



Oracle Enterprise Manager Cloud Control 12c Trials and Tribulations

Simon Pane
First4 Database Partners
Simon.Pane@first4db.com
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Bio

- Partner at First4 Database Partners
- Working with the Oracle Database since version 6
- Oracle Certified Database Administrator
 - Oracle 8, 8i, 9i, 10g, 11g
- MOS Communities & OTN
 - Username: **simon_DBA**



Objectives

- Recommendations from practical experience
- Point out items and issues beyond the documentation and MOS notes

The Name Game

- Grid Control
- Cloud Control
- Enterprise Manager
- OEM
- EM 12c
- CC 12c
- EMGC 12c

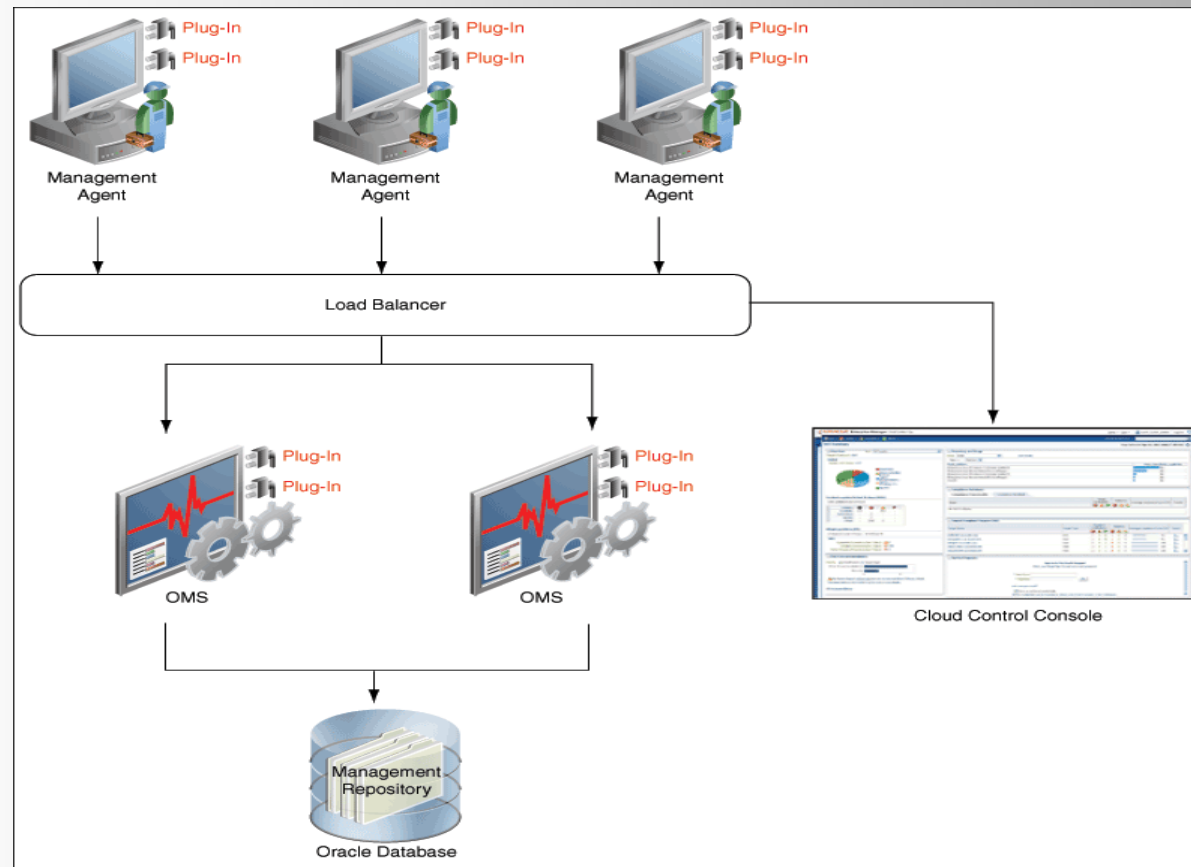
Why to Use?

- Status' / Inventories / Patching / Global Commands / Jobs / Incident Lifecycle
- DB tuning and monitoring (requires licensing)

The screenshot displays the Oracle Enterprise Manager Cloud Control 12c interface. The top navigation bar includes 'Enterprise Manager Cloud Control 12c', user 'GUEST_SUPER_ADMIN1', and 'Log Out'. The main content area is divided into several sections:

- Enterprise Summary:** Overview View showing 990 targets monitored. A pie chart shows status distribution: Up (450, 61%), Down (229, 31%), Agent Unreachable (48, 7%), Pending (4, 1%), and Metric Collection Error (5, 1%).
- Incidents:** 455 open incidents. A table shows counts for categories like Availability, Performance, Security, and Others.
- Problems:** 15 open problems without service requests.
- Jobs:** 47 problem executions and 0 action required executions in the last 7 days.
- Patch Recommendations:** A bar chart showing 35 security recommendations.
- Inventory and Usage:** A table listing platforms like Microsoft Windows Server 2003 Server (7 hosts) and Oracle Linux Server release 5.6 (6 hosts).
- Compliance Summary:** A table for compliance frameworks with columns for Name, Target Evaluations, Violations, and Average Compliance Score (%).
- Least Compliant Targets:** A table listing target names, types, standard evaluations, violations, and average compliance scores.
- Service Requests:** A section for My Oracle Support, indicating that support is currently offline.

Architecture – A Quick Review



- Mix or don't mix production & non-production

- Illustration Source:
http://docs.oracle.com/cd/E24628_01/doc.121/e25353/overview.htm#BABGGJDA


New Technology with 12c

- Grid Control 10g used Oracle Application Server
 - With a OC4J container
- Cloud Control 12c based on Oracle Web Logic
 - New WLS instance with a GCDomain

Be Prepared to Use Support

- With version 12.1.0.2 implementations:
 - One PSU
 - 13 OMS patches
 - 5 agent patches plus configuration adjustments
 - 18 SRs with Oracle Support so far and counting

Upgrade Options

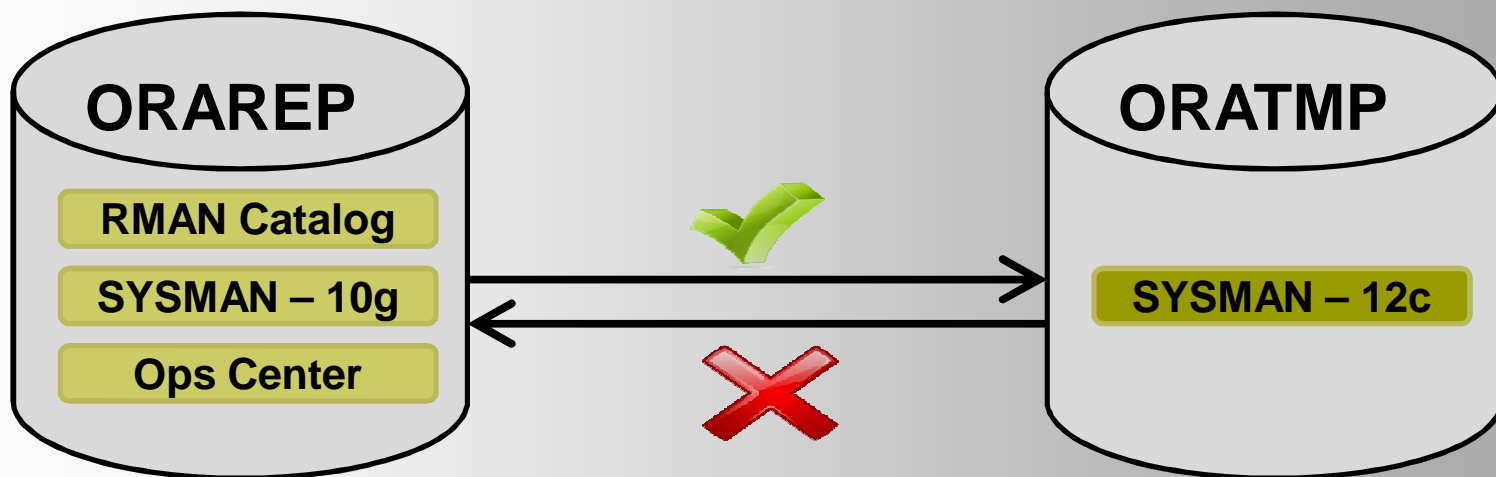
- Don't try to manually create a parallel environment 
 - Old and new agents share a port
 - Won't transfer existing data/users/jobs/UDMs
- Use either the 1-system (in place) or 2-system (out of place) upgrade methods

The Two System Approach

- MOS 1363162.1 for 2-system upgrade
 - Install a patch into the old/existing Grid Control
 - Automatically brings across users, security, and jobs
 - From the old console, push out new software, upgrade configuration and metrics, and eventually transition agents
 - Transition agents either individually or via groups, not all at once

Moving the OMR


- Using the 2-system approach




- Can't easily move SYSMAN via export
 - RMAN duplication or TTS instead

Required Patches

- MOS: Information Center: Enterprise Manager Base Platform Release Cloud Control 12c (ID 1379818.2)

 Mandatory and Recommended Patches

The following patches apply to EM 12.1.0.2.x 

- [EM Patches required for Provisioning, Patching and Cloning \[Document 427577.1\]](#)
- [12.1.0.2.1 Enterprise Manager Base Platform PSU2 \[Document 1536769.1\]](#)




- MOS: Oracle Enterprise Manager 12c Configuration Best Practices (ID 1553342.1)

New Concept: Patch Plans

- Instead of using OPatch, push out patches to agents or databases through “Patch Plans” in the console
 - Takes care of blackouts and restarts
 - Can deploy to multiple targets at once
- Prerequisite:
 - MOS: Enterprise Manager Patches required for setting up Provisioning, Patching and Cloning (Deployment Procedures) (ID 427577.1)



New Concept: The Software Library

- Patches and updates are downloaded to a centralized Software Library on the OMS
 - Then pushed out via Patch Plans
- **WARNING:** Only configure the Software Library as SYSMAN 
 - Otherwise duplicate update jobs are created
 - Can disabled these jobs but never remove
 - Opened bug 17568293 for this problem

Batch Updates

- May want to use if not using Patch Plans

- Examples:

- Changing Oracle Home after manual home cloning patching
- Updating the DBSNMP password

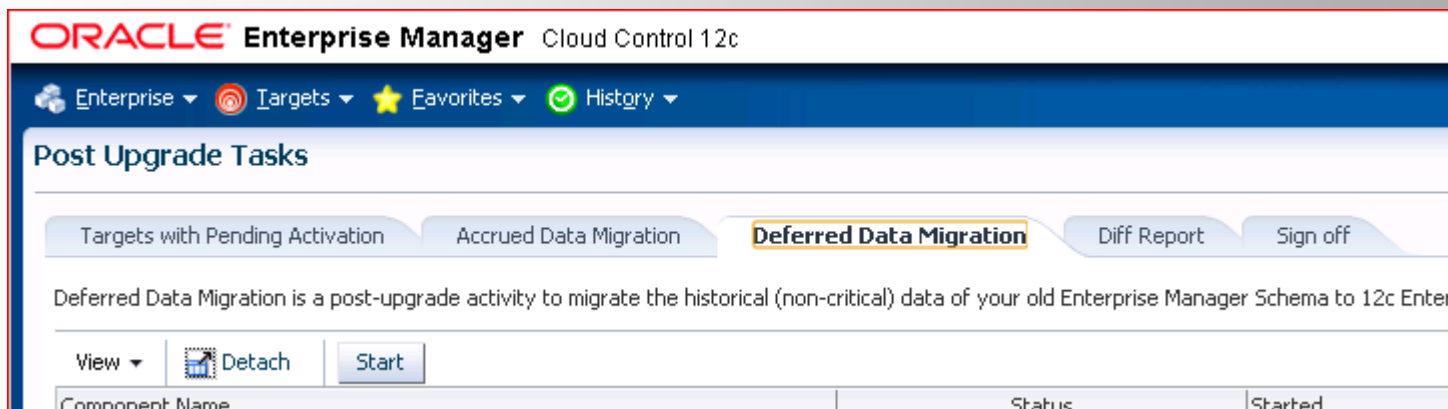
- Easy to do via

```
emcli modify_target -name="ORCL"  
-on_agent -type="oracle_database"  
-properties=  
"OracleHome:/u01/app/oracle/product/11.2.0/dbhome_2  
"
```



Post Upgrade and Stabilization

- Drop database link: `PREUGP_EMREPO_LINK`
- Run the post migration steps
 - Don't forget sign-off: removes the old agent software (pre-NG agents)
 - MOS: EM 12c: DBPROV and DB SECURITY Jobs Stuck in Enterprise Manager 12.1.0.2 Cloud Control Post Upgrade Tasks Console under Deferred Data Migration tab (ID 1539853.1)



Configuration Suggestions

- Modify Console Timeout: Defaults to 45 minutes

- Update (and then restart OMS):

- `emctl set property -name oracle.sysman.eml.maxInactiveTime -value 90`

- Schedule Purging and Rotation of CC Logs

- MOS:

- 12c Cloud Control: Which WLS Log Files Can be Removed / Purged Manually at Regular Intervals in 12c OMS Installation for Space Considerations? (Doc ID 1445743.1)

- 12c Cloud Control: How to Enable Log Rotation Policy to Automatically Delete Older GCDomain.log, EMGC_ADMINSERVER.log and access.log Files? (Doc ID 1450535.1)

- EM 12c Cloud Control: Steps to Locate and Manage the Various Logs/Trace files in a 12c OMS Installation (Doc ID 1448308.1)

Startup / Shutdown

■ Slow startup:

- Easily up to 10 minutes
- Confirmed with Oracle that this is normal

■ Shutdown:

- Usually need to use: `emctl stop oms -all -force`
- Often rebooting the server is best

New Agent Deployment

■ Six Agent Installation Methods:

1. Agent Deployment Wizard
 - Pushed from the OMS through the Console
 - The typical and recommended approach
 - Must still apply patches after deployment
2. Silent install via a response file
3. RPM: build, copy, and install and RPM
4. Agent cloning wizard (through the Console)
5. Manual cloning
6. Shared Oracle Home agents

Agent Issues

- Agents sometimes getting targets stuck in the “*Status Pending*” state
- Agents sometimes falsely report the HAS as being down
- Typically need to execute:
 - `emctl stop agent`
 - `emctl start agent`
 - `emctl upload agent`
 - `emctl clearstate agent`

New Concept: Target Promotions

- No more “agentca -d” command
- Target discoveries happen automatically daily or can be manually initiated
- Targets must be manually “promoted” after discovery
- “Auto Discovery Results” can help detect inconsistencies in the environment
 - Extra databases discovered may indicate issue with configuration (i.e. left over in listener.ora file)



New Concept: Incident Rules

- Replaces “Notification Rules”
- Incident Rules determine what actions should be taken when problems and events occur
- Performing a “notification” can be one such action
- MOS:
 - 12c Cloud Control: Steps for Subscribing / Unsubscribing to Email or Page Notifications in the Incident Management RuleSet (Doc ID 1389460.1)
 - EM 12c How to Configure Notifications for Job Executions ? (Doc ID 1386816.1)

New Concept: Compliance Framework

- Security metrics have been moved to the new Compliance Framework
- By default the “Security Recommendations for Oracle Products” standard is applied and assigned to host (and related) targets
 - Recommend disabling or de-associating targets
- Old metrics under “Basic Security Configuration For Oracle Database”
- Incident Rules can be used with compliance events

Help Video Library

- Many new videos, mostly published through YouTube:

The screenshot shows the Oracle Enterprise Management 12c Screenwatches page. The top navigation bar includes the Oracle logo, a welcome message for Simon, and links for Account, Sign Out, Help, Country, Communities, I am a..., and I want to... A search box is also present. Below the navigation bar, the breadcrumb trail reads "Oracle Technology Network > Enterprise Management". The main content area features a list of screenwatches on the left and a detailed view of the "Oracle Enterprise Manager 12c Screenwatches" on the right. The detailed view includes a list of 9 screenwatches and a link for earlier releases.

Welcome Simon

Account Sign Out Help Country ▾ Communities ▾ I am a... ▾ I want to... ▾ Search

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Oracle Technology Network > Enterprise Management

Enterprise Manager
Packaged Applications Management
Middleware Management
Database Management
Exadata Management
Hardware and Virtualization Management
Heterogeneous (Non-Oracle) Management
Cloud Management
Lifecycle Management
Enterprise Monitoring
Application Performance Management
Application Quality Management
Framework and Infrastructure
Installation and Upgrade

ORACLE 12^c **Oracle Enterprise Manager Screenwatches**
ENTERPRISE MANAGER

1. Cloud Management
2. Lifecycle Management
3. Application Quality Management
4. Enterprise Monitoring
5. Application Management
6. Middleware Management
7. Database Management
8. Hardware and Virtualization Management
9. Enterprise Manager Framework and Infrastructure


For earlier releases, [click here](#).

WLS with AD Credentials

- Web Logic and Active Directory integration
 - Relatively easy
 - Setup through Web Logic

- No longer any need for a DB user (in the OMR) for CC users
 - Less databases users
 - Less passwords for CC users

Harvester Replaces OCM

- No need to use or run the Oracle Configuration Manager against each database/Oracle home
 - Same info is already being collected by CC12c
 - can be uploaded to MOS from there
- Must upgrade and configure OCM in the OMS home 
 - MOS: How to install and configure the OCM Collector for EM 12c Cloud Control?
(Doc ID 1556506.1)

Other Recommendations

- Use the “Diagnostic Utilities”

- Repvfy, Omsvfy, Agtfy

- Download from MOS and install separately

- Keep up to date manually by checking MOS for new versions

- Don't OEM use to build Data Guard environments

- Doesn't make parameters bi-directional

Looking Forward

- Migrate UDMs to “Metric Extensions”
- Implementation of “Administration Groups”
- Add 12c granular “Role Security”
- Auditing
- Add and use “Named Credentials”
 - Increased security via credential sharing
- HA for OMS and OMR
 - Active/Passive OMS and Data Guard for OMR



Book Report

- Oracle Enterprise Manager Cloud Control 12c Deep Dive (Oracle Press)
 - Just another rehash of the documentation
 - Doesn't go into deep detail
 - Doesn't go into tips or recommendations

Conclusions

- Cloud Control 12c is the version you want to be at regardless of the version of targets
- Many advantages to using Cloud Control
- Be prepared to invest time
 - Learning the complexities of the product
 - Troubleshooting and support
 - Tuning and optimizing



Questions or Comments?

Simon.Pane@first4db.com