Oracle Enterprise Manager 13c
New Features

Rob Zoeteweij
Rob Zoeteweij
- Working with Oracle technology since 1985
- Many Oracle DBA, Oracle Development projects
- Last 12 Years
  - Oracle Expert Services – Oracle Netherlands
    - RAC/ASM
    - Oracle Enterprise Manager
  - Independent Oracle Consultant
    - Oracle Enterprise Manager
      » ING Nederland, Rabobank Nederland, Shell, Rabobank International, SVB Bank, Fokker Elmo and others..
  - Certified Oracle Training Delivery Partner
    - Oracle Enterprise Manager Training (EM 12c)
  - VIJF-HART Training Institute
    - Oracle Enterprise Manager Training (EM 11g, EM 12c)
- Oracle ACE
- Red Men Partner
Agenda

• Introduction
• New User Interface
• Top new features
• Why migrate?
• Migration
• Q & A
Introduction

EM13c releases December 18 - 2015
New User Interface

- Alta Skin Retouch
  - Fully redesigned UI
New User Interface
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New User Interface
Export/Import Rules

– Deploy Incident Rule Sets
  • From one EM environment to another
– Export Rule Set
  • Stored as XML file
– Import Rule Set
System Broadcast

Send messages to connected administrators
This feature can be useful when notifying users that Enterprise Manager is about to go down, when some part of your managed infrastructure has been updated, or when there is a system emergency.
System Broadcast

emcli send_system_broadcast -toOption=ALL -messageType="INFO" -message="EM going down in 10 minutes, to perform patching"

Successfully requested to send System Broadcast to users.
Always On Monitoring

Monitor critical target status and Metric alerts
Experiencing downtime of central Enterprise Manager site
Always On Monitoring

- Always-on Monitoring Configuration Assistant
  - emsca
  - To configure
- Configure Downtime Contacts in EM
  - Notification send when OMS down
- emsctl
Corrective Actions - Enhancements

- Support for all event types
- Compliance Standard Rule Violations
- Service Level Agreement alerts
- Job Status events

- Using Version management
- Publish
Configuration Management - Enhancements

- Search and History Integration
- Improved Configuration Item Search
- Advanced Logic Support
- Inventory and Usage Details
Reduce Repository Space

- Storing copies of same incidents will occupy unnecessary space in the repository.
- Intelligent Incident Compression, duplicates of the same incident can be saved as one by compressing...
Reduce Repository Space

Create Incident or Update Incident
If there is no incident associated with the event, you could create one and optionally, set the incident owner and priority. If an incident exists, you could update the incident.

- Create Incident (If not associated with one)
  - Each event creates a new incident
  - Group events into an incident

Events are grouped together by
- Target
- Category
- Event Name

Time window (Advanced)
Event will become part of the incident only if the incident has been created within the specified time window. Time Window:

- Else a new incident will be created for the current event and any matching future event.

Message for Incident created by grouping events
New Job System Interface
New Job System Interface
New Job System Interface

Create Saved Search

- **Name**: Refresh updates from Oracle

**Search Criteria**
- **Name**: REFRESH UPDATES FROM ORACLE

- [ ] Show this search when I come to this page
- [ ] Show on top of the page

**Place**: After My Jobs

[OK] [Cancel]
New Job Type – Chef Cookbooks
New Job Type – Chef Cookbooks

Job
Create 'Chef Recipe' Job

Chef-solo path
Configuration File
%Chef/Config/path%

Chef-solo path
%Chef/Config/path%

Recipe
Specify a recipe for example: cookbook, name:recipe, name will run "recipe, name" from "cookbook, name". Use a comma separated list to specify multiple recipes. If no recipe is specified the default recipe will be used.

Attributes
Override the default chef attributes in json format (optional)

Target Properties
Target properties can be used in parameters.
Property names are case-sensitive. To escape %", use %\%

Name | Description
--- | ---
%name_resol% | location of Agent
%perlbin% | location of Perl binary used by Agent
%targetName% | target name
%TargetType% | target type
%os.os% | Operating System
%os.dbcp_cnf% | Customer Support Identifier
%site_site% | Site
%site.comments% | Comment
%site.contact% | Contact
%site.location% | Location
%site.platform% | Platform
%site.department% | Department
%site.cost_center% | Cost Center
%site.line_of_bus% | Line of Business
%site.target_version% | Target Version
%site.deployment_type% | Deployment Type
%site.lifecycle_status% | Lifecycle Status
%site.downtime_contact% | Downtime Contact
%Chef/Config/path% | Chef/ConfigPath
%SNMP.host% | SNMP Hostname
%SNMP.timeout% | SNMP Timeout (Default: 10 seconds)
%WDMPort% | Port number for WDEM Access Default: 3998
%IOTM% | Disk Activity Metrics Collection Max Rows Upload (Default: 16)
%MONITOR_SUPPORT_LOF% | Monitor Loopback Filestems (true/false) Defaults: true
%MONITOR_USE_PSEUDO_MEM% | Use pseudo-memory for Swap utilization (true/false) Defaults: true
%oracle.ogc_distro% | Group Containment Hints
Golden Agent Image

Deploying Oracle Management Agents Using Agent Gold Images

https://www.youtube.com/embed/RbukJrzmfE0
Software Library Enhancements

• Efficiency improvement
  – Increase performance of large files over WAN or remote servers
  – Using cache nodes
    • All subsequent file transfers come from the cache nodes
    • Reduce transfer time
    • Reduce bandwidth requirements
Support for Selenium Based Tests

- Selenium IDE recorder
- Recorded scripts are created
- TestNG framework can also be used to create scripts
- Scripts can be stored in Software Library
- To be used for Services
  - Test based
  - By Beacon framework
Support for Selenium Based Tests

- EM Console Service as an example for a ‘Test based’ Service.
- Tests can be based on a Selenium generated script as well as on ATS generated scripts...
Incident Management

- Notification Blackout
- Always-on Monitoring
- Incident Dashboard
- Export and Import of Incident Rule Sets
- Support for Selenium Based Tests
- New End User Service Target Type
- Corrective Actions enhancements
Incident Management
Database Management

- EM13c Database Machine target upgrade
- Inter-continental Zero Data Loss
  - Far-sync database has no datafiles, its only job is to receive Redo and forward it to one or more destinations
  - EM13c supports creation of Far-Sync standby database as target
Database Management

• Database Consolidation Workbench
  – EM13c provides an end to end solution for managing database consolidation
    • Planning – based on historical workload metrics for database and host to create an optimal consolidation plan
    • Migration – automates the entire database consolidation process
    • Validation – Based on SQL performance analyzer validate SQL Workload Performance on consolidated platform
Database Management

- Cluster Managed Database Service target type
- Manage and monitor Database Services as any target
- Home page contains:
  - Database association
  - Resource utilization
  - Metric History
Database Management

• Fine grained access privileges in EM console
• +/- 160 privileges focused on database management
• Supports the organization of
  – Specific ‘Job Roles’
    • DevOps
    • Example
      – Developer only allowed to stop/start Development and Test databases
      – Operator only allowed to stop/start Acceptance and Production databases
Just a sample of +/- 160 Database related privileges....
Database Management

ORACLE Enterprise Manager Cloud Control 13c

View Role: DBA ROLE 1

Properties

Name: DBA ROLE 1
Description: DBA Role 1
External Role: No
Private Role: No
Created By: SYSMAN

No roles are granted.

Target Privileges

Privileges applicable to all targets

No target resource type privileges are granted

Target Privileges

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Manage Target Privilege Grants</th>
<th>Manage Aggregate Only Privilege Grants</th>
<th>Manage Member Only Privilege Grants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dev-Grp</td>
<td>Group</td>
<td>Manage Database High Availability Privilege Group, View</td>
<td>NONE</td>
<td>NONE</td>
</tr>
<tr>
<td>Prod-Grp</td>
<td>Group</td>
<td>View Database High Availability Privilege Group</td>
<td>NONE</td>
<td>NONE</td>
</tr>
</tbody>
</table>

Resource Privileges

<table>
<thead>
<tr>
<th>Resource Type</th>
<th>Description</th>
<th>Privilege Grants Applicable to all Resources</th>
<th>Number of Resources with Privilege Grants</th>
<th>View Privilege Grants</th>
</tr>
</thead>
</table>

Administrators

<table>
<thead>
<tr>
<th>Name</th>
<th>Is Admin</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEV_DB</td>
<td>No</td>
</tr>
</tbody>
</table>
Database Management
Database Management

### Databases

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Status</th>
<th>Target Version</th>
<th>Lifecycle Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>oemrep.mycorpdomain.com</td>
<td>Database Instance</td>
<td></td>
<td>12.1.0.2.0</td>
<td>Production</td>
</tr>
<tr>
<td>orclref1.mycorpdomain.com</td>
<td>Database Instance</td>
<td></td>
<td>11.2.0.4.160719</td>
<td>Development</td>
</tr>
<tr>
<td>orclref2.mycorpdomain.com</td>
<td>Database Instance</td>
<td></td>
<td>11.2.0.4.160719</td>
<td>Production</td>
</tr>
</tbody>
</table>

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**Oracle Database**
- **Home**: Open the home page in a new window.
- **Performance**, **Availability**, **Security**, **Schema**, **Administration**
- **Control**
  - **Startup/Shutdown**
- **Monitoring**, **Diagnostics**, **Job Activity**
Middleware Management

- WebLogic Server 12.2.1 Management
- Enhanced management Best Practices
- Exalytics Patching
- STIG Compliance Standards for WebLogic Server
  - Security Technical Implementation Guides
- Support Workbench integration with Diagnostic Assistant
Middleware Management

- SOA Management enhancements
- Support for Monitoring Node Manager
- JVMD Enhancements
- Middleware Diagnostics Advisor enhancements
- And others....
Cloud Management

- Snap Cloning using “Test master snapshot”
- Improved Service Catalog
- New Cloud Self Service Portal Look and Feel
- Approval Workflow integration for all Cloud Artifact Creation requests
- Chargeback and Consolidation Planner enhancements
Lifecycle Management

- Cloud Scale Drift and Consistency Management
- Engineered Systems Patching
  - Exadata and Exalytics
  - Complete patching automation
- Provisioning of Virtualized Exadata
  - Create and delete RAC databases including VMs
  - Extend existing clusters including VMs
  - Scale down cluster and deprovision VMs
Engineered Systems

- Automated patching with patchsets on Exadata and Exalytics, including patch recommendations and auto patch download
- VM provisioning on Exadata 12.1.2.1 virtualization. Automated mechanism for scheduled mass deployments
- Administrators can now perform all of this from the Cloud Console
EM13c Reasons to upgrade

- TLS 1.2 support
- IPv6 support
- Always on Monitoring
- Improved support for Engineered Systems
- Extended support of Fleet maintenance
- WebLogic 12.2 target Support
- Enhanced Middleware Performance Management
- Improved Target Property support
- Easy to upgrade
- Out of the box
- You already paid for it...
- Etc
EM13c Migration

- **Step 1:** Upgrade Repository database to 12.1.0.2
- **Step 2:** Shutdown your 12.1.0.3 OMS and start 13.2em_linux64.bin
- **Step 3:** Upgrade existing OMS and repository
- **Step 4:** Upgrade agents
  - Use Gold Agent Image console
EM13c Migration

• Upgrade path OMS
  – 10.2.0.5 → 12.1.0.5 → 13.2
  – 11.1.0.1 → 12.1.0.5 → 13.2
  – 12.1.0.3/12.1.0.4/12.1.0.5 → 13.2

**Table 1-2 Compatibility Between the OMS and the Management Agents Across 13c and 12c Releases**

<table>
<thead>
<tr>
<th>NA</th>
<th>Oracle Management Agent 12c Release 4 (12.1.0.4)</th>
<th>Oracle Management Agent 12c Release 5 (12.1.0.5)</th>
<th>Oracle Management Agent 13c Release 1</th>
<th>Oracle Management Agent 13c Release 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Management Service 13c Release 2</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
EM13c Migration

Installation Types

- Create a new Enterprise Manager System
  - Simple
  - Advanced

- Upgrade an existing Enterprise Manager System
  - One System Upgrade

Following are the Enterprise Management servers detected. Select the Management Server you want to upgrade.

<table>
<thead>
<tr>
<th>Select</th>
<th>Installed Oracle Homes</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>/scratch/mw2</td>
<td>12.1.0.4.0</td>
</tr>
</tbody>
</table>

- Install software only
  (Installs only the software binaries. Allows you to configure or upgrade at a later stage)

Messages:
EM13c Migration
EM13c Migration

### Gold Agent Images
**Deployments**

<table>
<thead>
<tr>
<th>Gold Image Name</th>
<th>Subscribe Agents</th>
<th>Agents on Gold Image</th>
<th>Compliance</th>
<th>Number of deployed Gold Image versions</th>
<th>Platform Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ND_DB_POD</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
<td>Linux x86-64</td>
</tr>
<tr>
<td>OPC_DB_POD</td>
<td>0</td>
<td>0</td>
<td></td>
<td>0</td>
<td>Linux x86-64</td>
</tr>
</tbody>
</table>
Resources

• OTN
  – http://docs.oracle.com/cd/E73210_01/index.htm

• Youtube
  – Many video’s on EM12c and EM13c

• Blog
  – https://blogs.oracle.com/oem/
  – http://oemgc.wordpress.com

• Facebook
  – http://www.facebook.com/All.about.EM12c
Resources

• Linkedin
  – Groups
    • Unofficial Oracle Enterprise Manager Grid / Cloud Control
    • Official Oracle Enterprise Manager Group

• Forums
  – OTN
  – MOS
Resources

• Twitter
  – @courtneyllamas
  – @dbasushi
  – @dbakevlar
  – @oracle_em
  – @harisrinivasan
  – @petesharman
  – @adeeshF
  – @subh_here
  – @pbedba
  – @robztw
QUESTIONS AND ANSWERS