is available from the Oracle MetaLink site (<https://metalink.oracle.com>).

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