Oracle Enterprise Manager 10g R2

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Speaker Qualifications

- Lucas is a Decision Support Systems Team Lead and Senior DBA at Verizon Wireless at Verizon Wireless
- Lucas has been working with Oracle since Version 7 in 1998 as a Developer and has been a DBA for the last 5 years. He has worked on OLTB and OLAB database on Windows, Sun Solaris, and Linux Platforms
- Lucas implemented OEM 9i three years ago as the team’s primary job scheduler and database monitoring tool
Session Objectives

• Highlight Several Valuable New OEM 10g Features
• Update on New Features in OEM 10g Release 2
• Demonstrate OEM 10g Monitoring Technique
• Demonstrate Scheduler
• Sample Job Script

Audience Survey
• What tool do you use in your daily DBA activities?
• As a beginner DBA What tool do you use?
Some OEM Background & History

- Oracle 9i OEM had three tier model
- Required extra configuration steps to install client and Oracle Management Server (OMS)
- Has some networking issues with agents going out of sync
- Ran into issues when scheduling large amounts of jobs against a single Intelligent agent
- Did not always keep pace with development of database server itself (Ex. Subpartitioning, 8i)
OEM 10g Architecture

- Oracle OEM 10g has http server model (called DB Console) sitting on database server itself
- Instead of client installed tool any browser can see the interface
Main Database Home Page

- Oracle 10g OEM has a Dashboard Overview of entire database
- Can be used as top level for drilling down into detailed information about specific pieces
Main Database Home Page (cont.)

- **Alerts:** Shows all the relevant alerts that may require action
- **Related Alerts:** Contain Target information that may be related to issues that are causing database alerts
EM Oracle Scheduler

- Oracle Scheduler has been enhanced to provide additional critical functionality
- In addition to functionality and usability improvements, jobs can now be chained and scheduled based on external events
- A job chain describes a set of jobs that are interrelated. Rules are used to define the dependencies between jobs.
- Now can define a custom calendar based on business rules such as the business fiscal year
EM Oracle Scheduler (cont.)

- I will now Demo the scheduler and do a Walkthrough of Scheduling Jobs highlighting useful enhancements in 10g
Release 2 Feature: Memory-Attached SGA Query

- Monitor in Memory Access Mode option allows Enterprise Manager to select the sessions directly from SGA memory
- SQL layer is bypassed and a hung database does not prevent query from executing
- On the EM Performance table scroll to “Related Links” and choose “Monitor in Memory Access Mode”
Release 2 Feature: Optimizer Statistics Management

- Enterprise Manager can now take advantage of 10g features for managing optimizer statistics
- Statistics can be locked to prevent subsequent overwriting
- East the task of collecting and managing optimizer statistics
- From Homepage >> Administration >> “Statistic Management” and see Manage Optimizer Statistics
- Use the links on the right side to run Statistics jobs
Release 2 Feature: Database Administration Enhancements

- Redo log file size advisory
- All possible actions for an object are provided on the View / Edit object page
- Search for PL/SQL objects based on object status
- Delete multiple objects simultaneously
- Enable or disable multiple triggers simultaneously
Release 2 Feature: Database Auditing Administration

- Configuration of audit-related initialization parameters
- Administration of audited objects: statement auditing and schema object auditing
- Makes it convenient for the DBA to manage database auditing in the Enterprise Manager Web console
Release 2 Feature: Enable or Disable Undo Undo Retention

- You can now enable and disable undo retention through the EM user interface in R2.
- When this option is enabled, the database never overwrites unexpired undo data (undo data whose age is less than the undo retention period).
- The default is enabled which means that the database can overwrite the unexpired undo data to avoid failure of DML operations when out of space, so use caution when enabling.
- Example of use might be predicting behavior of Flashback Query.
Release 2 Feature: Manage Multiple Objects

• Compile multiple objects by clicking the checkboxes next to objects and selecting “Compile” from the drop-down list Next to Actions

• Many more things you can do such as creating DDL or dropping objects
Release 2 Feature: Wizard-Based Loading of Flat Files

- Helps you specify a data files and then steps through some simple screens where you can provide information about the structure of the file
- Both Character delimited and fixed length files are supported
- EM uses the supplied information to automatically generate a SQL*Loader control file and a Job for loading the data
- EM Load Data wizard automates the process of crating a SQL*Loader control files when can be time-consuming and error-prone
Release 2 Feature: Net Services Administration

- EM can now be used to manage Net Services components and features
- Configuration of Oracle advanced security strong authentication
- Configuration of network data encryption and integrity for Oracle servers and clients
- Configuration of secure socket layer authentication
- Transparent Application Failover (TAF)
Release 2 Feature: Net Services Administration (cont.)

- Search functionality for Listeners and Net Service names
- Editable location of tnsnames.ora for import to Oracle Internet Directory
- Listener target support for IMAP and POP Presentation
- Rename Listeners
- Rename Net Services names
- Convenient to manage the various components of Oracle Net Services in the EM Web Console
Release 2 Feature: Adaptive Alert Thresholds

- Can now compute statistical alert thresholds using either static (user-defined) or dynamic (self-adjusting) baselines within EM
- Dynamic statistical baselines can significantly improve the accuracy of performance alerting
- Can also reducing exposure to the false positives commonly incurred under fixed threshold schemes
Release 2 Feature: Performance Monitoring Enhancements

- System-level activity for any duration in real-time, recent real-time, and historical time
- CPU-level and Wait Class-level activity for any duration in real-time, recent real-time and historical time
- Ability to run Automatic Database Diagnostic Monitor (ADDM) on demand
- Display of Alert thresholds in the Performance pages
- Enhancements greatly increase the ability to quickly detect performance problems both proactively and reactively
Release 2 Feature: Session Activity History

- Now have ability to view the history of database session activity for both real-time (less than one hour) and historical time contexts.
- Greatly increases the ability to diagnose problems related to a particular database session, as it permits ability to go back in time and view the history of the session activity.
Conclusion

- Oracle 10g OEM has a vast array of features that can save you time and help you better know your database with minimal effort.
- The tool is free with the database and though it’s not aggressively marketed (unlike some competing 3rd party tools) it’s very useful.
- Good documentation for many of the basic tasks to use with EM is the Oracle Database 2 Day DBA Manual.
- For install: Oracle Enterprise Manager Grid Control Installation and Basic Configuration guide.
Q & A