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Centralize Your Automatic Workload Repository Data for Better Analysis

Michael R. Messina, Senior Managing Consultant
Rolta, TUSC Infrastructure Services
IOUG Collaborate 2012



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Speaker Introduction

- Michael Messina
- Senior Managing Consultant Rolta, TUSC Infrastructure Services
- Background includes Performance Tuning, High Availability and Disaster Recovery
- Using Oracle for approximately 17 years
- Oracle ACE
- Oracle OCP 9i/11g
- Mike.Messina@roltasolutions.com
- www.tusc.com / www.roltasolutions.com



Challenges

- Comparing and Analyzing AWR Data Between Databases
- Single point of entry for AWR data in the Enterprise
- Maintaining AWR Snapshot Data locally for Long Periods of Time
- Comparing and Analyzing AWR Data Between Time Periods Stretched over months and/or years
- Maintaining AWR Snapshot Data locally for Long Periods of Time



Agenda

- Central AWR Architecture
- Creating a Central AWR Repository
- Extracting AWR Data
- Loading AWR Data into Central AWR Repository
- Maintaining Central AWR Snapshots
- Using Central AWR Repository for Analysis
- Reports from Central AWR Repository
- Database Versions Tested
- Demo Application Express Front End Example
- Questions

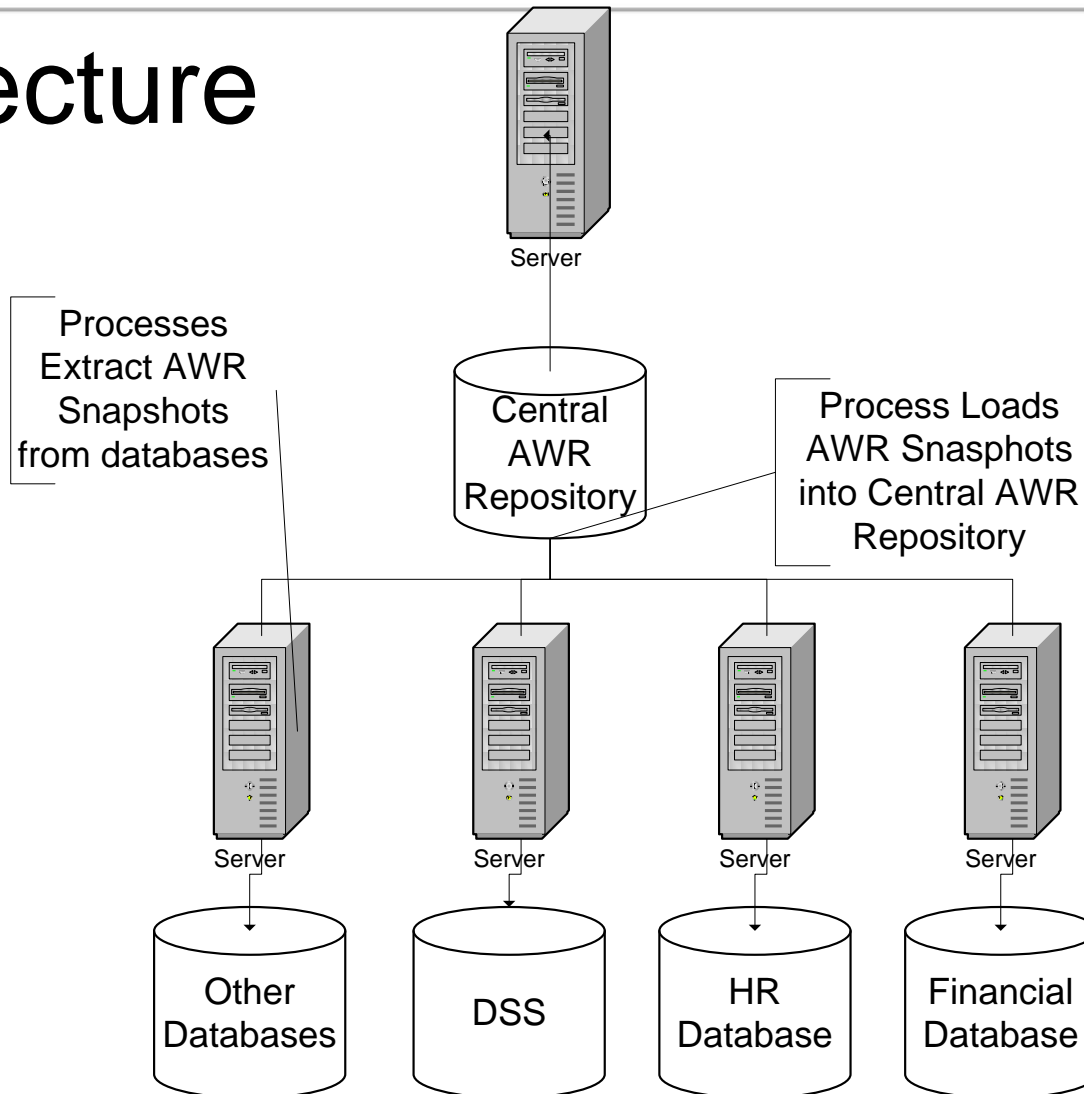


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Architecture





Creating Central AWR Repository

- Requires Oracle Database 10g or Above
- 11gR2 Recommended
- Local file system on each node with a database for AWR Extracts.
- Local file system on the node that houses the Central AWR Repository Database.
- Network Connectivity between the Central AWR database and the databases within your enterprise.
- Central AWR Processes



Extracting AWR Data

- Database Link
- Oracle Database Directory
 - CREATE DIRECTORY
- Stored Procedure
 - Utilizes Oracle Packaged Procedure
 - dbms_swrf_internal
 - Extracts using data pump
 - Scheduled Procedure execution using DBMS_SCHEDULER
- Extracts to a dump file on a local file system
- Transfers dump file to Central AWR Loading Location
 - DBMS_FILE_TRANSFER



Loading AWR Data into Central AWR Repository

- Oracle Directory for Central AWR load file space
 - CREATE DIRECTORY
- Stored Procedure
 - Utilizes DataPump dump files from extract procedure
 - Utilizes Internal Oracle Packages
 - DBMS_BACKUP_RESTORE
 - UTL_FILE
 - dbms_swrf_internal
- Loads files found place in the Central AWR load file space



Maintaining Central AWR Snapshots

- Determine criteria for keeping AWR Snapshot data globally
 - Easily Customized to control for each database
 - Based on # of days to keep
- PL/SQL Stored Procedure
 - Utilizes existing AWR Snapshot Purge Procedure
 - dbms_workload_repository
- Scheduled via Oracle Scheduler
 - DBMS_SCHEDULER



Using Central AWR Repository for Analysis

- Keep multiple years worth of AWR Snapshot Data
- Run AWR Reports for many snapshot periods over longer periods of time.
- Run AWR Compare Reports, week over week, month over month, Quarter over Quarter or Year over Year.
- Compare AWR snapshot periods between 2 databases



Reports from Central AWR Repository

AWR Report

```
SQL> @?\rdbms\admin\awrrpti.sql
```

Accept DBID to focus on database to run report for



Reports from Central AWR Repository

AWR Compare Report AWR

SQL> @\$?/rdbms/admin/awrddrpi.sql

Accepts 2 DBIDs for comparison, can be same DBID for 2 Snapshot periods to be compared or 2 different DBIDs to compare 2 snapshot periods from 2 different databases.



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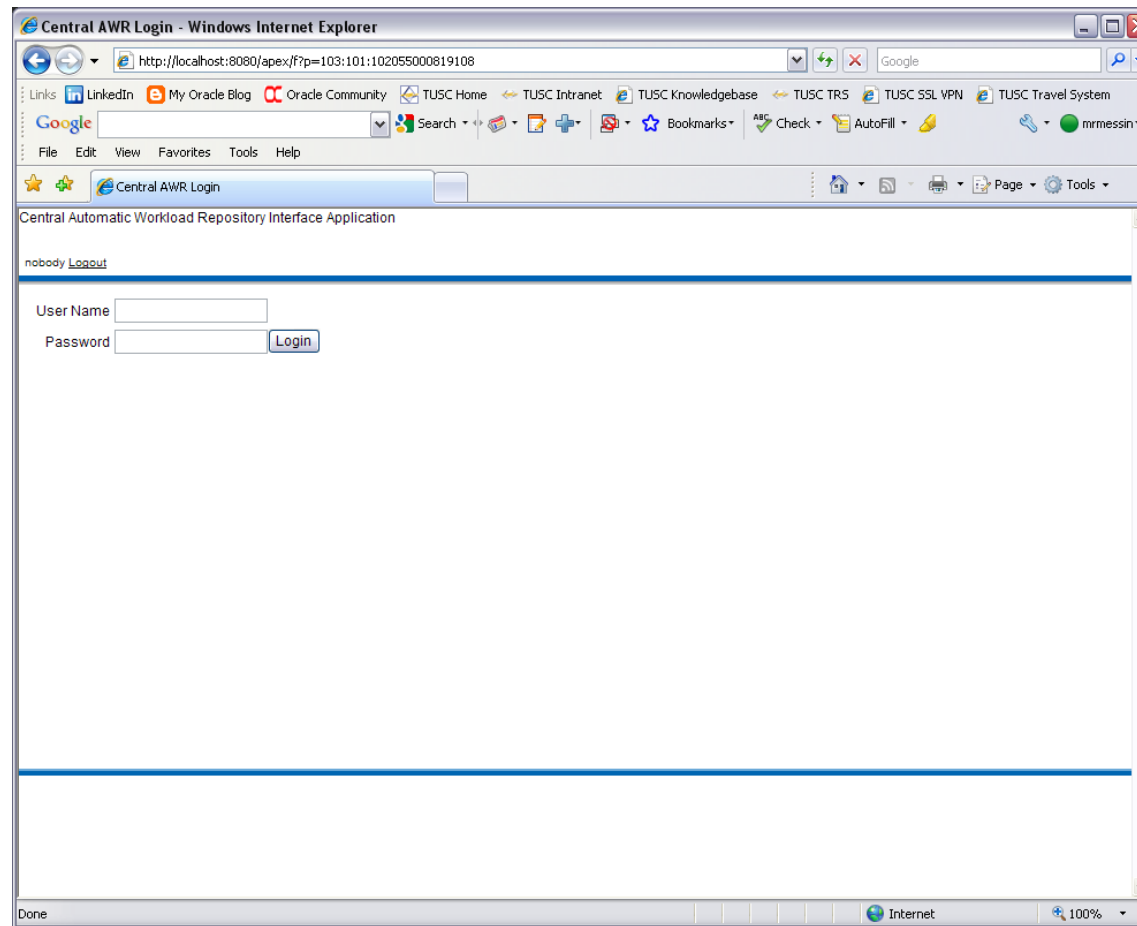


Database Versions Tested

- Database 10gR2
- Database 11gR1
- Database 11gR2



Demo Application Express Front End





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THANK YOU

Questions/Discussion



Any Further Questions?
Come see us at the Rolta Booth