Session # S316978

Oracle Enterprise Manager

Configuration Management Unleashed: Top 10 Expert Tips

Sudip Datta & Andy Oppenheim
Enterprise Manager, Product Management
Oracle Corporation

Gregg Grimes
Database Management Practices
Dell
Safe Harbor Statement

The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making a purchasing decision. The development, release, and timing of any features or functionality described for Oracle’s products remains at the sole discretion of Oracle.
Configuration Management Unleashed: Top 10 Expert Tips

Configuration Management is probably one of Enterprise Manager’s best kept secrets. This immensely powerful functionality enables you to keep tabs on hardware, software and application configurations across your entire datacenter, and helps resolve a number of really difficult problems, including tracking drift from gold standards, auditing configuration changes, detecting and resolving performance issues resulting from configuration changes.

This must-attend session will outline the top 10 ways Oracle Enterprise Manager configuration management functionality will allow you to become a hero – and boost your career – by quickly resolving complex problems.
Business-Driven IT Management

Business Transactions
- Web Portal
- Product Catalog
- Order Entry
- Other Services

User Experience

Business Services

Business-Driven Application Management
- Understand business needs
- Manage from business perspective

Integrated Application-to-Disk & Cloud Management
- Eliminate management silos
- Create agile IT for dynamic business

Integrated Systems Management & Support
- Proactively identify and fix problems
- Maximize business productivity

Oracle Support

Applications
- Middleware
- Databases
- Servers
- Storage

Services Cloud

Integrated Application-to-Disk and Cloud Management

Oracle Enterprise Manager 11g
Program Agenda

• Configuration Management:
  – Asset Discovery
  – Drift Analysis
  – Auditing and Enforcement

• Top 10 Configuration Tips
  – 1-5: Knowing What You Have
    – Detailed Walkthrough
  – 6-7: Standardizing Configurations
    – Detailed Walkthrough
  – 8-10: Auditing and Enforcement
    – Detailed Walkthrough

• Customer Case Study – Dell
Top 10 Configuration Tips

How Can I...

1. Determine how many instances at what versions are installed?
2. Eliminate potential issues due to an incorrect parameter?
3. Ensure that a specific department does not own a specific hardware?
4. Furnish configuration and diagnostic information for faster problem resolution?
5. Ensure my system meets pre-requisites for Patch deployment?
6. Compare against golden standards or baselines?
7. Enforce Test and Production systems are in sync?
8. Detect unauthorized configuration changes?
9. Make sure critical patches are installed in Production systems?
10. Enforce best practices for Security and Reporting?
Oracle Enterprise Manager
Configuration Management

Knowing What You Have

Asset Discovery
Automated inventory
HW/SW configurations
- Operating systems
- Hardware
- Database
- Packaged apps
Relationships
Configuration search

Standardizing Configurations

Drift Analysis
Configuration comparison
- Across the stack
- Across lifecycles
- Baseline & Gold Standard
- 1-to-1, 1-to-many
Drift reconciliation
Configuration search

Configuration Compliance

Auditing and Enforcement
Real-time configuration auditing
Policy management for SOX, COBIT, etc.
Out-of-the-box policies
User-defined policies
User-defined groups
Compliance dashboard
Top 10 Configuration Tips: How Can I...?

1. Determine how many instances at what versions are installed
2. Eliminate potential issues due to an incorrect parameter
3. Ensure that a specific department does not own a specific hardware
4. Furnish configuration and diagnostic information for faster problem resolution
5. Ensure my system meets pre-requisites for Patch deployment
6. Compare against golden standards or baselines
7. Enforce Test and Production systems are in sync
8. Detect unauthorized configuration changes
9. Make sure critical patches are installed in Production systems
10. Enforce Security and Best Practices and Reporting

Knowing What You Have

Asset Discovery

- Automated Inventory
- HW/SW Configurations
  - Operating Systems
  - Hardware
  - Database
  - Packaged Apps
- Relationships and impact analysis
- Configuration Search

© 2010 Oracle Corporation
EM Home page provides an summary of all installed products and Versions
Configuration Management

#1, Determine How Many Instances at What Versions Are Installed

Select any product from the drop down menu to view a summary.
For detailed reporting, go to the Reports TAB.
# Configuration Management

## #1, Determine How Many Instances at What Versions Are Installed

Summary reports are also available for all portions of your Enterprise.

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle HTTP/HTTPS Traffic</td>
<td>Displays detailed information about Oracle HTTP/HTTPS Traffic.</td>
</tr>
<tr>
<td>Client Configurations</td>
<td></td>
</tr>
<tr>
<td>Client Compliance Summary</td>
<td></td>
</tr>
<tr>
<td>Client Configurations Summary</td>
<td></td>
</tr>
<tr>
<td>Hardware</td>
<td></td>
</tr>
<tr>
<td>Hardware Summary</td>
<td></td>
</tr>
<tr>
<td>Hardware Summary (Group)</td>
<td></td>
</tr>
<tr>
<td>Linux Operating System Patching</td>
<td></td>
</tr>
<tr>
<td>Non-Compliant Packages</td>
<td>Displays out-of-date and rogue packages across all hosts.</td>
</tr>
<tr>
<td>Non-Compliant Packages (Host)</td>
<td>Displays out-of-date and rogue packages on a host.</td>
</tr>
<tr>
<td>Patchable Linux Groups Compliance</td>
<td>Displays compliance information for all Patchable Linux Groups.</td>
</tr>
<tr>
<td>Patchable Linux Hosts Compliance</td>
<td>Displays compliance information for all Patchable Linux Hosts.</td>
</tr>
<tr>
<td>Operating System</td>
<td></td>
</tr>
<tr>
<td>Operating System Summary</td>
<td>Displays operating system summary across all hosts.</td>
</tr>
<tr>
<td>Operating System Summary (Group)</td>
<td>Displays operating system summary across all hosts within a group.</td>
</tr>
<tr>
<td>Oracle Database Configuration</td>
<td></td>
</tr>
<tr>
<td>Database Instance Overview</td>
<td>Displays SGA information and non-default initialization parameters for an Oracle Database.</td>
</tr>
<tr>
<td>Oracle Database Configuration Summary</td>
<td>Displays configuration summary for an Oracle Database.</td>
</tr>
<tr>
<td>Oracle Database Software</td>
<td></td>
</tr>
<tr>
<td>Oracle Database Software Summary</td>
<td>Displays software summary across all Oracle Databases.</td>
</tr>
<tr>
<td>Oracle Database Software Summary (Group)</td>
<td>Displays software summary across all Oracle Databases within a group.</td>
</tr>
<tr>
<td>Oracle Database Topology</td>
<td>Displays the topology distribution of Databases in the environment.</td>
</tr>
<tr>
<td>Oracle Real Application Cluster (RAC) Database Topology</td>
<td>Displays the topology distribution of Real Application Cluster (RAC) Databases in the environment.</td>
</tr>
<tr>
<td>Oracle Fusion Middleware Software</td>
<td></td>
</tr>
<tr>
<td>Oracle Fusion Middleware Software Summary</td>
<td>Displays software summary across all Fusion Middleware Installations.</td>
</tr>
<tr>
<td>Oracle Fusion Middleware Software Summary (Group)</td>
<td>Displays software summary across all Oracle Fusion Middleware Installations within a group.</td>
</tr>
<tr>
<td>Oracle Home Patch Advisories</td>
<td></td>
</tr>
<tr>
<td>Affected Oracle Homes (Host)</td>
<td>Displays all Oracle Homes on a host, that are vulnerable to one or more alerts.</td>
</tr>
<tr>
<td>Aggregated Patching History</td>
<td>Displays total patches applied for each version over the time period.</td>
</tr>
</tbody>
</table>
Configuration Management

#1, Determine How Many Instances at What Versions Are Installed

For detailed reporting, go to the Reports TAB.
For detailed reporting, go to the Reports TAB
Configuration Management
#2, Eliminate Potential Issues Due to an Incorrect Parameter

Let's go back to the EM home page and the Deployment TAB.
Configuration Management

#2, Eliminate Potential Issues Due to an Incorrect Parameter

Here we have access to a rich set of Configuration Management Features including Search.

- Perform searches on the detailed information.
- Compare the detailed information of hosts and databases.
- Search My Oracle Support for patches, and subsequently manage their deployment.
- Clone a database or Oracle home to an alternative location.
- Manage the configuration collection process.
- Orchestrate Provisioning and Patching through Deployment Procedures.
In this case, let's search the `init` parameters for an incorrect parameter.
You have the ability to define your search criteria
In this case, there have been issues where Production Databases had the debug set, let's make sure no Production Database has this set.
Configuration Management
#2, Eliminate Potential Issues Due to an Incorrect Parameter

Note: No Databases have debug set
To set target properties, start at the EM Home Page.
Go to the Targets TAB and select Hosts and select the Host you want to set the Properties on.
#3, Ensure That a Specific Department Does Not Own a Specific Hardware

Once at the Host, select Target Properties
Configuration Management

#3, Ensure That a Specific Department Does Not Own a Specific Hardware

To enter Target Properties, select Edit
Configuration Management

#3, Ensure That a Specific Department Does Not Own a Specific Hardware

Enter your information
#3, Ensure That a Specific Department Does Not Own a Specific Hardware

Select OK when your finished
#3, Ensure That a Specific Department Does Not Own a Specific Hardware

Your Target Properties are no associated with the Host target
To search the Host Properties, start at the Deployments TAB
Select the Search Feature
Configuration Management

#3, Ensure That a Specific Department Does Not Own a Specific Hardware

Select, Search Operating System Properties Settings on Host
Select Line Of Business From the Drop Down to define your search criteria
#3, Ensure That a Specific Department Does Not Own a Specific Hardware

Enter the Department or Line Of Business you want to search for, note the systems identified with the department in question.
Configuration Management
#4, Furnish Configuration & Diagnostic Information for Faster Problem Resolution

New in 11.1 My Oracle Support Integration
Configuration Management
#4, Furnish Configuration & Diagnostic Information for Faster Problem Resolution

EM logs Incidents

ORACLE® Enterprise Manager
Grid Control 11g

Cluster Database: UPG15

Host CPU

Active Sessions

Diagnostic Summary

Space Summary

High Availability

Console

Last Backup

Details

Disabled

© 2010 Oracle Corporation
EM packages all relevant diagnostic information without the Admin having to know the underlying files and objects.
EM can file a new SR with Support and can also create a new incident in Remedy/HP/Siebel.
EM can include all correlated events in the package.
Service Request, Error logs and Configuration Information set to Oracle
EM can monitor SRs for updates

Configuration Management
#5, Ensure My System Meets Pre-requisites for Patch Deployment
Review the SR and click on the patch recommended therein.
Configuration Management
#5, Ensure My System Meets Pre-requisites for Patch Deployment

Review
a) The Bugs fixed in the patch
b) Related knowledge articles
c) The community feedback
d) Download trends
Configuration Management
#5, Ensure My System Meets Pre-requisites for Patch Deployment

Add the patch to a plan. Several patches can be recursively added to a plan to be deployed under a single downtime.
Configuration Management

#5, Ensure My System Meets Pre-requisites for Patch Deployment
#5, Ensure My System Meets Pre-requisites for Patch Deployment

**Related Knowledge to this Patch**

No knowledge articles were found related to this patch.
Configuration Management

#5, Ensure My System Meets Pre-requisites for Patch Deployment

Create Plan Wizard - MAR_FINDB_ROLLOUT

The table below lists all the patches currently included in the patch plan. Add patches from Patch Recommendations or from Patch Search results.

<table>
<thead>
<tr>
<th>Patch ID</th>
<th>Type</th>
<th>Description</th>
<th>Target</th>
<th>Target Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>0518190</td>
<td>Searched</td>
<td>MERGE LABEL REQUEST ON TOP OF 10.2.0.4 FOR B...</td>
<td>db2</td>
<td>Database Instance</td>
</tr>
</tbody>
</table>

You can add any patch to a plan via Patch Searching. A plan can include recommended patches and one off patches which you many need for your environment. When you select a patch from the results of a patch search, there is an option to 'Add to Plan'.
#5, Ensure My System Meets Pre-requisites for Patch Deployment

**Validation Needed**

Why? Some patches already installed may not be compatible with the patches in this plan.

For example, a previously installed patch may have changed the same software file that a candidate patch is trying to modify, creating a conflict. Validating the plan will detect this and in most cases allow a new patch to be created which can be installed which combines the existing with the new patch fixes.
Configuration Management
#5, Ensure My System Meets Pre-requisites for Patch Deployment
EM can now deploy the patch using Deployment Procedures
#5, Ensure My System Meets Pre-requisites for Patch Deployment

**Patch Oracle Database: Review**

**Software Updates**

Staging Location `%eml_root%/EMStage`

**Standalone Database Updates**

<table>
<thead>
<tr>
<th>Software Update Name</th>
<th>Patch ID</th>
<th>Created On</th>
<th>Type</th>
<th>Product</th>
<th>Platform</th>
<th>Release</th>
<th>Interim Patch Applicable On</th>
<th>Description</th>
<th>README</th>
</tr>
</thead>
<tbody>
<tr>
<td>p0510198_10.2.0.4-46_9480</td>
<td>p0510198</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TIP** To lookup for the README, selected updates should be valid patch on My Oracle Support and require connection to My Oracle Support. To Setup or Update My Oracle Support credentials click on 'Setup' link. The view button for README is not clickable in case of patches selected from software library.

**Target List**

Database Targets to be patched

<table>
<thead>
<tr>
<th>Name</th>
<th>Target Type</th>
<th>Host Name</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>abc2(Unpatched) Database Instance</td>
<td>abc2190511.us.oracle.com</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Credentials**

Home Credentials

<table>
<thead>
<tr>
<th>Oracle Home</th>
<th>Host</th>
<th>Target</th>
<th>Username</th>
</tr>
</thead>
</table>

© 2010 Oracle Corporation
Top 10 Configuration Tips: How Can I...?

1. Determine how many instances at what versions are installed
2. Eliminate potential issues due to an incorrect parameter
3. Ensure that a specific department does not own a specific hardware
4. Furnish configuration and diagnostic information for faster problem resolution
5. Ensure my system meets pre-requisites for Patch deployment
6. Compare against golden standards or baselines
7. Enforce Test and Production systems are in sync
8. Detect unauthorized configuration changes
9. Make sure critical patches are installed in Production systems
10. Enforce Security and Best Practices and Reporting

Standardizing Configurations

Drift Analysis

- Configuration Comparison
  - Across the stack
  - Across lifecycles
  - Baseline & Gold Standard
  - 1-to-1, 1-to-many
- Drift Reconciliation

© 2010 Oracle Corporation
We will start at the EM Home page and compare our Gold Standard with a DB about to go into production.
Go to the Targets TAB and select Databases. Select the Database you want to compare against a Gold Standard.
At the Database target, select Software and Support and Compare Configuration
Configuration Management
#6, Compare Against a Gold Standard or Baseline

Search for your Gold Standard, select it and the Compare.
You are now comparing the selected Database against the Gold Standard
Now you can drill down into any differences
Now let's look at the Application Configuration Console (ACC) and how it can help you eliminate configuration differences between your environments.
Configuration Management

#7, Enforce Test and Production systems Are in Sync

ACC allows you to organize your configuration assets into views that make sense
Within your environments are layers containing the configuration assets that deliver the Services Dashboard to the enterprise.
As we drill down into the layer, we see that the WebServer layer is delivered by an Apache webserver whose configurations are stored in 2 configuration files: HTTPD.conf and admin.conf.
Expanding the Primary View for httpd.conf, allows us to view the individual Configuration Items.
ACC can compare the properties within multiple files across multiple locations. All with a few clicks. In this case, we will select the WebServer, we can also perform this compare at the Application Stack level.
Configuration Management

#7, Enforce Test and Production systems Are in Sync

Right Click, then select Compare to perform a comparison on the highlighted items
**Configuration Management**

#7, Enforce Test and Production systems Are in Sync

ACC provides you only the items that are differences, eliminating the “noise” from the results.

<table>
<thead>
<tr>
<th>Name</th>
<th>WebServer</th>
<th>WebServer</th>
<th>WebServer</th>
<th>WebServer</th>
<th>WebServer</th>
</tr>
</thead>
<tbody>
<tr>
<td>WebServer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apache</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>httpd.conf</td>
<td>httpd.conf</td>
<td>httpd.conf</td>
<td>httpd.conf</td>
<td>httpd.conf</td>
<td>httpd.conf</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port</td>
<td>9000</td>
<td>9090</td>
<td>9000</td>
<td>9001</td>
<td>9001</td>
</tr>
<tr>
<td>Timeout</td>
<td>600</td>
<td>6</td>
<td>600</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>MaxKeepAliveRequests</td>
<td>100</td>
<td>10000</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>KeepAliveTimeout</td>
<td>15</td>
<td>150</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>
Configuration Management

#7, Enforce Test and Production systems Are in Sync

With just a few clicks we can tell ACC to ignore these false positives.
Configuration Management
#7, Enforce Test and Production systems Are in Sync

Note that the previously highlighted port differences are no longer listed. Using this feature, administrators can create views that quickly narrow the focus to “out of band” differences in configurations.
You can also view the properties you are ignoring if needed.
1. Determine how many instances at what versions are installed
2. Eliminate potential issues due to an incorrect parameter
3. Ensure that a specific department does not own a specific hardware
4. Furnish configuration and diagnostic information for faster problem resolution
5. Ensure my system meets pre-requisites for Patch deployment
6. Compare against golden standards or baselines
7. Enforce Test and Production systems are in sync
8. Detect unauthorized configuration changes
9. Make sure critical patches are installed in Production systems
10. Enforce Security and Best Practices and Reporting
Configuration Change Console (CCC) is specifically designed to meet your compliance needs.
Note the RED condition with one of the PCI Policies. Let's look at the details.
There is authorized and unauthorized, you can quickly drill into the details.
#8, Detect Unauthorized Configuration Changes

![Oracle Enterprise Manager 10g Configuration Change Console](image)

### Components and Activity

<table>
<thead>
<tr>
<th>Component</th>
<th>March 10, 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance Configuration 11g GNU/Linux</td>
<td>1</td>
</tr>
<tr>
<td>Finance Executables 11g GNU/Linux</td>
<td>1</td>
</tr>
<tr>
<td>Finance Libraries 11g GNU/Linux</td>
<td>1</td>
</tr>
<tr>
<td>HRIS Configuration 11g GNU/Linux</td>
<td>2</td>
</tr>
<tr>
<td>HRIS Executables 11g GNU/Linux</td>
<td>1</td>
</tr>
<tr>
<td>HRIS Libraries 11g GNU/Linux</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Event counts above 250 do not have links to drill down. Change the filter options or time scale to see details.

---

**Note the Components and the activity**
Configuration Management

#8, Detect Unauthorized Configuration Changes

CCC provides the detail of the detected change
Top 10 Configuration Tips: How Can I...?

- Determine how many instances at what versions are installed
- Eliminate potential issues due to an incorrect parameter
- Ensure that a specific department does not own a specific hardware
- Furnish configuration and diagnostic information for faster problem resolution
- Ensure my system meets pre-requisites for Patch deployment
- Compare against golden standards or baselines
- Enforce Test and Production systems are in sync
- Detect unauthorized configuration changes
- Make sure critical patches are installed in Production systems
- Enforce Security and Best Practices and Reporting
Reduce Operations Costs with Automation

- Reduction in costs of managing IT
- Increase staff productivity
- Increased agility to business needs
- Reduction on capital spending

Forrester Total Economic Impact of Configuration Management and Provisioning Packs

130% ROI over 3 years
14 months payback period

© 2010 Oracle Corporation
Questions
Thank You

Be sure to attend the following session:

…

For more information:

…
SOFTWARE. HARDWARE. COMPLETE.