



Exploiting Oracle Tools and Utilities for
Monitoring and Testing Oracle RAC
OTN Tour - 2011

(Costa Rica, Ecuador, Columbia, Peru)

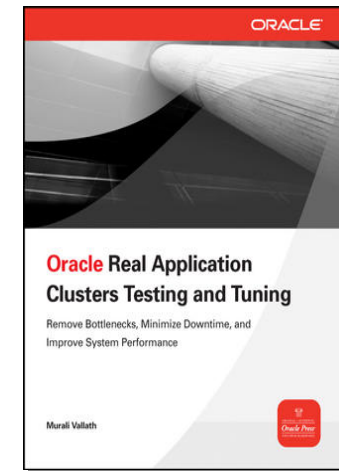
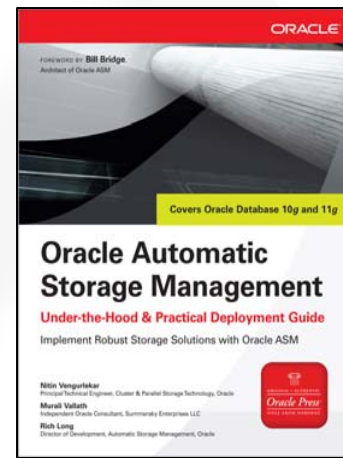
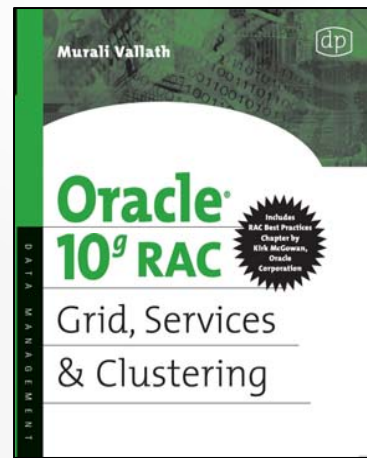
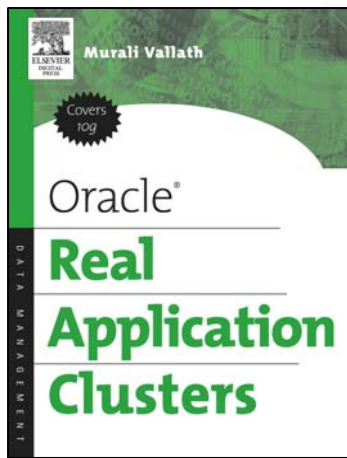
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About me...

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Test! Test! Test!

- Independent load testing using tools
- Test in house application on single instance
- Test across the cluster
- Simulate current production
- Run burn out tests. 48, 68... 72 hour tests

Methodology

- Problem Statement
 - What, When, Where
- Information Gathering (Significance)
- Area Identification
- Area Drill-down
- Problem Resolution
- Test Against Baseline
- Repeat the process

Load Testing Tools

- Third party tools
- Open source load generation tools
 - Hammerora
 - <http://hammerora.sourceforge.net/>
 - Swingbench
 - <http://www.dominicgiles.com/swingbenchfaq.html>
 - <http://www.oracleracsig.org/pls/apex/f?p=105:206:706267422512372::NO>

Start with one Instance

- Application Tuning
- Instance Tuning
- Database Tuning
- O/S Tuning

Tools & Utilities

- Enterprise Manager (EM)
 - AWR (Automatic Workload Repository)
 - ADDM (Automatic Database Diagnostics Monitoring)
 - Advisors
- Oracle's Wait Interface
- Oracle's Event Interface
- Utilities from Metalink

Utilities from Metalink and OTN

- LTOM
- OSWATCHER
- RAC-DDT
- BLOATMASTER
- HANGFG

Lite Onboard Monitor (LTOM)

- Real-time diagnostic platform
- Proactive rather than reactive
- Real-time automatic problem detection and data collection
- Reduces time to solve problems and reduces potential downtime

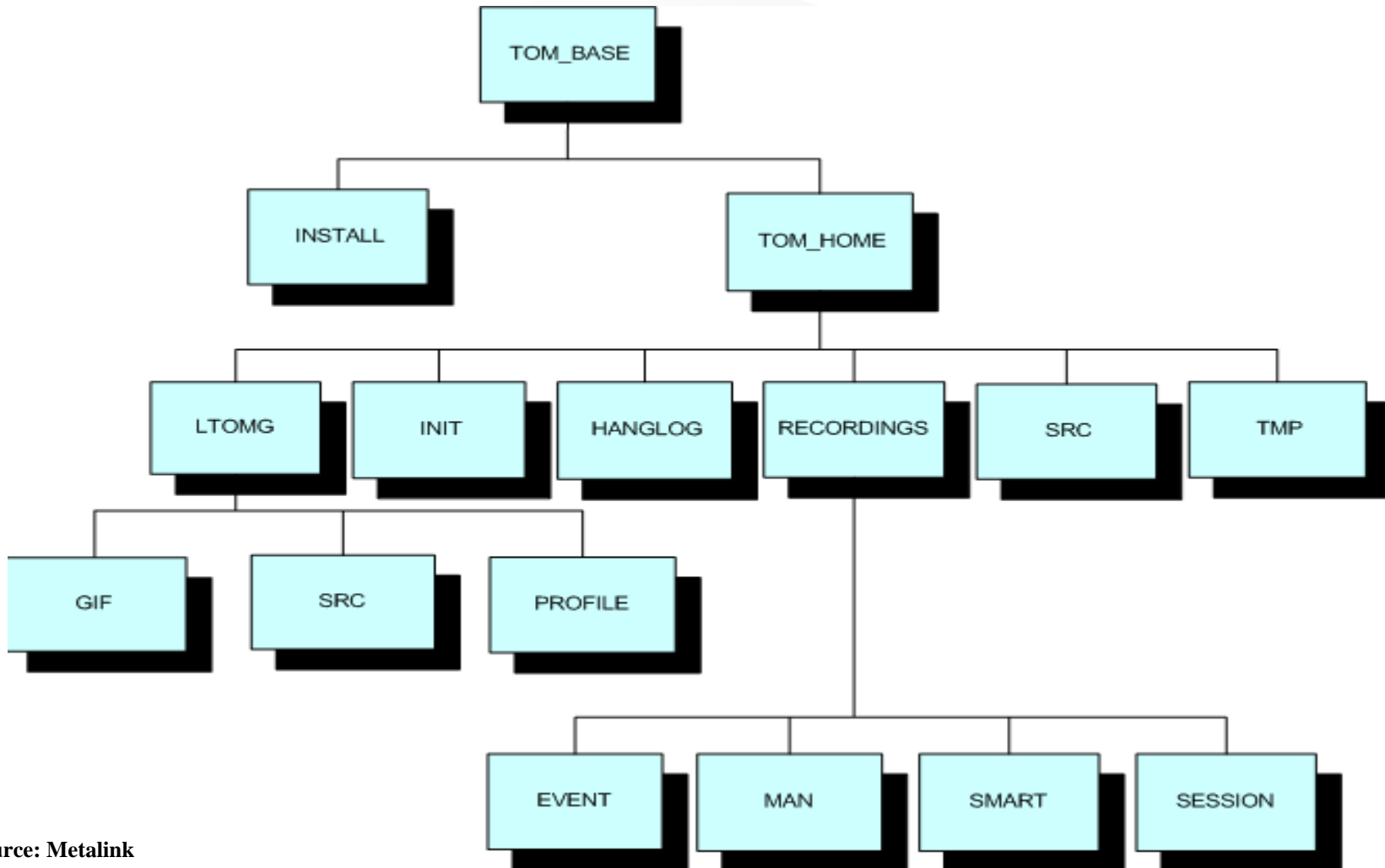
LTOM

- Automatic Hang Detection
- System Profiler
- Automatic Session Tracing

Metalink Note # 352363.1

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LTOM – Directory Structure



Source: Metalink

Automatic Session Tracing (LTOM)

- Collects trace using 10046 at level 12
- Only when the identified problem occurs
- Collects all SQL associated with the session
- Helps to track back the users and SQL associated with the problem
- Enable trace for sessions owned by specific users

Automatic Session Tracing (LTOM)

- Configure the recorder
- Turn on session tracing through LTOM
- Monitor/Control Session tracing
- Stop recorder
- Review

Automatic Session Tracing (LTOM)

- Configure the recorder
 - Edit the following file
 - `$TOM_HOME/init/sessionRecorder.properties`
 - Add the rule/threshold values to monitor
 - Enter a low value and a high value in centiseconds

Eg: `EVENT=< wait event > <low value> <high value>`

OSWATCHER (OSW)

- Collection of UNIX Shell scripts
- Aids support diagnose performance issues
- Operates as background process
- OSW is invoked by other utilities
 - LTOM
 - RAC-DDT
- Supports the following O/S
 - AIX
 - Tru64
 - Solaris
 - HP-UX
 - Linux

Metalink Note # 301137.1

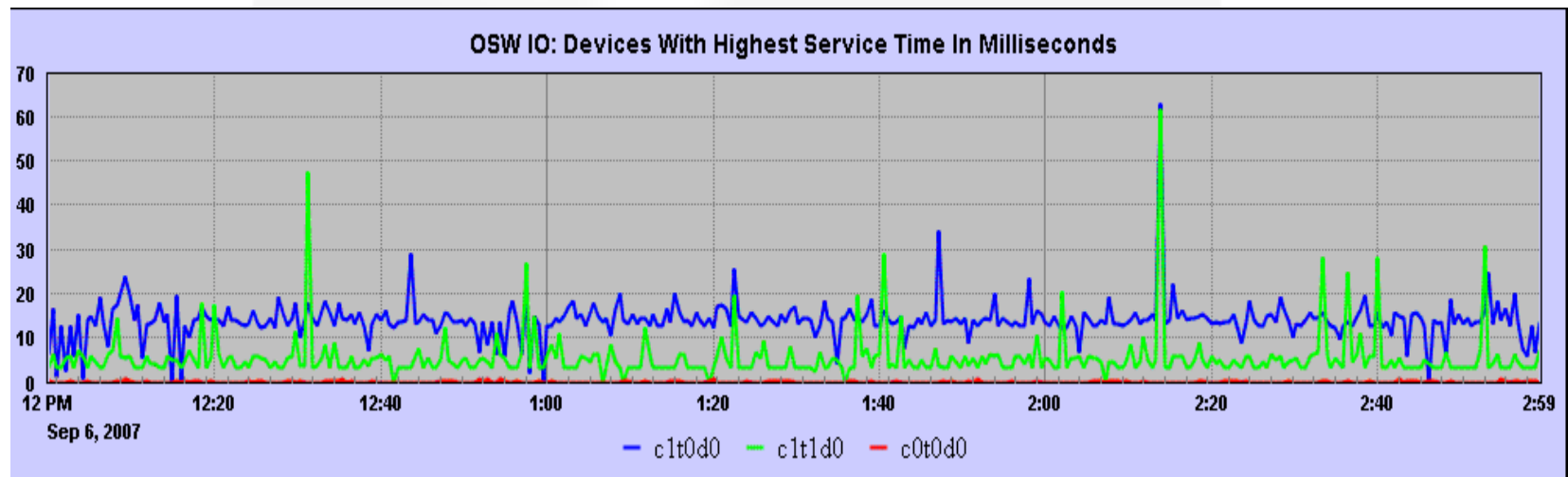
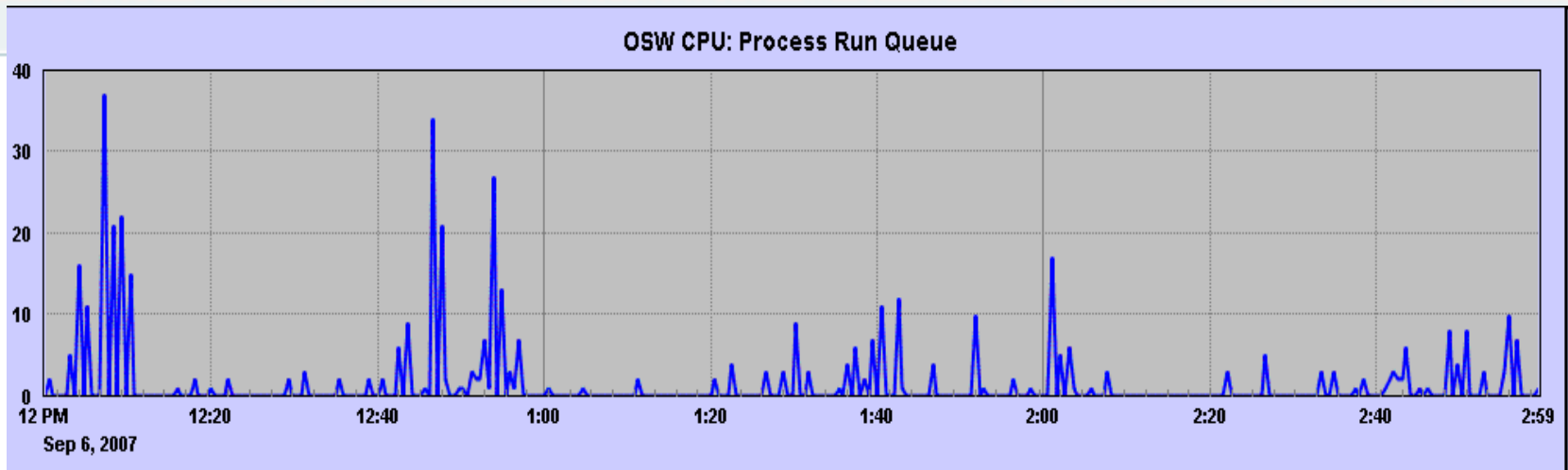
OSWATCHER (OSW)

- oswiostat
- oswmpstat
- oswnetstat
- oswprvtnet
- oswps
- oswtop
- oswvmstat

OSW

- Operating System CPU Queues
 - Large run queue
 - Disk problems
- Operating system CPU Utilization
 - CPU utilization
 - Insufficient CPU capacity
 - High values for device interrupts
 - High number of context switches
- Operating system Memory
 - Memory leaks if any
 - Memory bottlenecks
 - Sufficient swap memory
- Operating system I/O
 - Average service times

Metalink Note # 461054.1



Source: Metalink

RAC -DDT

- Collection of UNIX Shell scripts
- Aids support diagnose performance issues in a RAC environment
- RAC-DDT optionally uses OSW to collect certain O/S statistics
- Supports the following O/S
 - AIX
 - Tru64
 - Solaris
 - HP-UX
 - Linux

Metalink Note # 301138.1

Other utilities..

- **Used to analyze `/proc/slabinfo` on Linux systems from note # 435352.1**
- **oswslabinfo Analyze script from Note # 431069.1**
- **Linux kernal Slab accelerator from Note # 434351.1**
- **Hang file generator (HANGFG) from Note # 362094.1**
- **ORION to test the disk performance available on OTN**

Other Utils

SQLTXPLAN	Provides a detailed explain plan including CBO stats. Outputs html report
TRCNLZR	Reads raw trace or event 10046 generated trace files and output html output analyzing the trace info
PL/SQL Profiler	Helps in analyzing performance of your PL/SQL code
Awrgrpt.sql	<code>\$ORACLE_HOME/rdbms/admin</code>



**QUESTIONS
ANSWERS**



Thanks for listening