eBusiness 12 Upgrade: Quick, Good and Inexpensive … No Kidding

Oracle eBusiness Suite 12

Installation and Upgrade Details

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Overview: Use of Conference Room Pilots

Use of conference room pilots was critical to the success of this upgrade. Please reference the white paper "No Method = no success! Utilizing the CRP Method to make your eBusiness Project a Success - it works!" or the OAUG Insight March 2008 magazine article titled "CRPs: Myth, Method or Madness?" written by Bill Dunham for details on CRPs.

Overview: Technical Aspects

Migrating from Windows NT (2003) to Linux RedHat

Step 1:   Linux-Server: Install 11.5.8 Environment: 1158_Apps_Installation11i_Linux.doc
Step 2:   Clone/Copy: Linux 11.5.8 to New-Home   1158_Apps_ColdClone.doc
Step 3:   Linux Server: Patch/Prepare Linux-Server   12_
Step 4:   eBusiness Suite Upgrade-Home: Patch/Prepare

Executive Summary

eBusiness Release-12: Installation and Upgrade (Quick, Good and Inexpensive)

Oracle eBusiness 12's Upgrade and Migration path is (now) a very well traveled eBusiness destination.

This presentation is your Installation and Upgrade "ticket" to a **quick, good and inexpensive** journey.

Conceived on the latest technology-stack, and nurtured on Globalization, this new eBusiness Release gives our Applications-community a real tech-rocket-kick-in-the-pants. We have (finally) dumped our age-old "baggage." Gone are the antiquated and battered Oracle6i-Forms and Reports. Gone is the Apache 1.1.8 HTML-Server. We have also ditched the withered Oracle 8.0.6 Home; and at last, we have

(finally) jettisoned the Jinitiator. How cool is that !

But wait, there's more. This presentation is packed with Installation and Upgrade performance-tips. Presented by Senior Installation and Upgrade DBAs this demonstration will give you and your team the First-class advantage.

Maybe you **don't** have time to Install Release-12? Or maybe you **don't** have the budget for an Upgrade?

Or possibly you **don't** have the staff to implement? Then … whatever you do, **don't** miss this presentation!!!!

FACTS: eBusiness 12 (Installation and Upgrade)
A better user experience reduced pop-ups, streamlined workflows and increased personalizations.
New Oracle 10.1.3 iAS Server (Forms/Reports), new Oracle 10.1.2 Apache Server … and more.

High-Level Summary

eBusiness Release-12: Installation and Upgrade Attendees will learn the new Installation and Upgrade Features. Supported Upgrade paths. Setup steps required for a **quick**, **good** and **inexpensive** eBusiness

12 delivery. Step-by-step New-Technology-Features. Technology differences in eBusiness Suite Release-12. As well as a step-by-step Installation/Upgrade document and a step-by-step Setup guide. All of these documents have been proven and perfected in our Production Release-12 Installations.

Supported Upgrade Paths

Upgrading directly to Release 12 of Oracle Applications is supported only for these Oracle Applications release levels: 11.5.7, 11.5.8, 11.5.9 (base, CU1, CU2), and 11.5.10 (base, CU1, CU1).

Oracle Applications Upgrade Paths

Supported upgrade paths for Oracle Applications, including releases that require an interim upgrade step:

Release level	Upgrade path	Documentation References
11.0	Release 11.5.10 CU2 > Release 12	Maintenance Pack Installation Notes, Release 11.5.10 CU2 (Doc ID: 289788.1) > Oracle Applications Upgrade Guide: Release 11i to Release 12 (Doc Library CD)
11.5.1 - 11.5.6	Release 11.5.10 CU2 > Release 12	Maintenance Pack Installation Notes, Release 11.5.10 CU2 (Doc ID: 289788.1) > Oracle Applications Upgrade Guide: Release 11i to Release 12 (Doc Library CD)
11.5.7 or 11.5.8	Release 12	Oracle Applications Upgrade Guide: Release 11i to Release 12 (Doc Library CD)
11.5.9 or 11.5.10	Release 12	Oracle Applications Upgrade Guide: Release 11i to Release 12 (Doc Library CD)

Database Upgrade Requirements

eBusiness Suite Upgrade to Release 12, uses Oracle 10g Release 2 (10.2.0.2).

Release 11.5.9 CU2 and 11.5.10 CU2

Upgrade the database either as described in Chapter 2 (before the upgrade downtime window) or as described in Chapter 3 (during the upgrade downtime window).

Release 11.5.9 base, 11.5.9 CU1, 11.5.10 base, and 11.5.10 CU1

Upgrade the database as described in Chapter 3 (during the upgrade downtime window).

Oracle Applications Release 11.5.7 and 11.5.8 systems

Upgrade the database as described in Chapter 3 (during the upgrade downtime window).

Technology Stack Components

Oracle 10g Application Server (AS) 10.1.2

Oracle 10g Application Server (AS) 10.1.3

Oracle Developer 10g (includes Oracle Forms)

Java (J2SE) native plug-in 1.5.0_08

Java Developer Kit (JDK) 5.0

Managing Long-running Processes

db_file_multiblock_read_count (init.ora parameter)

maximum number of blocks read in one I/O operation during a sequential scan. Remove this parameter permanently from the init.ora file. If it is set to any value, it overrides the _db_file_optimizer_read_count default setting.

DO NOT RESTORE THIS PARAMETER AFTER THE UPGRADE.

_db_file_optimizer_read_count (init.ora parameter)

This undocumented parameter is used by the Cost-based Optimizer. It represents the maximum number of blocks read in one I/O operation during a sequential scan for the purposes of calculating the cost of operations like full table and fast full index scans. The actual number of blocks read in one I/O operation during a sequential scan is independently controlled by this parameter. **The default setting is 8. Do not change this parameter.**

job_queue_processes (init.ora parameter)

Specifies the maximum number of processes that can be created for the execution of jobs. Oracle recommends a value equal to the number of CPUs.

parallel_max_servers (init.ora parameter)

Controls the maximum number of parallel query server processes running in the database. Oracle recommends a value equal to 2 times the number of CPUs.

pga_aggregate_target (init.ora parameter)

See Database Initialization Parameters for Oracle Applications Release 12 (Doc ID: 396009.1) for recommended value.

recyclebin=OFF (init.ora parameter)

Used to control whether the Flashback Drop capability is turned on or off. If the parameter is set to OFF, dropped tables do not go into the recycle bin. If set to ON, dropped tables go into the recycle bin and can be recovered.

Temporary Tablespace

Create tablespace (usually TEMP) as a locally managed tablespace using the temporary file option with a uniform allocation size. If the temporary tablespace is not defined in this way, drop the temporary tablespace and recreate it using the following example as a template:

```
SQL>    drop tablespace TEMP;
SQL>    create TEMPORARY tablespace TEMP
        tempfile 'ts_p_temp1.dbf' size 2048M
        EXTENT MANAGEMENT LOCAL
        UNIFORM SIZE 1M;
```

After the upgrade, restore the previous storage parameters for the temporary tablespace and lower the extent size for the temporary tablespace to a value that is less than 1 MB (for example, 128 K).

The Upgrade Manual Script (TUMS)

The Upgrade Manual Script (TUMS) examines the current configuration and creates a report that lists upgrade tasks that do not apply to your system. This report contains information that is unique to your system configuration, so its output is relevant to your individual upgrade. Omitting the steps listed in the TUMS report can significantly reduce upgrade downtime.

Maintenance Wizard

The Maintenance Wizard is a tool provided by Oracle Support to guide you through the upgrade and code line maintenance process. It draws on instructions from numerous manuals and other documentation (including this document, the Oracle Applications Installation Guide: Using Rapid Install, and the Oracle Applications Release Notes) to provide you with a complete picture of the activities required for an upgrade.

The Maintenance Wizard helps you reduce upgrade tasks by dynamically filtering the necessary steps based on criteria it obtains from your Applications environment. The resulting report is a set of step-by-step instructions of exactly what you need to do to complete your specific upgrade, including any critical patches that your system may require. It can also automatically execute many of the tasks for you, so as to reduce the possibility of errors or accidental omission of vital tasks.

Specifically, the Maintenance Wizard:

    Consolidated, personalized set of instructions in a step-by-step format

    Validation of important activities to prevent downstream issues

    Maintains log and status information for all tasks

     List of Assignable tasks of upgrade tasks

    Downloads, merges, and installs many required patches automatically

    Provides project management utilities to record the time taken for each task and its completion status

Maintenance Mode

Enabling "Maintenance Mode" via adadmin, will shutdown the Workflow Business Events System and set up function security. Maintenance Mode is "Enabled" before initiating an AutoPatch sessions.

Obsolete Columns

During the upgrade process, the Oracle RDBMS DROP COLUMN command marks Oracle Applications columns as unused in the data dictionary, making it possible for the database administrator to drop the columns and reclaim the associated space. It is a good idea to plan this reclamation ahead of time because the process locks the associated tables. Once the space is reclaimed, the upgraded data model looks more like a fresh install (except for customizations). Note that DROP COLUMN has no effect on custom columns.

Customized Help Files

The help files in this release are in HTML format, making them easy to modify using a commercial Web browser or editor. You cannot reapply previously customized help files to Release 12. Therefore, it is important that you save the pre-upgrade customized help files as a reference.

Appendix: Upgrading to Release 12

Upgrading to Release 12

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ALL PRODUCT ACCESS - Version: 12.0
Information in this document applies to any platform.
This document provides *summary level information* for upgrading to Oracle E-Business Suite

Release 12. Complete information is available in the **Oracle Applications Upgrade Guide: Release 11i to Release 12** (B31566-01). To access this guide, click Oracle Applications Documentation and select Oracle E-Business Suite Online Documentation Library Release 12. From the Documentation tab, select the upgrade guide from the Technology Maintenance section.
Designed to support businesses in today's global economy, Release 12 helps you think globally to make better decisions, work globally to be more competitive, and manage globally to lower costs and increase performance. Upgrading to Release 12 will provide you with many benefits:

- A better user experience:

  o   Reduced pop-ups and duplicate screens

  o   Re-designed and streamlined entire workflows

  o   Reduced the number of steps to complete key tasks

  o   Improved overall look & feel and visual style

  o   Increased personalization capabilities

- Over 1,500 new features in Release 12; with significant new functionality in the Financials area.

- The best in technology, including: Oracle Database Server 10g R2 and Oracle Application Server 10g R3.

Upgrading to Release 12 Details

Upgrade Paths

Upgrading directly to Release 12 is supported for these Oracle Applications E-Business Suite release levels: 11.5.7, 11.5.8, 11.5.9 (base CU1, CU2) and 11.5.10 (base CU1, CU2). Release levels 11.5.6 and lower will first require an upgrade to 11.5.10 CU2.

To complete the upgrade to Release 12, you must migrate or upgrade your database to Oracle 10g Release 2 (10.2.0.2). Please see the Upgrade Guide, referenced above, for more detailed information.

Upgrade Process

For Release 12, the upgrade process has been enhanced and streamlined. New features have been added to Rapid Install and AutoPatch to increase their capabilities. In addition, an upgrade no longer relies on AutoUpgrade processes. All upgrade functionality has been consolidated into a single unified upgrade driver that performs the upgrade without reliance on the information formerly captured on the AutoUpgrade screens.

Rapid Install

New in Release 12, customers who are upgrading need to utilize the Rapid Install which will provide the most up-to-date, certified version of Oracle's Application products, along with the certified technology stack components. During your upgrade, a new file system will be created for the application (middle) tier components and a new file system for the database. After the upgrade, you will run Rapid Install again to configure servers and start services.

Rapid Install provides the most up-to-date, certified version of Oracle Applications products, along with the certified technology stack components. In an upgrade, it creates the new file system for the application (middle) tier components and the new file system for the database. After the upgrade, you run Rapid Install again to configure servers and start services.

Oracle E-Business Suite Release 12 Rapid Install is available:

- Via download: Oracle E-Delivery

- Physical Media: Oracle Store

Maintenance Wizard

The Maintenance Wizard is a tool provided by Oracle Support to guide you through the upgrade and code line maintenance process. It draws on instructions from numerous manuals and other documentation to provide you with a complete picture of the activities required for an upgrade.

The Maintenance Wizard helps you reduce upgrade tasks by dynamically filtering the necessary steps based on criteria it obtains from your Applications environment. The resulting report is a set of step-by-step instructions of exactly what you need to do to complete your specific upgrade, including any critical patches that your system may require. It can also automatically execute many of the tasks for you, so as to reduce the possibility of errors or accidental omission of vital tasks. For information on setting up and using the Maintenance Wizard, see MetaLink Note 215527.1.

Appendix: Oracle Applications 12 Installation and Upgrade Notes

Oracle Applications Installation and Upgrade Notes Release 12 (12.0) for Linux (64-bit)

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Release 12 (12.0) for Linux (64-bit)

B31576-01

May 2007

See Change Record

This document updates *Oracle Applications Installation Guide: Using Rapid Install* and *Oracle Applications Upgrade Guide: Release 11i to Release 12* with Linux (64-bit)-specific information for Oracle Applications Release 12 (12.0). Refer to the information contained here, and to the appropriate manual, when you install or upgrade your system. This document applies to the Linux 64-bit operating system on the x86-64 hardware architecture. For clarification on Oracle Applications on Linux x86-64, see *Frequently Asked Questions: Oracle Applications Support on x86-64* (Oracle*MetaLink* Doc ID: 343917.1).

Oracle Applications Release Notes (Oracle*MetaLink* Doc ID: 405293.1) and *Oracle Applications NLS Release Notes* (Oracle*MetaLink* Doc ID: 405294.1), available on Oracle*MetaLink*, describe additional required tasks, including applying AD patches and any Release Update Packs (RUP) that apply to the products in your system.

This document may be updated on a weekly basis. Currently, it contains the following sections:

- Certification Information

- Operating Systems Requirements

- Software Requirements

- Other Requirements

- Before Installing and Upgrading

- After Installing and Upgrading

- Change Record

- Documentation Accessibility

Certification Information

The latest certification information for Oracle Applications Release 12 is available on Oracle*MetaLink* (Certify):

http://metalink.oracle.com

Operating Systems Requirements

Oracle Applications is supported on the Linux 64-bit operating system running on the x86-64 hardware architecture.

Operating System Supported Versions

The following table lists the supported operating system versions.

Operating System Name	Supported Version
Oracle Enterprise Linux	4.0 - Update 4 or higher (64-bit)
Red Hat Enterprise Linux	4.0 - Update 4 or higher (64-bit)
SUSE Linux Enterprise Server	9 - SP3 or higher (64-bit)

Kernel Requirements

The following table lists the required minimum kernel versions.

Operating System	Kernel	Instructions
Oracle Enterprise Linux	2.6.9-42.0.0.0.1.EL	To determine version, enter: $ uname - r
Red Hat Enterprise Linux AS/ES 4.0	2.6.9-42.EL	To determine version, enter: $ uname - r
SUSE Linux Enterprise Server 9	2.6.5-7.244	To determine version, enter: $ uname - r

Required Packages

The following table lists the required packages and the minimum required versions for Linux (64-bit).

Additional Information: Refer to your vendor's operating system installation manual or the operating system media for information on obtaining and applying packages.

Operating System	Required Packages
Oracle Enterprise Linux*	- binutils-2.15.92.0.2-21.x86_64.rpm - compat-db-4.1.25-9.i386.rpm (32-bit) - compat-db-4.1.25-9.x86_64.rpm - control-center-2.8.0-12.rhel4.5.x86_64.rpm - gcc-3.4.6-3.x86_64.rpm - gcc-c++-3.4.6-3.x86_64.rpm - glibc-2.3.4-2.25.i386.rpm (32-bit) - glibc-2.3.4-2.25.x86_64.rpm - glibc-devel-2.3.4-2.25.i386.rpm (32-bit) - glibc-devel-2.3.4-2.25.x86_64.rpm - glibc-common-2.3.4-2.25.x86_64.rpm - gnome-libs-1.4.1.2.90-44.1.x86_64.rpm - libstdc++-3.4.6-3.i386.rpm (32-bit) - libstdc++-3.4.6-3.x86_64.rpm - libstdc++-devel-3.4.6-3.i386.rpm (32-bit) - libstdc++-devel-3.4.6-3.x86_64.rpm - libgcc-3.4.6-3.i386.rpm (32-bit) - libgcc-3.4.6-3.x86_64.rpm - make-3.80-6.EL4.x86_64.rpm - pdksh-5.2.14-30.3.x86_64.rpm - setarch-1.6-1.x86_64.rpm - sysstat-5.0.5-11.rhel4.x86_64.rpm - xscreensaver-4.18-5.rhel4.11.x86_64.rpm - openmotif21-2.1.30-11.RHEL4.6.x86_64.rpm** - libaio-0.3.105-2.x86_64.rpm

Red Hat Enterprise Linux AS/ES 4.0*

- libaio-0.3.105-2.i386.rpm (32-bit)

- libaio-devel-0.3.105-2.x86_64.rpm

- libaio-devel-0.3.105-2.i386.rpm (32-bit)

- binutils-2.15.92.0.2-21.x86_64.rpm

- compat-db-4.1.25-9.i386.rpm (32-bit)

- compat-db-4.1.25-9.x86_64.rpm

- control-center-2.8.0-12.rhel4.5.x86_64.rpm

- gcc-3.4.6-3.x86_64.rpm

- gcc-c++-3.4.6-3.x86_64.rpm

- glibc-2.3.4-2.25.i386.rpm (32-bit)

- glibc-2.3.4-2.25.x86_64.rpm

- glibc-devel-2.3.4-2.25.i386.rpm (32-bit)

- glibc-devel-2.3.4-2.25.x86_64.rpm

- glibc-common-2.3.4-2.25.x86_64.rpm

- gnome-libs-1.4.1.2.90-44.1.x86_64.rpm

- libstdc++-3.4.6-3.i386.rpm (32-bit)

- libstdc++-3.4.6-3.x86_64.rpm

- libstdc++-devel-3.4.6-3.i386.rpm (32-bit)

- libstdc++-devel-3.4.6-3.x86_64.rpm

- libgcc-3.4.6-3.i386.rpm (32-bit)

- libgcc-3.4.6-3.x86_64.rpm

- make-3.80-6.EL4.x86_64.rpm

- pdksh-5.2.14-30.3.x86_64.rpm

- setarch-1.6-1.x86_64.rpm

- sysstat-5.0.5-11.rhel4.x86_64.rpm

- xscreensaver-4.18-5.rhel4.11.x86_64.rpm

- openmotif21-2.1.30-11.RHEL4.6.x86_64.rpm**

- libaio-0.3.105-2.x86_64.rpm

- libaio-0.3.105-2.i386.rpm (32-bit)

- libaio-devel-0.3.105-2.x86_64.rpm

libaio-devel-0.3.105-2.i386.rpm (32-bit)

SUSE Linux Enterprise Server 9

- binutils-2.15.90.0.1.1-32.10.x86_64.rpm

- binutils-32bit-9-200505232206.x86_64.rpm

- compat-2004.7.1-1.2.x86_64.rpm

- compat-32bit-9-200407011229.x86_64.rpm

- compat-sles8-1.3-93.3.x86_64.rpm

- db-32bit-9-200407011229.x86_64.rpm

- db1-32bit-9-200407011229.x86_64.rpm

- gcc-3.3.3-43.41.x86_64.rpm

- gcc-c++-3.3.3-43.41.x86_64.rpm

- glibc-2.3.3-98.61.x86_64.rpm

- glibc-32bit-9-200512100800.x86_64.rpm

- glibc-devel-32bit-9-200512100801.x86_64.rpm

- gnome-libs-1.4.1.7-671.1.x86_64.rpm

- gnome-libs-32bit-9-200407011229.x86_64.rpm

- gnome-libs-devel-1.4.1.7-671.1.x86_64.rpm

- libaio-devel-32bit-9-200407011229.x86_64.rpm

- libgcc-3.3.3-43.41.x86-64.rpm

- libstdc++-3.3.3-43.41.x86_64.rpm

- libstdc++-devel-3.3.3-43.41.x86_64.rpm

- libstdc++-devel-32bit-9-200407011229.x86_64.rpm

- linux32-1.0-341.1.x86_64.rpm

- make-3.80-184.1.x86_64.rpm

- pdksh-5.2.14-780.7.x86_64.rpm

- sysstat-5.0.1-35.7.x86_64.rpm

- XFree86-devel-32bit-9-200512021458.x86_64.rpm

- xscreensaver-4.16-2.6.x86_64.rpm

- openmotif21-libs-32-bit-9-200511172351.x86_64.rpm

- libaio-0.3.102-1.2.x86_64.rpm

- libaio-devel-32bit-9-200502241149.x86_64.rpm (32-bit)

- libaio-32bit-9-200502241149.x86_64.rpm (32-bit)

- libaio-devel-0.3.102-1.2.x86_64.rpm

Footnotes:
*After installing these patches, run ldconfig -v.
**For Oracle Enterprise Linux 4.0 and Red Hat 4.0, the openmotif version must be 2.1.30, and the package name must be in the following format: openmotif21-2.1.30.xxx. For example, openmotif-2.2.3.10.RHEL4.5 is not supported.

JDK 5.0 Requirements

JDK is bundled with Oracle Applications.

Additional Information:

Check the Sun Web site for any updates to the JDK 5.0 requirements for Linux (64-bit):

http://java.sun.com/j2se/1.5.0/install-linux.html#requirements

Software Requirements

The following maintenance tools must be installed on all machines, and their locations specified both in the PATH of the account that runs Rapid Install and in the PATH of the accounts that will own the database tier and application tier file systems. (For all Linux 64-bit operating systems.)

> ar
> gcc
> g++
> ksh
> ld
> linux32
> make
> X Display Server

Other Requirements

The following are other requirements for Linux (64-bit).

Kernel Settings

Edit the /etc/sysctl.conf file to configure your kernel settings. After editing the file, use the "sysctl -p" command or restart the system to invoke the new settings.

Note: If the current value for any parameter is higher than the value listed in the following table, then do not change the value of that parameter.

This table lists the kernel settings for Oracle Enterprise Linux 4.0, Red Hat Enterprise Linux AS/ES 4.0, and SUSE Linux Enterprise Server 9:

Parameter	Value
kernel.semmsl	256
kernel.semmns	32000
kernel.semopm	100
kernel.semmni	142
kernel.shmall	2097152
kernel.shmmax	Half the size of the physical memory (in bytes), and at least 2147483648
kernel.shmmni	4096
kernel.msgmax	8192
kernel.msgmnb	65535
kernel.msgmni	2878
fs.file-max	65536
net.ipv4.ip_local_port_range	1024 65000
net.core.rmem_default	262144
net.core.rmem_max	262144
net.core.wmem_default	262144
net.core.wmem_max	262144

On SUSE Linux Enterprise Server 9.0, ensure the following kernel parameter is set:
disable_cap_mlock = 1

Domain Name System (DNS) Resolver Parameters

Two Domain Name System (DNS) resolver parameters (timeout and attempts) are set by default to low values when the operating system is installed. These low values may cause attempted network connections to an Oracle database to fail. If this happens, add or update the following entries to these minimum settings in the /etc/resolv.conf file on each server node:

options attempts:5
options timeout:15

Verifying Host Names

Use the following to verify host name settings:

For Oracle Enterprise Linux, and Red Hat Enterprise Linux AS/ES 4.0:

1. Verify that the /etc/hosts file is formatted as follows:

   127.0.0.1 localhost.localdomain localhost
   <ip_address> <node_name>.<domain_name> <node_name>

2. Verify that the /etc/sysconfig/network file is formatted as follows:

   HOSTNAME=<node_name>.<domain_name>

3. If the /etc/sysconfig/networking/profiles/default/network file exists, remove it.

4. If you changed any files in the previous steps, restart the system.

For SUSE Linux SLES9:

1. Verify that the /etc/hosts file is formatted as follows:

   127.0.0.1 localhost.localdomain localhost
   <ip_address> <node_name>.<domain_name> <node_name>

2. If you changed any files in the previous step, restart the system.

Modifying the Number of Open File Descriptors
Open the **/etc/security/limits.conf** file and change the existing values for "hard" and "soft" parameters as follows.
Restart the system after making changes.

Note: If the current value for any parameter is higher than the value listed in this document, then do not change the value of that parameter.

```
 * hard nofile 65535
 * soft nofile 4096
 * hard nproc 16384
 * soft nproc 2047
```

Before Installing or Upgrading

Ensure you have the latest Rapid Install patch as described in *Oracle Applications Release Notes* (Oracle*MetaLink* Doc ID: 405293.1) before you begin your installation or upgrade. Complete all operating system requirements, software requirements, and other requirements before installing or upgrading Oracle Applications.

After Installing or Upgrading

Perform the following steps after installing or upgrading to Release 12 and before allowing users to access the system.

LD_LIBRARY_PATH Environment Variable

Dynamic libraries are used as part of the relinking and execution processes. The LD_LIBRARY_PATH environment variable is used by Oracle Applications to locate the required dynamic libraries at runtime. Rapid Install sets LD_LIBRARY_PATH as follows:

On each application tier server node:

LD_LIBRARY_PATH is set in three places:

- $APPL_TOP/admin/adovars.env

- $ORA_CONFIG_HOME/10.1.2/<CONTEXT_NAME>.env, in the 10.1.2 Oracle home directory

- $ORA_CONFIG_HOME/10.1.3/<CONTEXT_NAME>.env, in the 10.1.3 Oracle home directory

To change the value in any of the application tier locations, use the Edit Parameters function of the OAM AutoConfig tool to update the following fields (as required). Then, run AutoConfig (adautocfg.sh) to implement the changes.

Location	Parameter
Adovars	LD_LIBRARY_PATH
10.1.3 Oracle Home	LD_LIBRARY_PATH
Tools Oracle Home	LD_LIBRARY_PATH

Additional Information: See AutoConfig in *Oracle Applications Maintenance Utilities* for more information on AutoConfig.

On the database server node:

LD_LIBRARY_PATH is set in $ORACLE_HOME/<CONTEXT_NAME>.env.

Net Service Listeners in Multi-user Installations

Net Service Listeners use the /var/tmp.oracle directory to store temporary files. To give all users in a multi-user installation write privileges, update /var/tmp/.oracle with 777 permissions:

$ chmod 777 /var/tmp/.oracle