

# ORACLE PROVISIONING AND PATCH AUTOMATION PACK FOR ORACLE DATABASE

## KEY FEATURES AND BENEFITS

### FEATURES

- Automated patching for Oracle products and the operating system
- Critical Patch Facility
- Software Image Library
- Flexible, extensible Deployment Procedure based patching and provisioning
- Integration with Oracle Real Application Testing (RAT)
- Database, RAC, Clusterware and Automated Storage Management
- Single click cluster scale out and scale back
- Single instance-to-RAC conversion
- Bare metal OS provisioning
- CLI driven runtime
- Provisioning and deployment reports

### BENEFITS

- Standardized software deployment processes reduce operational risks
- Out-of-box best practices lower cost of deployment
- Mass scale operations increase operational efficiency

*The Oracle Provisioning and Patch Automation Pack for Oracle Database automates the deployment of software, applications, and patches. It makes critical data center operations easy, efficient and scalable resulting in lower operational risk and cost of ownership. The ability to provision the entire software stack that includes the operating system, the and the database, supplemented by comprehensive reporting tools make Provisioning and Patch Automation Pack an extremely significant entity in overall Database Management space.*

The salient features of the Pack are described in brief below.

#### **End-to-end patching of Oracle products**

Enterprise Manager includes an end-to-end patching solution that works seamlessly across a wide range of product patches and customer environments. The patching application automates the deployment of Oracle patches for the database (including Clusterware, Real Application Cluster and Automatic Storage Management) and the underlying operating system. The application takes care of pre and post patching steps such as shutdown and startup of services, and dictionary changes, if required.

The patching application leverages the flexible Deployment Procedure framework, that lets Users add custom steps for specific actions within the patching process. Users can patch hundreds of databases concurrently in one single downtime window and are automatically notified upon completion of process.

#### **Critical Patch Facility**

Enterprise Manager's Critical Patch Facility proactively and regularly queries Oracle My Oracle Support for critical security patches that have been released and notifies the administrators of only those patches applicable to them. It can also invoke the Patch application, in context, and remediate the vulnerable installations. The Critical Patch Facility also supports an offline mode to serve the case of data centers that are not connected to the internet.

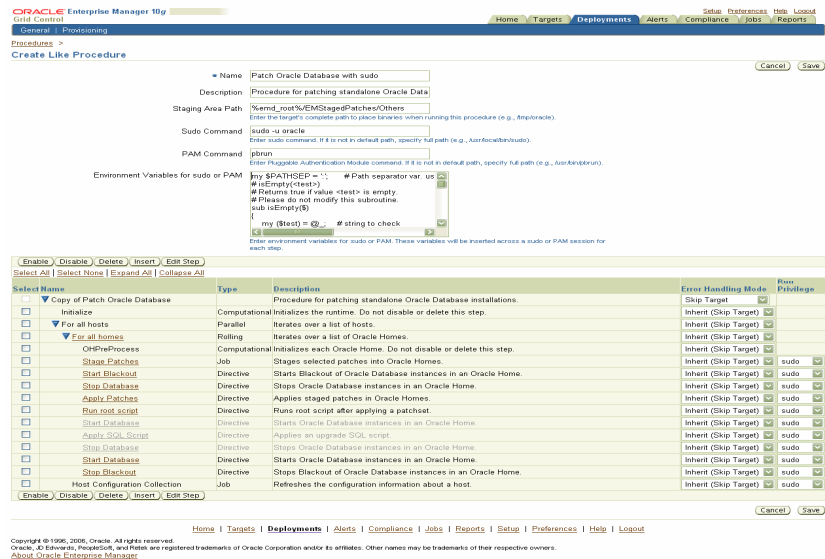


Figure 1: Deployment Procedure based patching

### Patching of operating systems

Enterprise Manager provides a comprehensive patching solution for popular operating systems like Linux, Windows and Solaris. Enterprise Manager integrates with Unbreakable Linux Network (ULN) to provide periodic automatic updates for Linux hosts. Users can visualize compliance information and ensure that any critical Linux patches released by Oracle are automatically applied. Several Linux hosts to be grouped together and patched at once making the process completely lights out. With the latest release, users can also define custom channels and configuration file channels to update custom rpms and configuration files on hosts. Errata or advisory information for Packages is also available.

### Server and Software provisioning

The philosophy of grid computing centers on the ability to deploy and reassign hardware and software resources quickly and efficiently and make them operational.

Enterprise Manager includes the functionality of bare metal provisioning of Linux operating system through a standardized PXE (Preboot Execution Environment) booting process. It also facilitates delivery of additional software on top of the operating system. As a part of this process, administrators can associate images with specific hardware and storage templates to cover the variety of hardware population. The provisioning process also registers the server as a target in Enterprise Manager, so that it can be managed henceforth.

Enterprise Manager comes with out-of-box Deployment Procedures to install the Oracle RAC Database, Oracle Clusterware and Oracle Automatic Storage Management from gold images following the best practices for maximum availability. The “gold images” are tested and approved software images and can be patched to any level before deployment. The provisioning procedures automate the installation of the products and configure storage, networking and load balancers in the process. These operations could

otherwise be time-consuming and error prone.

Enterprise Manager also facilitates the setting up of Disaster Recovery (DR) systems. Using a simple wizard driven approach one can setup Physical or Logical Standby environments.

### Complete Lifecycle Management

The provisioning features of Oracle Provisioning and Patch Automation Pack can be used to achieve complete automation of Software Lifecycle such as promotion from test to production environments. This can be utilized to establish test environments to be used for Real Application Testing.

### Cluster scale out and scale back

To address the growing business demands, modern data centers require the ability to augment and relocate resources quickly and efficiently and make them operational. The core foundation of Oracle’s Grid architecture lies in scaling out the cluster in a fleet-footed manner. Through Enterprise Manager one can add or drop a node of RAC with a single click of the mouse. All the complexities of provisioning and configuring the agent, Clusterware, storage, network and the database software are automated and hidden from the end user.

Oracle Provisioning and Patch Automation Pack also has the ability to convert a single instance non-RAC database to a multi-node RAC database. Using a wizard driven interface the administrator is guided through the process. An easy workflow makes this job easy and convenient for administrators.

**Extend Real Application Clusters**

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**Select Real Application Clusters (RAC)**

Select the Oracle Real Application Clusters (RAC) you wish to extend. The Clusterware and Automatic Storage Management (ASM) will also be extended if these do not already exist.

Search

[Expand All](#) | [Collapse All](#)

Select Name	Member Nodes	Oracle Home	Platform	Product
<input type="checkbox"/> Available Cluster Databases <input checked="" type="radio"/> orcl (1)	stawh15.us.oracle.com	/u01/app/oracle/OraDB10g_home2	Red Hat Enterprise Linux AS release 4 (Nahant Update 3)	Oracle Database 10.2.0.3.0
<input type="radio"/> raccac (2)	stawh19.us.oracle.com, stawh18.us.oracle.com	/u01/app/oracle/rac_10202/db_1	Red Hat Enterprise Linux AS release 4 (Nahant Update 3)	Oracle Database 10.2.0.2.0
<input type="radio"/> racgdd (2)	stawh18.us.oracle.com, stawh19.us.oracle.com	/u01/app/oracle/rac/db_1	Red Hat Enterprise Linux AS release 4 (Nahant Update 3)	Oracle Database 10.2.0.3.0

[▶Reference host options - \(stawh15.us.oracle.com\)](#)

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**Select New Nodes**

Select the destination hosts and enter the respective Virtual Node Names.

Host	Virtual Node Name
<input type="text"/>	<input type="text"/>

To select new nodes, use either the 'Add...' option or the 'Import From File...' option.

TIP Select hosts that are managed by agents of version 10.2.0.3.0

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**User Credentials (Override Preferred Credentials)**

Preferred Credentials will be enabled only when the credentials for all the targets are available. You may set the Preferred Credentials by selecting 'Preferences' link in Enterprise Manager

Figure 3: Extending RAC cluster with single click

#### RELATED SERVICES

The following services are available from Oracle Support Services:

- Update Subscription Services
- Product Support Services
- OnlineDBA

#### Conclusion

The essence of the Oracle Enterprise Manager Provisioning and Patch Automation Pack lies in reducing manual labor, especially tedious and error prone tasks, while creating standard software environments that can be managed in a scalable manner. With the rich set of features, it has become an important element in automating operations around database within the data center.

#### Contact Us

For more information about Oracle Enterprise Manager Provisioning and Patch Automation Pack, please visit [oracle.com](http://oracle.com) or call +1.800.ORACLE1 to speak to an Oracle representative.



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