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 is President and Co-founder of the Connecticut Oracle Users Group (CTOUG, http://www.ctoug.org/)

- 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
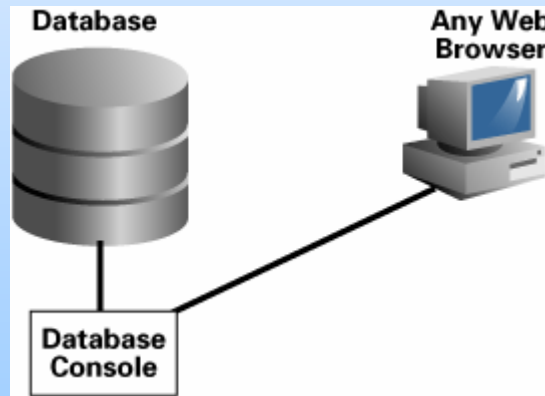
Main Database Home Page

- 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

ORACLE Enterprise Manager 10*g*
Database Control

Help   Logout

Database

Logged in As LUCAS

Database: top1

Home | Performance   Administration   Maintenance

Page Refreshed Sep 15, 2005 6:40:34 PM   (Refresh)

View Data Manually

General

Status **Up**
Up Since **Aug 16, 2005 3:26:02 PM**
Time Zone **EDT**
Availability (%) 100
(Last 24 hours)
Instance Name **top1**
Version **10.1.0.2.0**
Read Only **No**
Oracle Home C:\oracle\10.1.0
Listener LISTENER_mdlarlhqwebsrv1.uswin.ad.vzwcorp.com
Host mdlarlhqwebsrv1.uswin.ad.vzwcorp.com

(Shutdown)

Host CPU

100%
75
50
25
0

■ Other
□ top1

Run Queue 0.0
Paging (pages per second) 5.4

Active Sessions

00
0.04

■ CPU
■ I/O
■ Wait

Active Sessions 0.04
SQL Response Time (%) ✓ 105.56
(compared to baseli

High Availability

Instance Recovery Time (seconds) 15
Last Backup **n/a**
Archiving Disabled
Archive Area Used (%) **n/a**
Flashback Logging Disabled

Space Usage

Database Size (GB) 20
Problem Tablespaces ✓ **0**
Segment Findings Not Configured
Policy Violations ⊡ 4
Dump Area Used (%) ⚠ 96

Diagnostic Summary

Performance 0
Findings
All Policy Violations ❌ 68
Alert Log Sep 15, 2005 4:28:00 PM

Alerts

Critical **0**
Warnings ⚠ **12**

Alerts

⊘ Previous 1-10 of 12 | Next 2 ⊘

Severity ▽	Category	Name	Message	Alert Triggered	Last Value	Time
⚠	Invalid Objects by	Owner's Invalid Object	19 object(s) are invalid in the RCA schema	Feb 4, 2005 1:24:55	19	May 20, 2005 12:32:46

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 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 b used to manage Net Services components and features

- Configuration of Oracle advanced security strong authentication

- Configuration of network data encription 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 then 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 you 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 documention 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