Oracle Enterprise Manager 12c What has Changed? What is New?

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Oracle Enterprise Manager 12c What has Changed? What is New?

Speaker Introduction

- Michael Messina
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- Background includes Performance Tuning, High Availability and Disaster Recovery
- Using Oracle for approximately 17 years
- Oracle ACE
- Oracle OCP 9i/11g
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Anyone Currently Using
Oracle Enterprise Manager 12c?

Thoughts?

Experiences?

Likes?

Dislikes?

Outline

- Oracle Enterprise Manager Overview
- What has changed/improved in OEM 12c
- What is new for OEM 12c

Oracle Enterprise Manager Overview

- Centralized Monitoring, administration and Lifecycle Management
  - Oracle and Non-Oracle Technologies
    - IBM Websphere
    - MS SQL Server
    - Juniper Networks NetScreen Firewall
    - Etc.
  - Complete IT Infrastructure
- Oracle Enterprise Manager has been rebranded from Grid Control to Cloud Control

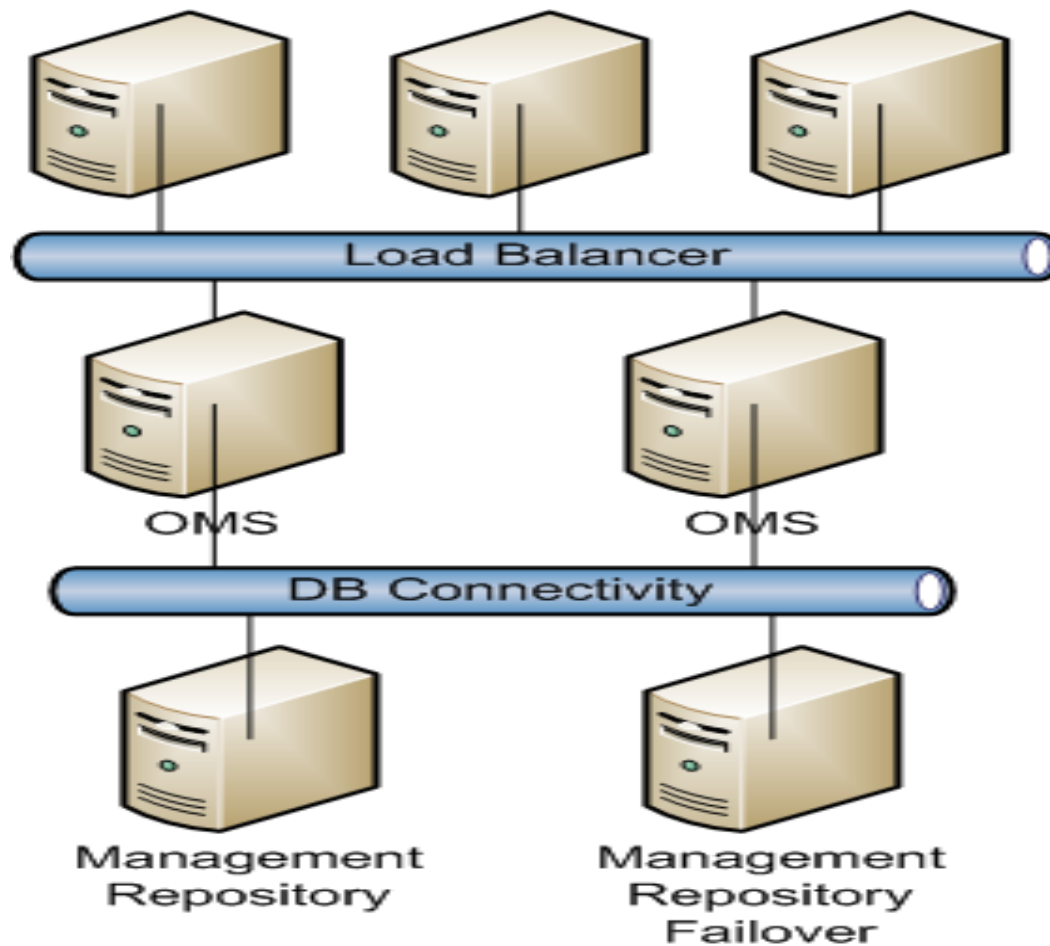# Oracle Enterprise Manager 12c Overview

Oracle Enterprise Manager Overview

- Components
  - Oracle Management Agent
  - Oracle Management Service
  - Oracle Management Plug-ins
  - Enterprise Manager Cloud Console
  - Oracle Database for Management Repository

OEM HA Architecture

What has Changed/Improved in OEM 12c

What Changed/Improved?

- Interface Changes/Improvements
- Management Features all Plug-ins
- Management Agent Improvements
- Improved My Oracle Support Integration
- Reporting Enhancements
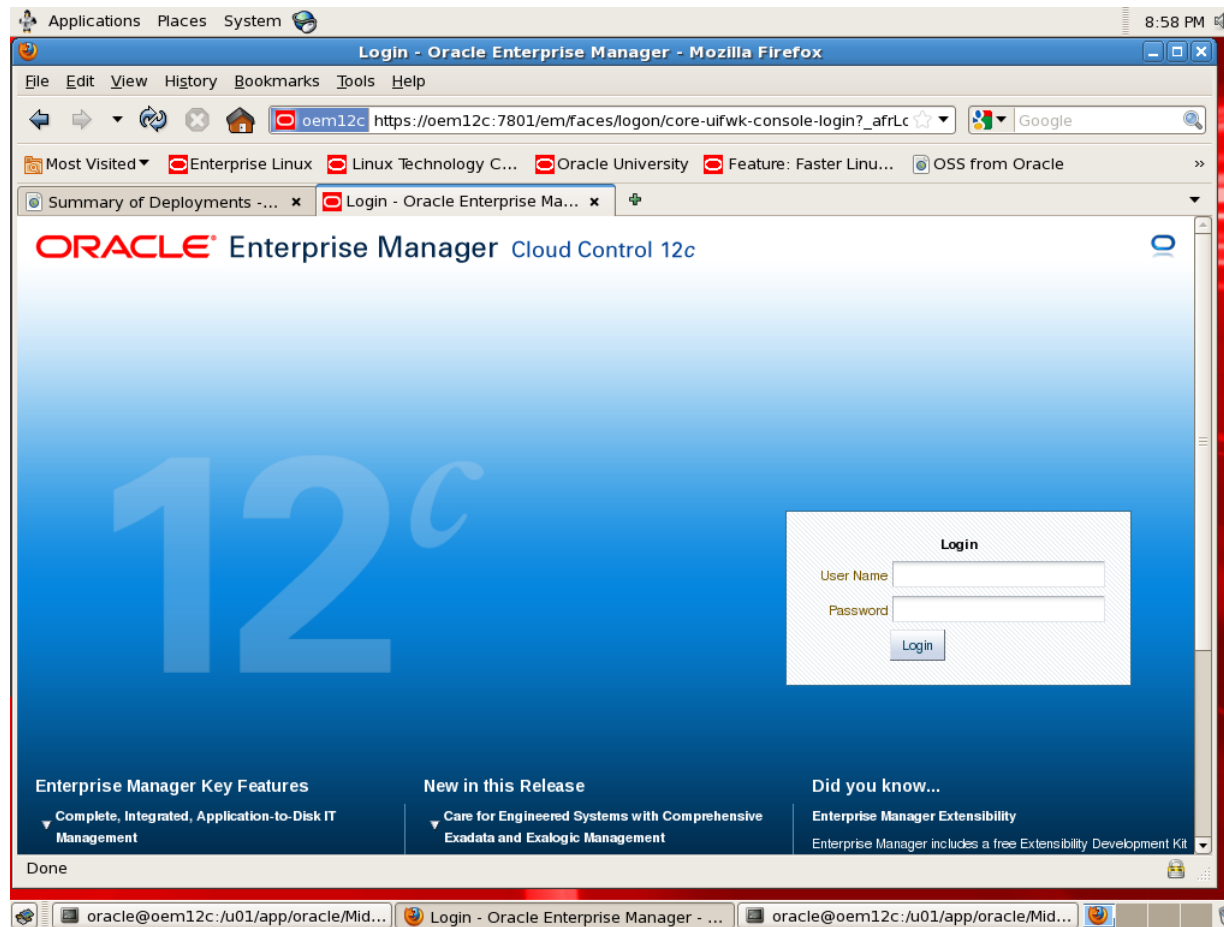- Data Masking Improvements
- Other Improvements

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Interface Changes/Improvements

- New Login Page
- Selectable Console Home Page
- Global Search Improvements
- New Favorites Menu
- New Target Selector Dialog

OEM Login Screen

Interface Changes

- Customizable/Personalization Target Home Pages
    - Weblogic Server
    - Host
    - Database
- Can Customize regions on a page
- Add regions
- Control data displayed within a region
- Includes a set of pre-defined home page layouts

Selectable/Customizable Home

Selectable/Customizable Home

- Can Select / Customize you Home Screen
    - Preference
    - Job Role
    - Job Function
- Summary
- Database
- Middleware
- Incidents
- Etc.

Global Search Improvements

Global Search Improvements

- Can Search for Any Target right from the home screen.
- Search also can search knowledgebase, Bug Database and Community from My Oracle Support, goes along with improve My Oracle Support integration.
- Can also search Documentation
- Can Search Sun System handbook

New Favorites Menu

New Favorites Menu

- Create a List of favorite screens/locations in OEM 12c
- Much like favorite lists in your Web Browser.
- Makes navigation to you most used OEM 12c screens easier.
- Favorites are placed into predefined folders/categories.
  - Bug – My Oracle Support
  - Enterprise Manager Pages
  - Service Requests – My Oracle Support

Management Features for Oracle Products Now provided by Plug-ins

- In OEM 12c All Management Features provided by Plug-ins
  - Database
  - Fusion Middleware
  - Fusion Applications
  - Exadata
- Managed by new "pluggable" framework
  - Allows plug-in updates for new versions without waiting for next version of OEM

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Management Agent Improvements

- Improved diagnosis capabilities for Agents
  - Warnings to Agent Issues
  - Facilitate the monitoring and management of OEM itself.
- Support Workbench Support
- Distributed Diagnostic Patching
- Diagnostics Kit Integration
- Admin Management Agents as a Group
- Monitoring of Cloud Control component services such as jobs and notifications

Improved Oracle Support Integration

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Improved Oracle Support Integration

- Service Requests
  - Create
  - Monitor
  - Update
  - Relate to configuration in OEM
- View Patch Recommendations
  - Identify missing patches
  - Patch Recommendations

Reporting Enhancements

- Integration with Oracle Business Intelligence (BI) Publisher.
  - Highly Formatted Documents
  - Customer Reporting Applications
  - Reports Designed using known Desktop Products

Database

- Auto Discovery of Targets
- Oracle Exadata Server Management Enhancements
  - Automatically Discover Exadata Targets
  - Simplify performance diagnostics
- Backup Restore Enhancements
  - Centrally Manage Database and file system backups
  - Uniform settings for database and file system backups.

Database

- Emergency Performance
  - allows a DBA to diagnose and troubleshoot a hung or extremely slow database using the memory access mode
- Compare Period Advisor
  - analyzes changes in performance, workload, configuration, and hardware and will highlight any changes found between the two provided time periods

Data Masking Improvements

- Able to be reversed
  - In OEM 12c Data Masking is based on a regular expression provided creating the ability for the masking to be reversed.

- Integrated with Real Application Testing.
  - Real Application Testing Replay of production in a non-production environment when non-production environment employs Data Masking

- Application Data Model Support
  - containing sensitive column and data relationships for data masking
  - know which columns contain sensitive information

Other Improvements/Changes

- Template Integration
  - Template Collections
    - Monitoring Templates
    - Compliance Standards
  - Streamlined process applying templates and compliance standards to targets and groups
- Blackout Enhancements
  - Consolidated Blackout Information Summary in region of the target home page.
- ASM Clusters as a Target
  - allow the management of a ASM cluster as a single target.

What is New in OEM 12c

What is New

- Metric Extensions
- Access
- Database
- Cloud Policies
- Compliance Management and Reporting
- Consolidation Planner
- Incident Manager
- Charge Back Administration

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What are Metric Extensions?

- Similar to User Defined Metrics in prior Oracle Enterprise Manager Releases
  - Extend Monitoring Capabilities
  - Custom Metrics with custom threshold
  - Allow full fledged metrics for many target types
    - Hosts, Databases, Fusion Applications, Oracle Exadata Databases and Storage Servers, Siebel Components, OBIEE Components

How Do Metric Extensions Differ from User-defined Metrics?

- User-defined metrics (UDM) collect values through executing OS scripts or SQL statements. This imposed several limitations:
  - UDM - Custom scripts/other files required file(s) be manually placed on each target's file system.
  - OS user-defined metrics cannot have child objects of servers by returning multiple rows, only for SQL user-defined metrics.
  - User-defined metrics collect multiple data pieces using multiple user-defined metrics. Cannot to refer to 2 data points from 2 metrics for alert generation as data is collected separately.
  - User-defined metrics only use the OS script and SQL execution, metric extensions can use protocols such as SNMP and JMX.
  - Only user defined metrics for host targets and SQL for database targets. No other target types allowed such as Weblogic.

Access

- Enforced Security for Web Services
  - Username/Token-based Authentication for Accessing Web Services within OEM
- Bulk Provisioning/De-provisioning of External Accounts
  - LDAP users can be provisioned in bulk to the Management Repository
  - De-provision accounts no longer needed.
- LDAP Authentication
- Kerberos and Secure Socket Layer Authentication (SSL)

Access

- Fine Grained Privileges
  - 200 new granular privileges to control access
    - Targets
    - Objects
    - Resources
  - New Out of the Box Roles
- Administration Groups
  - Manage Many Targets as a Single Entity
  - Automatic Deployments of Monitor Settings and Compliance Standard settings across all targets in a group.

Database

- Database Creation in Enterprise Manager
  - Wizard to create Oracle Database from within OEM
  - Single Instance and RAC Cluster Database
- Database Upgrade in Enterprise Manager
  - Single Instance and RAC Cluster
  - Upgrades from a Single Console
- Database Cloning
  - enhanced to capture configuration properties

Database

- Automatic Storage Management (ASM) Clusters as a Target
  - Manage ASM Clusters as a single target
  - Metric Monitoring for the cluster
- Emergency Troubleshoot
  - Diagnose and troubleshoot hung or really slow database using memory access mode.
  - Bypasses the SQL information retrieval Layer
  - Read Performance Statistics directly from the SGA

Database

- You can now use Enterprise Manager Cloud Control to centrally maintain settings for Oracle database and file system backups.

Cloud Policies

- Policies are in a sense the rules under which actions are taken to correct things under defined situations.
- Can define your own policies or use pre-defined policies
- Can not update Pre-defined Policies
- 2 types of policies
  - Performance
    - based on performance metrics of a target
  - Schedule Based
    - based on a defined schedule

Cloud Policies

- Can be created in a hierarchy where a policy at a higher level inherits the properties of the policy at the lower level
- Policy Levels
  - data center inherits zone level
  - zone level inherits server pools and server level
  - server pools and servers level

Compliance Management and Reporting

- Standard best practices measured for targets
- Business best practices for security, configuration and storage
- Make recommendations for bringing the targets into compliance
- Has database configuration data to be managed within the framework
- allows for industry standard compliance such as PCI, PCI Requirement 10, PCI 10.5, etc
- Compliance report a score based on how compliant target is to the compliance standard

Consolidation Planner

- An increase in floor space, power, cooling and management drives consolidation
- Organizations realize that in a lot of cases the servers are really only partially utilized
- Allows the matching of servers you want to consolidate with virtual environments or Exadata they can be consolidated to
- Leverages data collected from server targets and factors business and technical requirements to help determine the consolidation options

Incident Manager

Incident Manager

- Show incidents/problems
- Track and Manage Incidents/problems
  - Escalate
  - Assign
  - Comments
  - Acknowledge
- See Incident/problem Details

Charge Back Administration

- collects the metrics (metering if you will) of resource consumption based on configuration or usage basis.
- ability to put metrics in place that allow the measurements of resource usage
- gives us data that can be utilized as a resource planning tool

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Charge Back Administration

- 3 universal metrics of consumption
  - CPU
  - Memory
  - Storage
- Key resources have a cost tied to them for example $1 per day of CPU, $1 per GB of storage utilized, $2 per day of Memory consumed.
- Universal metrics can be applied to all types of targets such as a database, a WebLogic Server, etc.

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Charge Back Administration

- Cost = Resource Used * Charge per unit of resource
- Example
  - 100G database using 10G of RAM and 2 CPUs at 25%
  - Storage Cost = 100G * 1
  - CPU Cost = ($1 * 2cpus) * .25 percent used
  - Total Cost = Storage Cost + Ram Cost + CPU Cost

Questions?