# ORACLE PROVISIONING AND PATCH AUTOMATION PACK

**ORACLE** 11*g*
ENTERPRISE MANAGER

FEATURES

- Automated patching for Oracle products and the operating system
- Integration with My Oracle Support
- Patch Recommendations
- Patch Validation and Single Click Merge Patch request process
- Software Image Library
- Flexible, extensible Deployment Procedure based patching and provisioning
- Application Lifecycle Management
- Fusion Middleware, WebLogic Server and Application Server provisioning
- Database, RAC, Grid Infrastructure, Clusterware and Automated Storage Management provisioning across versions and platforms
- Single click cluster scale out and scale back
- Single instance-to-RAC conversion
- Bare metal OS provisioning
- CLI driven runtime
- Support for secure authentication like SUDO and PAM
- Provisioning and Patch 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
- Increased Availability through Integrated Systems and Support Management
- Single console to manage your IT environment and support experience

*The Oracle Provisioning and Patch Automation Pack automates the deployment of software, applications, and patches. It provides the ability to provision the entire software stack including the operating system, middleware, database along with comprehensive reporting tools making the Provisioning and Patch Automation Pack a key component in the overall System Management space. These capabilities are critical to making data center operations easy, efficient and scalable resulting in lower operational risk and cost of ownership. Following is a brief description of the key features.*

## End-to-End Patching of Oracle Products

Oracle 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, Grid Infrastructure, Real Application Cluster and Automatic Storage Management), Oracle Application Server, 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.

## 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 can be grouped together and patched at once making the process completely lights out. 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.

**ORACLE**®

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 Database (both Single Instance and RAC), Oracle Grid Infrastructure, Oracle Clusterware, Oracle Automatic Storage Management and Oracle Application Server 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.

In addition to provisioning software from gold images stored in the software library, administrators can also use Oracle Enterprise Manager Grid Control to clone software from reference installations. For example, administrators can use predefined, customizable deployment procedures to clone existing installations of Oracle Fusion Middleware 11g, Oracle WebLogic Server, and/or Oracle Application Server 10g software. This simplifies and speeds up the process of building environments to support the life cycle of a new application.
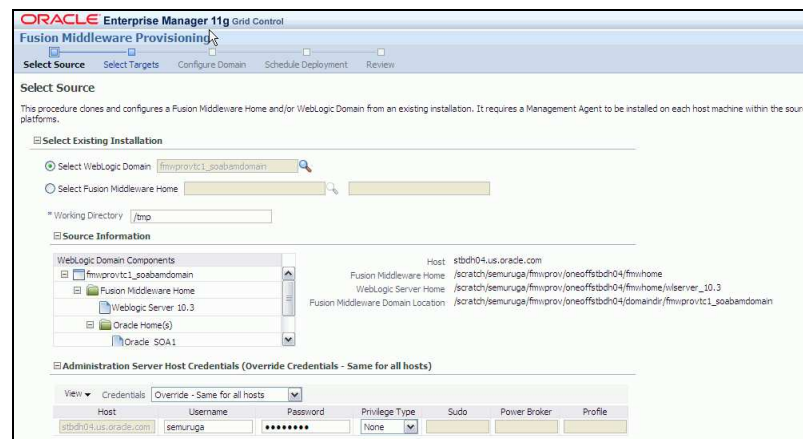


**Figure 1: Clone Oracle Fusion Middleware and WebLogic Server software**

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

ORACLE®

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 quick and easy manner. Through Enterprise Manager one can add or drop a node of RAC with a single click. All the complexities of provisioning and configuring the agent, Clusterware, Grid Infrastructure, 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.

Through Oracle Enterprise Manager Grid Control, administrators can rapidly scale out an Oracle WebLogic Server domain or Oracle Application Server Cluster with additional managed servers to accommodate an increase in application load. For Oracle Fusion Middleware 11g, Enterprise Manager allows administrators to add a new managed server or clone a managed server to increase capacity of an Oracle WebLogic Server Cluster.

## My Oracle Support and Enterprise Manager Integration

My Oracle Support is now integrated with Enterprise Manager; this integration provides system administrators with a single console that personalizes their support experience along with seamless management of their IT environments.

Through this integration users receive, comprehensive patch recommendations, ability to create patching plans for organizing rollouts, validations for conflicts, ability to download an existing merged patch or request a new merged patch and directly automate the deployment of patches.
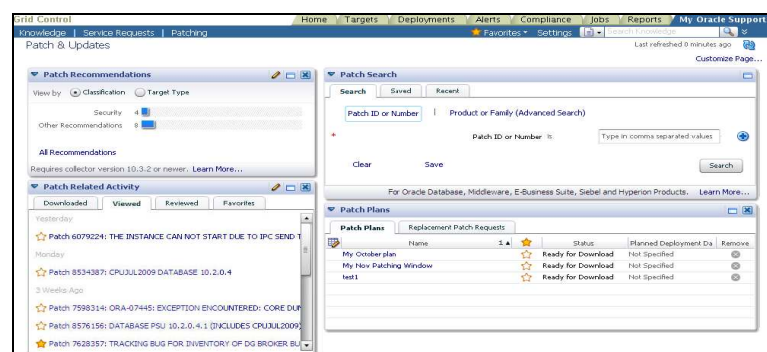


**Figure 2: My Oracle Support Integration with Enterprise Manager**

Through the My Oracle Support Integration with Enterprise Manager, users have access to Community forums making visible customer inputs on patches along with the number of times a specific patch has been downloaded.

**ORACLE**

Patch plans enable accumulation of multiple patches and affected targets, check for conflicts and integrate with Deployment Procedures to automate the deployments.
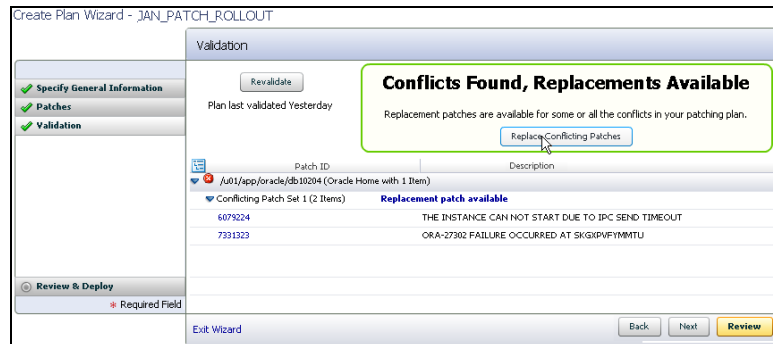


**Figure 3: Patch Conflict Validation and Single Click Merge Request Process**

Users via automated patch conflict validation can download existing merged patches or request for a new merge patch all through single integrated console.

## 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 its rich set of automation capabilities, the Provisioning and Patch Automation Pack has become an integral part of today's data center

An independent research study found that customers using the Provisioning and Patch Automation Pack can help organizations achieve a positive 124% return on investment (ROI) with a payback period of 15 months. For more details access, The Total Economic Impact™ Of Oracle Enterprise Manager Configuration Management Pack And Provisioning And Patch Automation Pack by Forrester research on Oracle.COM

## Contact Us

For more information about Oracle Enterprise Manager Provisioning and Patch Automation Pack, please visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.

Oracle is committed to developing practices and products that help protect the environment

ORACLE®