

Oracle Enterprise Manager 13c New Features

Rob Zoeteweyj

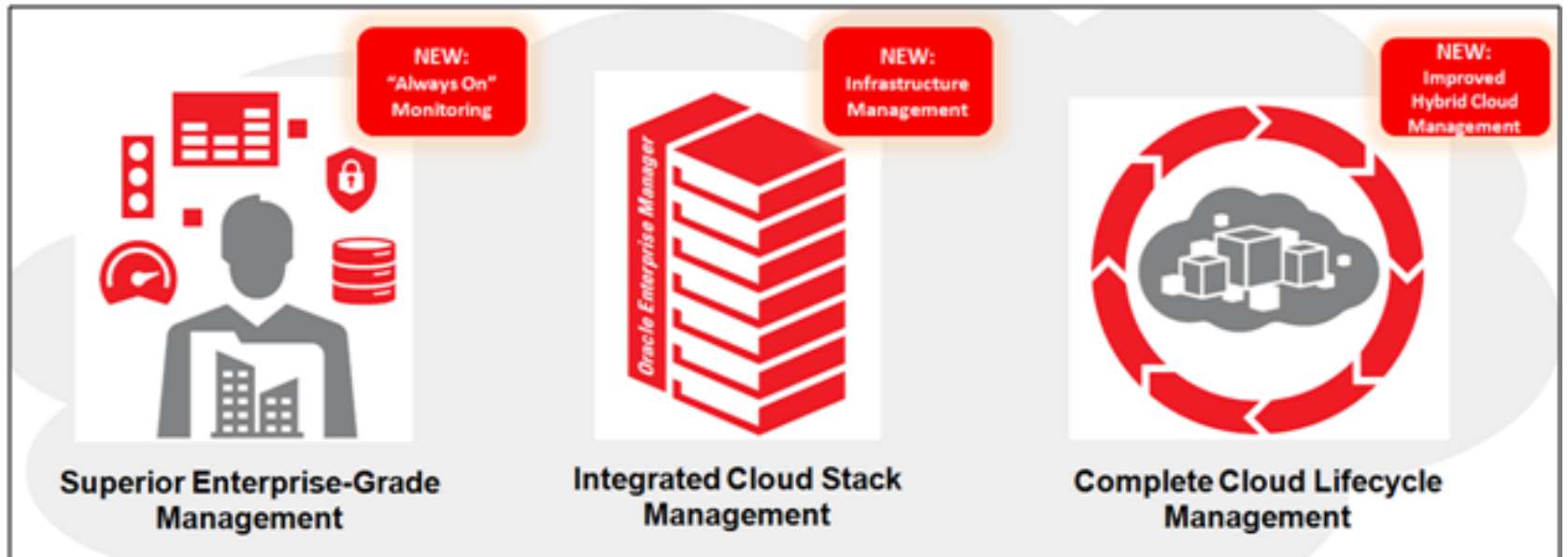
- Rob Zoeteweyj
 - Working with Oracle technology since 1985
 - Many Oracle DBA, Oracle Development projects
 - Last 12 Years
 - Oracle Expert Services – Oracle Netherlands
 - RAC/ASM
 - Oracle Enterprise Manager
 - Independent Oracle Consultant
 - Oracle Enterprise Manager
 - » ING Nederland, Rabobank 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

ORACLE Enterprise Manager Cloud Control 13c

Enterprise Summary Auto Refresh Off Page Refreshed 12-Nov-2016 12:37:01 CET

Overview View All Targets (90)

Status Targets with Status **56**

84% Up (47) 16% Down (9)

Inventory and Usage Show Hosts Details

86% Oracle Linux Server release 6.7 14% Enterprise Linux Enterprise Linux Server release 5.6 (Carthage)

Compliance Summary Standards Targets

Use Compliance Score Violations View Trends Target Type Host

Target Name	Target Type	Average Compliance Score (%)
em12c.mycorpdomain.com	Host	51
ovm.mycorpdomain.com	Host	51
myserver4.mycorpdomain.com	Host	100
myserver2.mycorpdomain.com	Host	100
myserver1.mycorpdomain.com	Host	100

Patch Recommendations View by Classification Target Type

Controlled

Other Recommendations 36 Security 37 Superseded

Incidents Updated in the last 24 hours **10** Updated in last 7 days **11**

Breakdown of incidents updated in the last 7 days

Category	🔴	🟡	🟢	🔴
Availability	8	2	-	-
Performance	-	-	-	-
Security	-	-	-	-
Others	-	1	-	-

Problems Total Open **13** Updated in the last 24 hours **2** Without Service Request **13**

Jobs Suspended Executions **0** ✓

New User Interface

ORACLE Enterprise Manager Cloud Control 13c

oemrep.mycorpdomain.com em12c.mycorpdomain.com Auto Refresh Off

Oracle Database Performance Availability Security Schema Administration Page Refreshed 12-Nov-2016 12:55:07 CET

12.1.0.2.0 Version 0 days, 3 hrs Up Time 5.63% Availability for Last 7 Days N/A Last Backup

Load and Capacity

0.15 Average Active Sessions
11.57 Used Space (GB)

Incidents and Compliance

0 1 0 0
Compliance Not Configured

Recommendations

0 ADDM Findings
17 SQL Tuning

High Availability

N/A Last Backup Status
Data Guard Not Configured

Jobs

0 Running

Performance

Activity Class Services

Resources

SQL Monitor - Last Hour

Status	Duration	SQL ID	Session ID	Parallel	Database Time
✓	6.00 s	4dkz6cu1n9zmj	274		5.78 s
✓	9.00 s	c3hjkha2s5q42	274		8.95 s
✓	6.00 s	4dkz6cu1n9zmj	75		5.96 s
✓	6.00 s	4dkz6cu1n9zmj	42		5.96 s
✓	122.00 s	4dkz6cu1n9zmj	302		22.83 s

New User Interface

oemrep.mycorpdomain.com em12c.mycorpdomain.com Auto Refresh Off

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12.1.0.2.0 Version 0 days, 3 hrs Up Time 5.63% Availability for Last 7 Days N/A Last Backup

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Data Guard Not Configured

Jobs

0 Running

Incidents and Problems

View Target Local target and Related targets Category All 0 1 0 0

Summary	Target	Severity	Status	Escalation Level	Type	Time Since Last Update
Memory Utilization is 97.671%, cross...			New	-	Incident	0 days 2 hours

Columns Hidden 14 Updated in the last 31 days

Compliance Summary

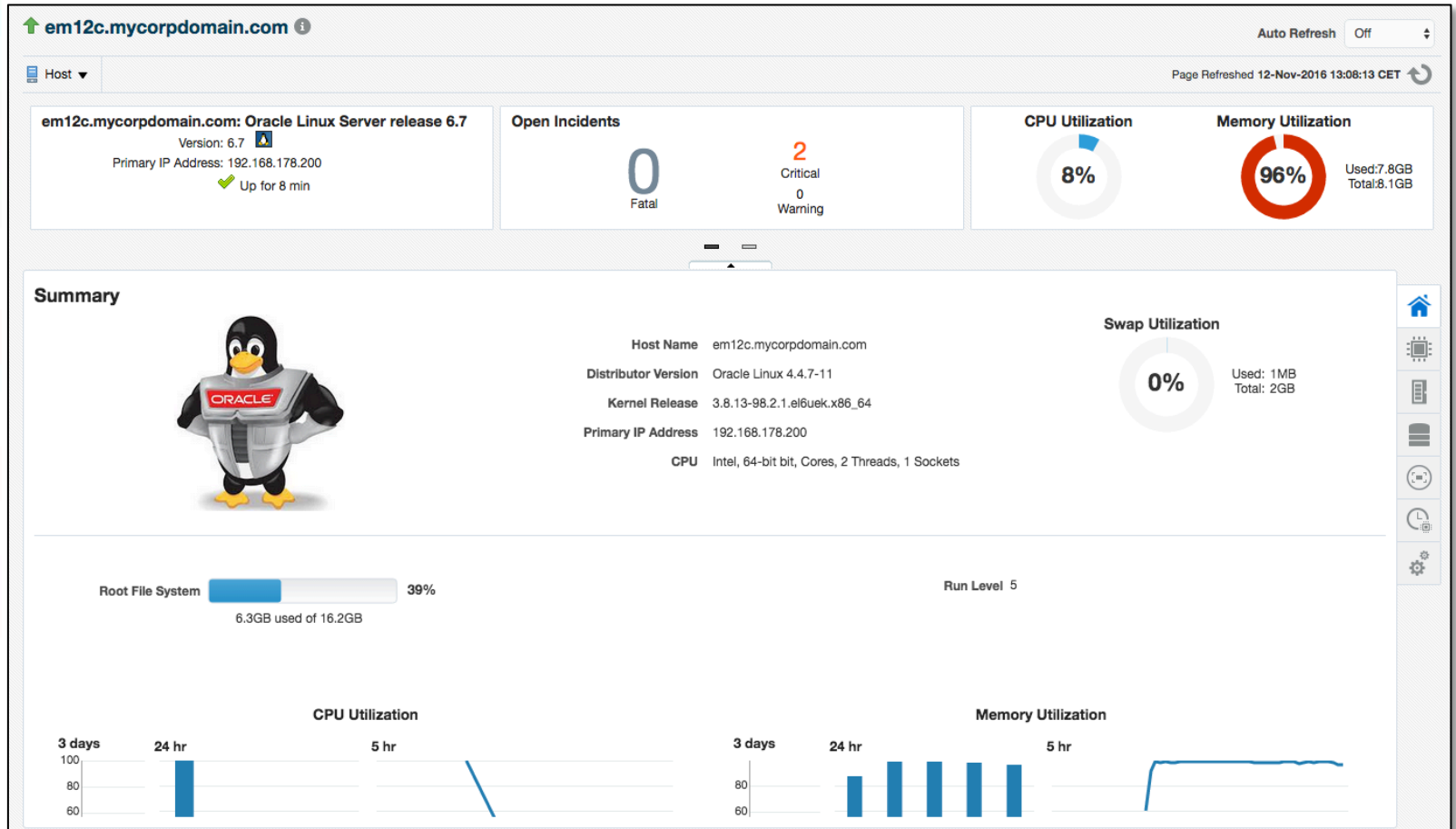
View Trends

Compliance Standard	Average Score
No data to display	

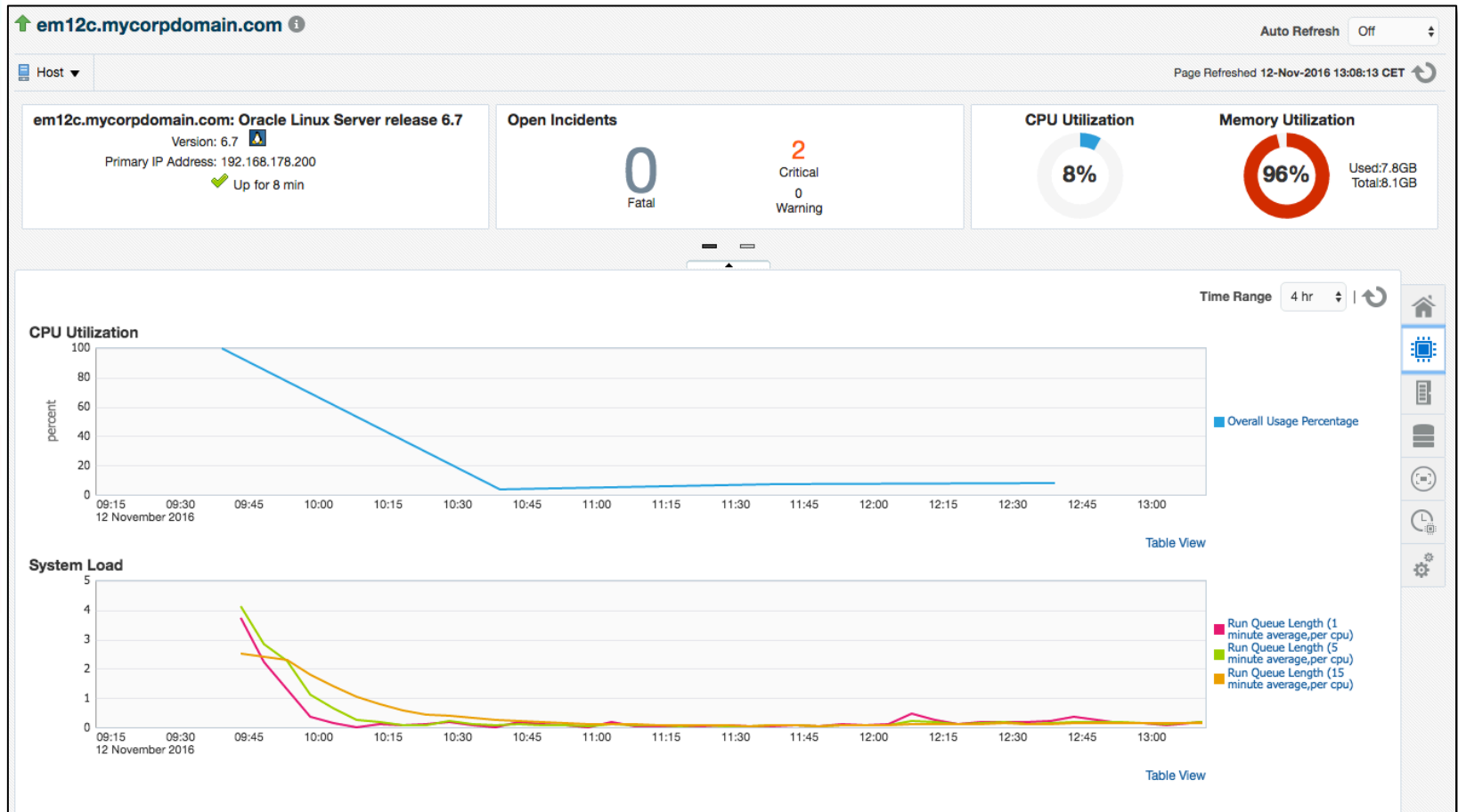
Configuration Changes in the Last 7 Days

Configuration Changes 3

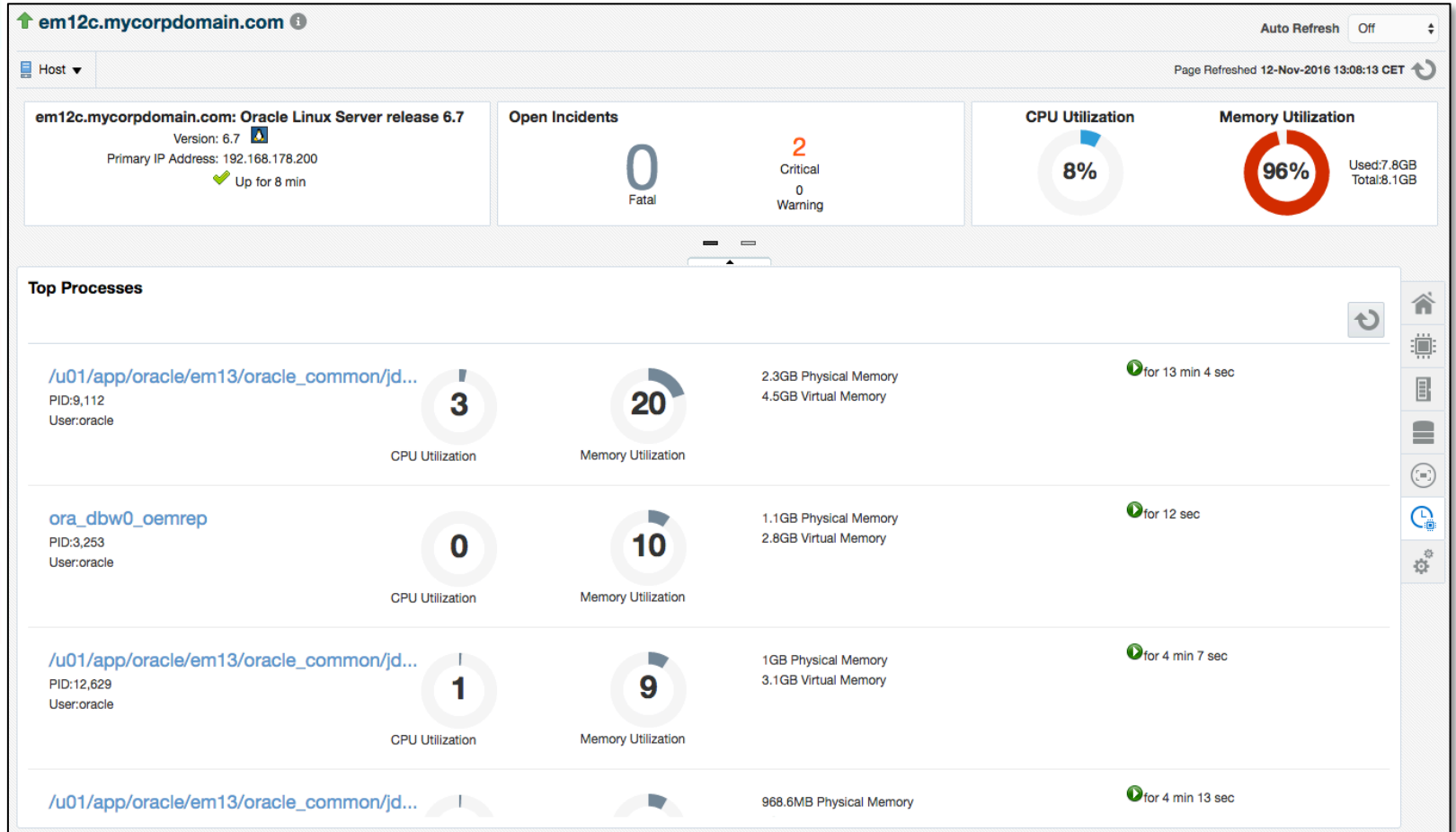
New User Interface



New User Interface



New User Interface



New User Interface

The screenshot displays the Oracle Enterprise Manager 13c New User Interface for a host named **em12c.mycorpdomain.com**. The interface includes a top navigation bar with the host name, an information icon, and an "Auto Refresh" toggle set to "Off". A "Host" dropdown menu is visible on the left, and the page was refreshed on 12-Nov-2016 at 13:08:13 CET.

The main content area is divided into several sections:

- Host Information:** Shows the host name, version (6.7), primary IP address (192.168.178.200), and a status of "Up for 8 min" with a green checkmark.
- Open Incidents:** Displays 0 Fatal incidents, 2 Critical incidents, and 0 Warning incidents.
- CPU Utilization:** A gauge showing 8% utilization.
- Memory Utilization:** A gauge showing 96% utilization, with 7.8GB used out of a total of 8.1GB.

The **Host services** section is expanded, showing a list of services with their status and the number of spawned processes:

Service Name	Status	Spawned Processes
tty	Running (Green play button)	5
prefdm	Running (Green play button)	1
serial	Stopped (Yellow hourglass)	0
splash-manager	Stopped (Yellow hourglass)	0
init-system-dbus	Stopped (Yellow hourglass)	0

On the right side of the "Host services" section, there are radio buttons for "Stopped", "Running", and "All", with "All" selected. A vertical toolbar on the far right contains icons for home, host details, host overview, host configuration, host monitoring, and host settings.

Export/Import Rules

- Deploy Incident Rule Sets
 - From one EM environment to another
- Export Rule Set
 - Stored as XML file
- Import Rule Set

ORACLE Enterprise Manager Cloud Control 13c

Enterprise ▼ Targets ▼ Favorites ▼ History ▼ Settings

Incident Rules - All Enterprise Rules

A rule set is a collection of rules that applies to a common set of objects, for example, targets, jobs, and templates. A rule contains a set of automated actions to be taken on specific events, incidents or problems. For example, on updated events, incidents, or problems, and then take actions such as sending e-mails, creating incidents, updating incidents, and creating tickets. Rule sets and rules are evaluated and applied in the order specified. Rule Sets action.

Actions ▼ View ▼ Create Rule Set... View Edit... Delete... E-mail ▼ Import... Export... Simulate Rules Reorder Rule Sets... Search

Name	Description	Order	Enterprise Rule Set	Owner	Enabled	Email Me
▶ Incident management rule set for all targets	Rule set to create and manage incidents for all targets	1	✓	System Generat...	Yes	No
▶ Event Management Rule set for Self Update	Rule set to manage Self Update events.	2	✓	System Generat...	Yes	No
▶ Customised Rule Set	Rule set to create and manage incidents for all targets	3	✓	SYSMAN	Yes	No

Created by Paint X

System Broadcast

The screenshot shows the Oracle Enterprise Manager Cloud Control 13c interface. The page title is "System Broadcast User Preferences". Below the title, there is a description: "This page allows user to set preferences for System Broadcasts sent by super administrators as well as various EM subsystems." The page contains several checkboxes and a text input field. The "Show System Broadcasts" checkbox is checked. Underneath it, "Show System Broadcast sent by the super administrator using EMCLI" is checked, and "Do not automatically close System Broadcast sent by the super administrator" is also checked. The "Show Message with Types" section has five checkboxes, all of which are checked: Confirmation, Information, Warning, Error, and Fatal. At the bottom, there is a text input field labeled "Number of seconds to show the System Broadcast" with the value "15" entered. A "Save" button is located at the bottom left of the form area.

ORACLE Enterprise Manager Cloud Control 13c

System Broadcast User Preferences

This page allows user to set preferences for System Broadcasts sent by super administrators as well as various EM subsystems.

Show System Broadcasts

Show System Broadcast sent by the super administrator using EMCLI

Do not automatically close System Broadcast sent by the super administrator

Show Message with Types

- Confirmation
- Information
- Warning
- Error
- Fatal

Number of seconds to show the System Broadcast

Save

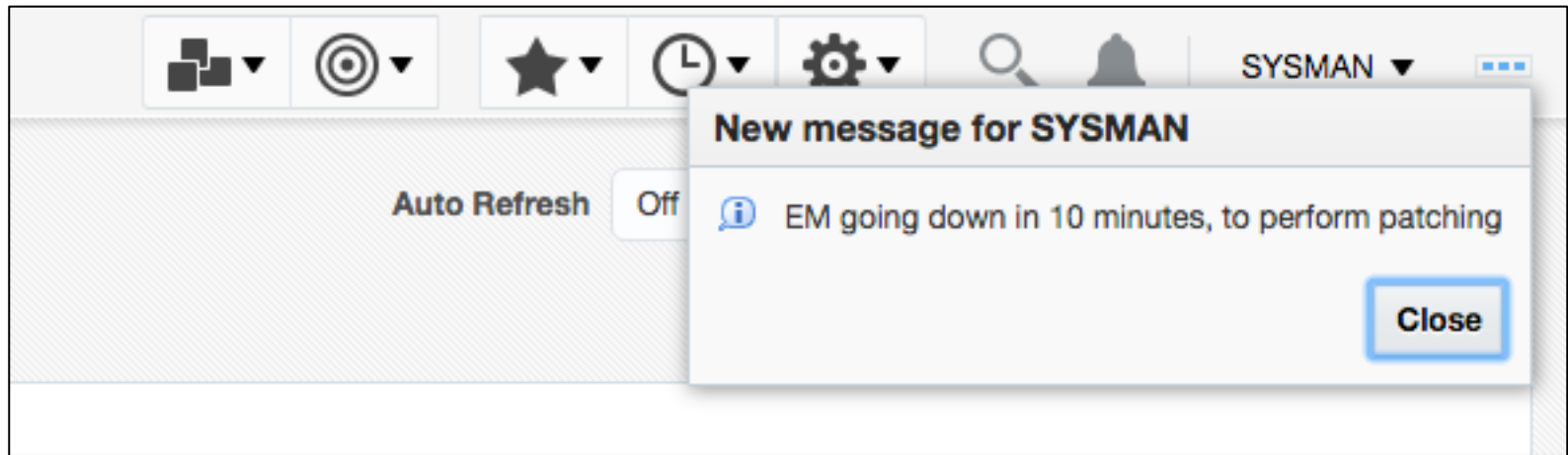
Send messages to connected administrators

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.

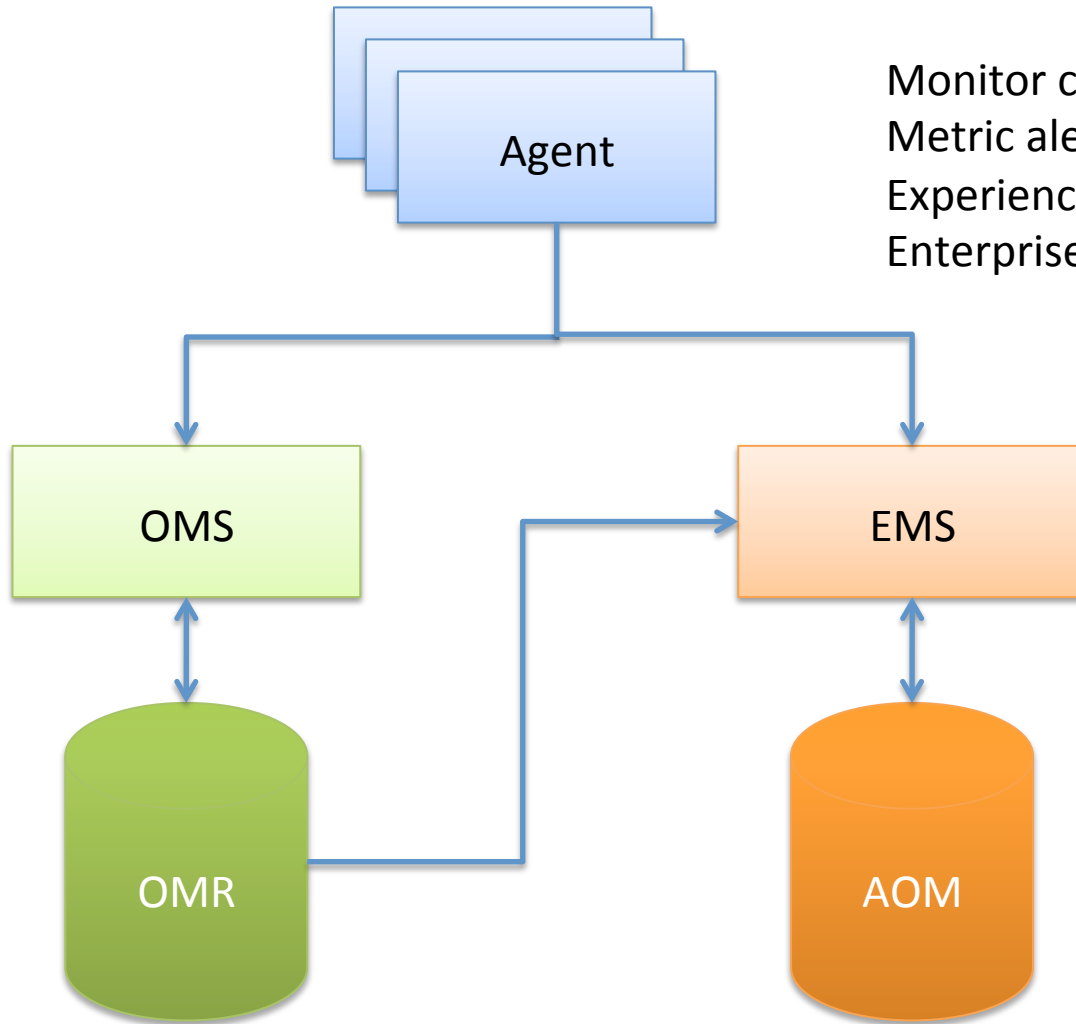
System Broadcast

```
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.



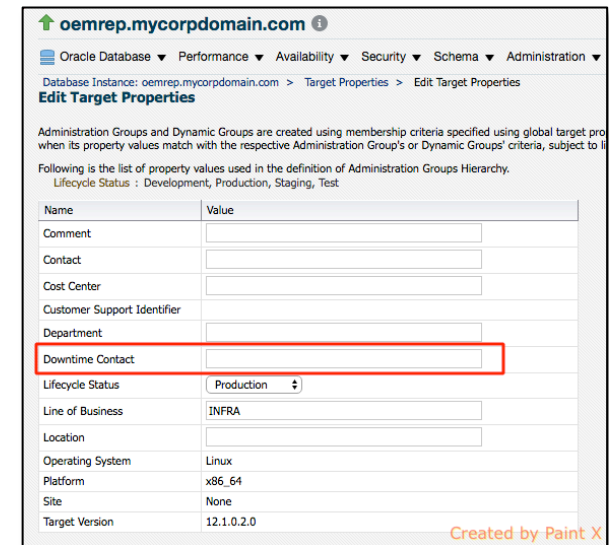
Always On Monitoring



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



oemrep.mycorpdomain.com

Oracle Database Performance Availability Security Schema Administration

Database Instance: oemrep.mycorpdomain.com > Target Properties > Edit Target Properties

Edit Target Properties

Administration Groups and Dynamic Groups are created using membership criteria specified using global target properties when its property values match with the respective Administration Group's or Dynamic Groups' criteria, subject to lifecycle status.

Following is the list of property values used in the definition of Administration Groups Hierarchy.

Lifecycle Status : Development, Production, Staging, Test

Name	Value
Comment	<input type="text"/>
Contact	<input type="text"/>
Cost Center	<input type="text"/>
Customer Support Identifier	<input type="text"/>
Department	<input type="text"/>
Downtime Contact	<input type="text"/>
Lifecycle Status	Production
Line of Business	INFRA
Location	<input type="text"/>
Operating System	Linux
Platform	x86_64
Site	None
Target Version	12.1.0.2.0

Created by Paint X

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) Update Incident

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

ORACLE Enterprise Manager Cloud Control 13c

Enterprise Targets

Jobs

Page Refreshed 12-Nov-2016 15:44:48 CET

Jobs with Problems in the... 11 Problems

Activity in Last 24 hrs 61 Job Runs

Jobs Scheduled for Next :... 13 Scheduled

My Jobs 379 Job Runs

Search Criteria Start Time Last 24 Hours Status Problems Clear All Save Search Saved Searches

Available Criteria

- Name
- Owner
- Status
 - Succeeded
 - Active
 - Problems**
 - Error
 - Failed
 - Stopped
 - Skipped
 - Reassigned
 - Credentials Missing
- Start Time
 - Next Month
 - Next 3 Days
 - Next 24 Hours
 - Last 24 Hours**
 - Last 3 Days
 - Last Month
 - Custom...

Actions View Create Like Edit Create Job List View

Name	Status		Scheduled Time	Targets	Target Type	Owner	Job Type
	Run	Executions					
MDADATAPURGEJOB	Skipped	1	11-Nov-2016 18:13:00 CET			SYSMAN	MDaDataMovementA...
REFRESH UPDATES FROM ...	Skipped	1	11-Nov-2016 17:51:00 GMT			SYSMAN	Refresh Updates
JVMD_HEALTH_REPORT_A...	Skipped	1	11-Nov-2016 22:00:00 UTC			SYSMAN	JVMDHealthReportJob
CPADATACollector	Skipped	1	12-Nov-2016 00:00:00 GMT...			SYSMAN	Consolidation Planner ...
REFRESH_FROM_MY_ORA...	Skipped	1	12-Nov-2016 00:00:00 CET			SYSMAN	Refresh From My Orac...
SOFTWARE_STANDARDIZA...	Skipped	1	12-Nov-2016 00:00:00 CET			SYSMAN	Software standardizati...
OPATCH_PATCH_UPDATE...	Skipped	1	12-Nov-2016 00:00:00 CET			SYSMAN	OPatch Update
DOWNLOAD_CVU	Skipped	1	12-Nov-2016 00:00:00 CET			SYSMAN	Download CVU_MOS ...
SWLIBPURGE	Skipped	1	12-Nov-2016 02:00:00 CET			SYSMAN	Software Library Purge
CBADATACollector	Skipped	1	12-Nov-2016 03:00:00 GMT...			SYSMAN	Chargeback Data Loa...
JVMD_HEALTH_REPORT_A...	Skipped	1	12-Nov-2016 06:00:00 UTC			SYSMAN	JVMDHealthReportJob

Saved Search Executed: Jobs with Problems in the Last 24 Hrs Total Job Runs: 11

New Job System Interface

Jobs Page Refreshed 12-Nov-2016 15:47:43 CET

Job Activity > Execution [Switch to Classic View](#)

Execution: SWLIBPURGE

[Actions](#) [Create Like](#) [Edit](#) [View Definition](#)

Status Succeeded Name SWLIBPURGE Type Software Library Purge
[Show More](#)

List of Tasks

View

Status Target Name

Name	Type	Status	Execution Time
purgePreReq	Step	<input checked="" type="checkbox"/>	<div style="width: 10%;"></div>
▲ purgeOMSLocat	Iterative...	<input checked="" type="checkbox"/>	<div style="width: 100%;"></div>
purgeOMSC	Step	<input checked="" type="checkbox"/>	<div style="width: 10%;"></div>
purgeOMSL	Step	<input checked="" type="checkbox"/>	<div style="width: 10%;"></div>
▲ purgeOMSLocat	Iterative...	<input checked="" type="checkbox"/>	<div style="width: 100%;"></div>
purgeOMSC	Step	<input checked="" type="checkbox"/>	<div style="width: 10%;"></div>
purgeOMSL	Step	<input checked="" type="checkbox"/>	<div style="width: 10%;"></div>

purgeOMSLocation

Status Succeeded
[Show More](#)

Output Log

[Download](#)

Output

```
INFO [Sat Nov 12 09:48:07 CET 2016]Validating input parameters ...
INFO [Sat Nov 12 09:48:07 CET 2016]Processing purge request for [OMS Shared File System] ...

INFO [Sat Nov 12 09:48:07 CET 2016]Purging of deleted entities and their associated files from location [network_loc] ...
INFO [Sat Nov 12 09:48:07 CET 2016] Purging of files in location 'network_loc' started ...
INFO [Sat Nov 12 09:48:07 CET 2016] There are no file entries to be purged!
INFO [Sat Nov 12 09:48:07 CET 2016] Purging of files in location 'network_loc' completed successfully.
INFO [Sat Nov 12 09:48:08 CET 2016]Purging is complete.
```

New Job System Interface

Create Saved Search [X]

* 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

The screenshot displays the Oracle Enterprise Manager Cloud Control 13c interface. A modal dialog titled "Select Job Type - Oracle Enterprise Manager" is open, showing a list of job types and their target types. The "Chef Recipe" job type is highlighted. The background shows the "Jobs" page with search criteria and a table of job runs.

Job Type	Target Types
Agent Upgrade PreStage	Agent
Agents Configuration Operation	Agent
Agents Control Operation	Agent
Associate ASM instances with Cluster ASM	None (Targetless)
Block Agent	Agent
Change File Permissions	All (Aggregate Service, IBM WebSphere MQ ...)
Chef Recipe	All (Aggregate Service, IBM WebSphere MQ ...)
Clear Incident Job	None (Targetless)
Clone Home	None (Targetless)
Configure Log Archive Locations	Oracle WebLogic Domain
Database Configuration	None (Targetless)
Delete APM Engines	All

Background Table (Job Runs):

Name	Job Type	Owner	Job Type		
REFRESH UPDATES FROM ORA...	Skipped	1	26-Oct-2016 17:51:00 GMT	SYSMAN	Refres
REFRESH UPDATES FROM ORA...	Skipped	1	27-Oct-2016 17:51:00 GMT	SYSMAN	Refres
REFRESH UPDATES FROM ORA...	Skipped	1	28-Oct-2016 17:51:00 GMT	SYSMAN	Refres

New Job Type – Chef Cookbooks

Job
Create 'Chef Recipe' Job

Cancel | Save to Library | Submit

General | **Parameters** | Credentials | Schedule | Access

Chef-solo path
Chef-solo path

Configuration File
By default target specific chef config file path is used. If not set, then site wide EM property oracle.sysman.core.jobs.chef.defaultConfigFilePath is used. User can also enter chef config file path.

Cookbook component
Choose a Chef Cookbook component from the software library, or use recipes already available at the target

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.

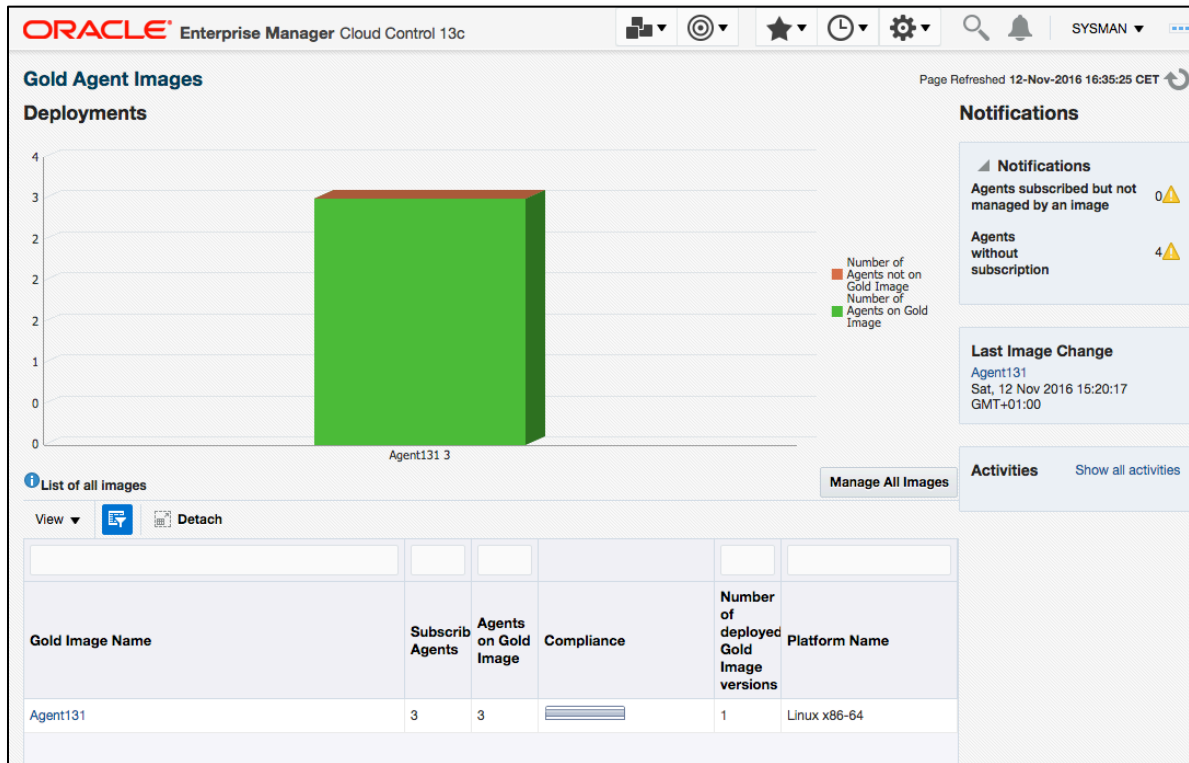
Attributes
Override the default chef attributes in json format(optional)

Target Properties

Target properties can be used in parameters
Property names are case-sensitive. To escape '%', use '%%'.
Name Description

%emd_root%	location of Agent
%perbin%	location of Perl binary used by Agent
%TargetName%	target name
%TargetType%	target type
%orcl_gtp_os%	Operating System
%orcl_gtp_csi%	Customer Support Identifier
%orcl_gtp_site%	Site
%orcl_gtp_comment%	Comment
%orcl_gtp_contact%	Contact
%orcl_gtp_location%	Location
%orcl_gtp_platform%	Platform
%orcl_gtp_department%	Department
%orcl_gtp_cost_center%	Cost Center
%orcl_gtp_line_of_bus%	Line of Business
%orcl_gtp_target_version%	Target Version
%orcl_gtp_deployment_type%	Deployment Type
%orcl_gtp_lifecycle_status%	Lifecycle Status
%orcl_gtp_downtime_contact%	Downtime Contact
%ChefSoloPath%	ChefSoloPath
%ChefConfigPath%	ChefConfigPath
%SNMPHostname%	SNMP Hostname
%Timeout%	SNMP Timeout (Default: 10 seconds)
%WBEMPort%	Port number for WBEM Access Default: 5988
%LIMIT_TO%	Disk Activity Metrics Collection Max Rows Upload(>0) Default:16
%NMUPM_SUPPORT_LOFS%	Monitor Loopback Filesystems (true/false) Default:false
%NMUPM_USE_PSEUDO_MEM%	Use pseudo-memory for Swap utilization (true/false) Default:true
%oracle_si_group_name_hint%	Group Containment Hint

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

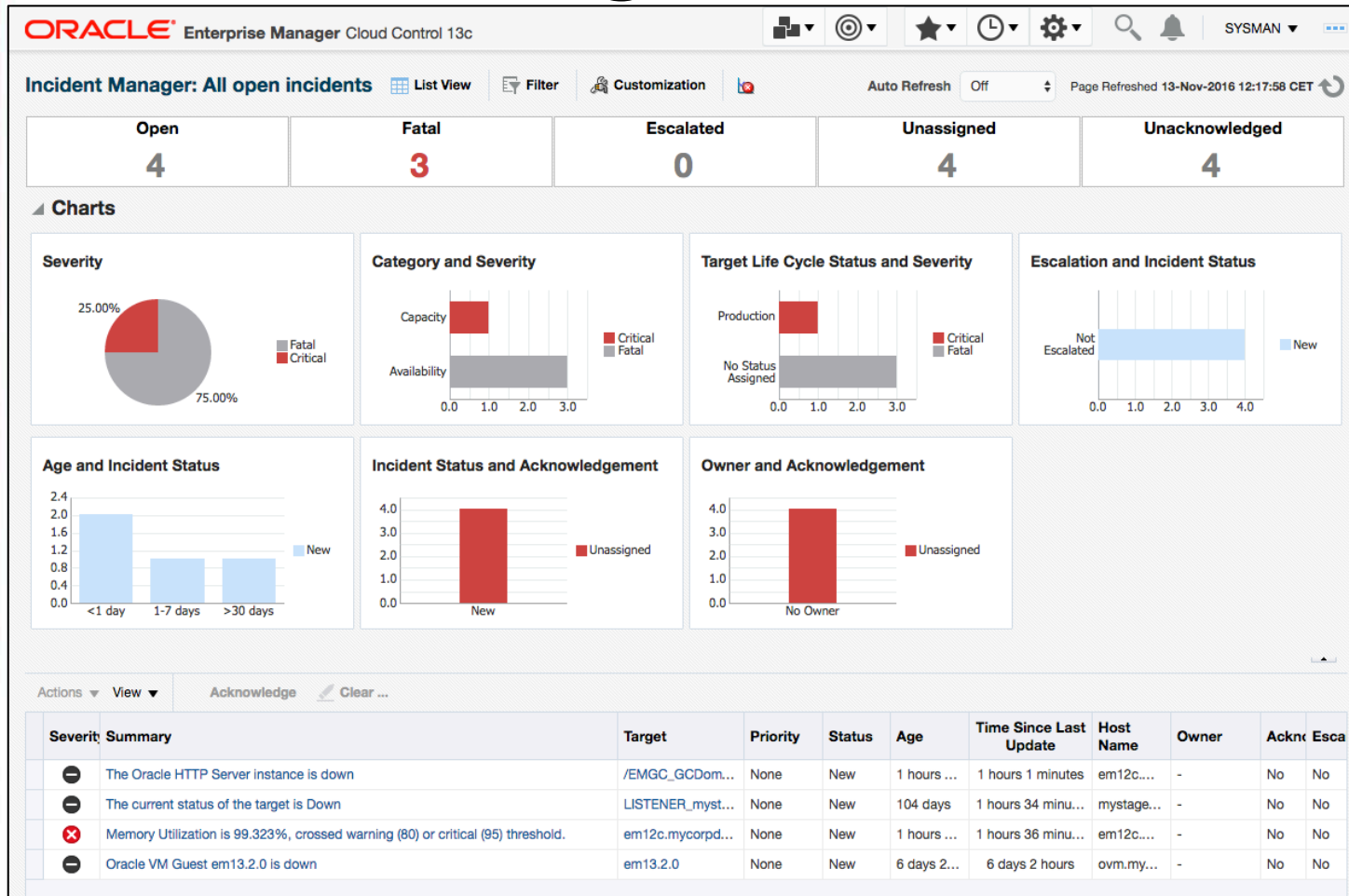
The screenshot displays the EM Console Service interface for 'EM Service'. The 'General' section shows the service is 'Up' with a status of 'Blackout'. Key metrics include: Up Since 12-Nov-2016 09:55:15, Last Calculated 13-Nov-2016 11:59:10, Availability (%) 100 (Last 24 Hours), Performance (green checkmark), Usage (green checkmark), Actual Service Level (%) 100.00 (Last 24 Hours), and Expected Service Level (%) 85.00. The 'Performance' chart shows 'Perceived Time per Page (ms)' on the y-axis (0 to 2,000) and time on the x-axis (12:09 to 13:06). The chart shows a sharp increase in time starting around 12:18, peaking at approximately 1,800 ms, and then dropping back to near zero. The 'Key Component Summary' shows the system 'Management Services and Repository' with a status of '7' and 161 incidents (161 red X, 1 yellow triangle, 0 black circle). The 'Key Test Summary' table shows one test: 'EM Console Service Test' with a 'Web Transaction' type, a green status arrow, and 0 incidents. The 'All Service Incidents' table is currently empty, showing 'No Incidents'.

- 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

```

View Database Actions
Database ADDM Administration
View Database ADDM
Database Advisor Tasks Administration
View Database Advisor Home
Manage Database Advanced Queues
View Database Advanced Queues
Manage Database Alert Logs
View Database Alert Logs
Automated Maintenance Tasks Administration
View Automated Maintenance Tasks
Database Application DBA
Database Application Developer
View Database Archive Logs
Manage Database ASH Reports
View Database ASH Reports and Analytics
Manage Database Audit Settings
View Database Audit Settings
Manage Database Audit Trail
View Database Audit Trail
Manage Database Automatic Undo Management
View Database Automatic Undo Management
Manage Database AWR Settings
View Database AWR Reports
Manage Database Backup/Recovery
View Database Backup
Manage Database Health Checkers
View Database Health Checkers
View Database Clients
Manage Cluster Database Operations
Convert Database to Cluster Database
Manage Database Controlfiles
Manage Database Datafiles
View Database Datafiles
View Database Data Recovery Advisor
Database Administrator
Manage Database Links
View Database Links
Manage Database Dimensions
View Database Dimensions
Manage Database Directory Objects
View Database Directory Objects
Manage Database Vault
Monitor Database Vault
Manage Database Export
View Database Feature Usage
View High Availability Console
Manage Database High Availability Privilege Group
View Database High Availability Privilege Group
Manage Database Import
Manage Database indexes
View Database indexes
View Database In Memory Setting
Install Database Management Packages
Manage Database Java Content
View Database Java Content
Manage Database Memory Usage
View Database Memory Usage
Migrate Database to Automatic Storage Management
View Database Modules
Manage Database Materialized Views

```

Just a sample of +/- 160 Database related privileges....

Database Management

ORACLE® Enterprise Manager Cloud Control 13c

Roles > View Role
View Role: DBA ROLE 1 OK

Properties

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

Roles

Name	Description
No roles are granted.	

Target Privileges

Privileges applicable to all targets

Name	Description
No target resource type privileges are granted	

Target Privileges

Name	Type	Manage Target Privilege Grants	Manage Aggregate Only Privilege Grants	Manage Member Only Privilege Grants
Deve-Grp	Group	Manage Database High Availability Privilege Group, View	NONE	NONE
Prod-Grp	Group	View Database High Availability Privilege Group	NONE	NONE

Resource Privileges

Resource Type	Description	Privilege Grants Applicable to all Resources	Number of Resources with Privilege Grants	View Privilege Grants
No Privileges are granted explicitly				

* "NA" Represents that no privilege is registered for the Resource Type grantable on resource instance
 * "." Represents that no privilege is granted to user on the Resource Type

Administrators

Name	With Admin
DEV_DBA	No

Database Management

The screenshot shows the Oracle Enterprise Manager interface for managing databases. At the top, there are navigation tabs for Performance, Availability, Security, Schema, and Administration. Below these, there are view options for Database Load Map and Search List. A search bar is present with a dropdown menu set to 'Name'. Below the search bar, there are action buttons for Add, Remove, and Configure. The main area contains a table with the following columns: Name, Type, Status, Target Version, and Lifecycle Status. Three database instances are listed: oemrep.mycorpdomain.com (Production), orclref1.mycorpdomain.com (Development), and orclref2.mycorpdomain.com (Production). A context menu is open over the 'Control' option, showing a sub-menu with 'Startup/Shutdown'.

Name	Type	Status	Target Version	Lifecycle Status
oemrep.mycorpdomain.com	Database Instance	↑	12.1.0.2.0	Production
orclref1.mycorpdomain.com	Database Instance	↑	11.2.0.4.160719	Development
orclref2.mycorpdomain.com	Database Instance			Production

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

Database Management

Databases Auto Refresh

Performance ▾ Availability ▾ Security ▾ Schema ▾ Administration ▾

View Database Load Map Search List

Search

Find Name

View ▾

Name	Type	Status	Target Version	Lifecycle Status
oemrep.mycorpdomain.com	Database Instance	↑	12.1.0.2.0	Production
orclref1.mycorpdomain.com	Database Instance	↑	11.2.0.4.160719	Development
orclref2.mycorpdomain.com	Database Instance	↑	11.2.0.4.160719	Production

Oracle Database ▸ Home

Performance ▸

Availability ▸ Monitoring ▸

Security ▸ Diagnostics ▸

Schema ▸ **Control ▸**

Administration ▸ 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
- JVM D 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

NA	Oracle Management Agent 12c Release 4 (12.1.0.4)	Oracle Management Agent 12c Release 5 (12.1.0.5)	Oracle Management Agent 13c Release 1	Oracle Management Agent 13c Release 2
Oracle Management Service 13c Release 2	Yes	Yes	Yes	Yes

EM13c Migration

Oracle Enterprise Manager Cloud Control 13c Installation - Step 4 of 12

Installation Types

ORACLE Enterprise Manager Cloud Control 13c

- My Oracle Support Details
- Software Updates
- Prerequisite Checks
- Installation Types**
- Installation Details
- Database Connection Details
- Select Plug-ins
- Extend WebLogic Server Domain
- Shared Location Details
- Review
- Install Progress
- Finish

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.

Select	Installed Oracle Homes	Version
<input checked="" type="radio"/>	/scratch/mw1	12.1.0.4.0

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

Messages:

Help Installed Products < Back Next > Install Cancel

EM13c Migration

ORACLE Enterprise Manager Cloud Control 13c

Enterprise Targets Favorites History Setup SYSMAN

Agent Upgrade Console

Page Refreshed

Agent Upgrade Tasks Post Agent Upgrade Tasks

- Upgrade Agents
- Not Upgradable Agents
- Agent Upgrade Results

Upgrade Agents

This process enables to upgrade Oracle Management Agents of version 12.1.0.4.0 and above to 13.2.0.0.0 version.

* Job Name: AGENTUPGRADE_

Agents for upgrade

View + Add Remove Refresh Detach

Agent	Installed Version	Version After Upgrade	Platform	Plug-in	Oracle Home
No Agents Found					

Columns Hidden 2

Choose credentials

Preferred Privileged Credentials for Oracle Home of Agent will be used to run root.sh on the agent post upgrade. If the credentials are not set, then click the Override Preferred Credentials and select the credential to run the root.sh

Preferred Privileged Credentials Override Privileged Credentials

Additional Inputs

Submit

EM13c Migration

ORACLE Enterprise Manager Cloud Control 13c

Gold Agent Images Deployments

Number of Agents not on Gold Image
Number of Agents on Gold Image

Notifications

- Agents subscribed but not managed by an image: 0
- Agents without subscription: 2

Last Image Change: ND DB POD, GMT+05:30

Activities: Show all activities

List of all image

View: Detach

Gold Image Name	Subscrib Agents	Agents on Gold Image	Compliance	Number of deployec Gold Image versions	Platform Name
ND_DB_POD	1	1	<div style="width: 100%;"></div>	1	Linux x86-64
OPC_DB_POD	0	0	<div style="width: 0%;"></div>	0	Linux x86-64

Manage All Images

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