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Exadata MAA Best Practices Series
Session #13: Exadata HealthCheck

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Exadata MAA Best Practices Series

1. E-Business Suite on Exadata
2. Siebel on Exadata
3. PeopleSoft on Exadata
4. Exadata and OLTP Applications
5. Using Resource Manager on Exadata
6. Migrating to Exadata
7. Using DBFS on Exadata
8. Exadata Monitoring
9. Exadata Backup & Recovery
10. Exadata MAA
11. Troubleshooting Exadata
12. Exadata Patching & Upgrades
13. Exadata Health Check

Acronym Definitions

- My Oracle Support (MOS)
- Secure Shell (SSH)
- Distributed Command Line Interpreter (dcli)
- Oracle Enterprise Manager (OEM)
- Oracle Configuration Manager (OCM)
- Automatic Storage Management (ASM)

Exadata HealthCheck

Agenda

- Key Points and Customer Takeaways
- Business Takeaways
- Best Practices Takeaways

Key Points and Customer Takeaways

Exadata HealthCheck

1. Proactive Focus
2. Holistic View
3. Best Practice Driven

Key Point #1

Proactive Focus

Business Value-Add

Avoid unplanned outages.

Exadata HealthCheck

Proactive Focus

- Examples
  - Checks for correctable memory errors
  - Checks for predictive disk failure
  - Checks for degraded state on raid devices
- What it isn't
  - Continuous monitor or alert mechanism
  - Configuration tracker

Key Point #2

Holistic View

Business Value-Add

An integrated and automated assessment.

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Target Machine Impact

- Read only commands
  - Except empty lock file and output files
- Operating system command execution times
  - HP / 11.1.0.7 quarter rack: 4 minutes
  - X2-2 full rack: 3 minutes 30 seconds
- ASM commands < 30 seconds
- Manual commands
  - Vary by typing skill

Exadata HealthCheck

My Oracle Support note 1070954.1 Overview

- My Oracle Support note1070954.1
  - Prerequisites and instructions
  - Scripts
  - Sample output files
  - HealthCheck Command Table

Exadata HealthCheck

Directory structure

- Typically installed into “/home/oracle/HealthCheck”
- Writes output files to a subdirectory
  - “/home/oracle/HealthCheck/output_files”
- Output files are date and time stamped in file name
  - asm_output_121310_174807.lst
  - os_output_121310_174904.lst
- InfiniBand switch command output captured manually
  - script -a -q /home/oracle/HealthCheck/output_files/IB_switch_commands_`date +%m%d%y_%H%M%S`.lst

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Scripts I

- run_os_commands_as_root.sh
  - Driver for operating system level commands
  - Calls os_common.sh
- os_common.sh
  - Commands common to both hardware types
  - Calls os_hp.sh or os_sun.sh
- os_hp.sh
  - HP hardware specific items and safeguards
- os_sun.sh
  - Oracle hardware specific items

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Scripts II

- run_asm_commands_as_oracle.sh
  - Calls asm_common.sh
- asm_common.sh
  - ASM commands

- Manual commands
  - InfiniBand Switch
    - Voltaire or Oracle

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Input Parameters – run_os_commands_as_root.sh

-a <the location of the HealthCheck source files>

-b <the location of the CRS (or grid) home>

-c <the location of the ASM (or grid) home>

-d <the location of the DB home>

-e <>

-f <>

-g <>

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Input Parameters – run_asm_commands_as_oracle.sh

-a <the location of the HealthCheck source files>

-b <the asm instance SID>

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Sample Operating System Level Output

```
==========================================================================
Report predictive disk failures for storage servers:
==========================================================================
exacel01: Predictive Failure Count: 0
< output truncated >
exacel02: Predictive Failure Count: 0
--------------------------------------------------------------------------
If the Predictive Failure Count is greater than 0, open a Service
Request with Oracle Support Services to correct the condition.
```

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Sample ASM Output

```
================================================================
Report diskgroup imbalance data (367445.1):
================================================================

                                |             |    Percent  |  Minimum  |          |
                                |    Percent  |  Disk Size  |  Percent  |   Disk   |  Diskgroup
Diskgroup Name                  |  Imbalance  |   Variance  |     Free  |  Count   |  Redundancy
------------------------------  |  ---------  |  ---------  |  -------  |  -----   |  ----------
DATA                            |       25.8  |         .0  |     73.4  |     24   |  NORMAL
RECO                            |       47.0  |        36.7 |      6.3  |     24   |  NORMAL

----------------------------------------------------------------
The expected results are:

1) A "Percent Imbalance" of a couple percent is reasonable.
2) "Percent Disk Size Variance" should be 0 if best practices are
   followed and all disks are of equal size.

NOTE:
Results where the "Minimum Percent Free" is greater than 97%
may be safely ignored, as the "Percent Imbalance" moves toward
100% as "Minimum Percent Free" moves toward 100%.

If "Percent Imbalance" is greater than a couple percent, refer to
MOS 367445.1 for further diagnostics, or open an SR with Oracle
Support.
```

Key Point #3

Best Practice Driven

Business Value-Add

Benefit From Oracle Exadata Best Practices.

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Best Practice Driven

- Key My Oracle Support notes
  - 757552.1
    - Oracle Exadata Best Practices
  - 888828.1
    - Database Machine and Exadata Storage Server 11g Release 2 (11.2) Supported Versions
  - 835032.1
    - Database Machine and Exadata Storage Server 11g Release 1 (11.1) Supported Versions
- Other sources

Business Takeaways

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Business Takeaways

- #1: Proactive – Avoid unplanned outages.
- #2: Holistic – Integrated, automated, efficient focus.
- #3: Best Practices – Close gaps, keep current.

Best Practice Takeaways

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Best Practice Takeaways

- #1: Check for updates frequently.
- #2: Execute before & after system changes.
- #3: Make part of regular planned maintenance.

Exadata HealthCheck

Key My Oracle Support Notes

- 1070954.1
  - Oracle Database Machine HealthCheck
- 757552.1
  - Oracle Exadata Best Practices
- 888828.1
  - Database Machine and Exadata Storage Server 11g Release 2 (11.2) Supported Versions
- 835032.1
  - Database Machine and Exadata Storage Server 11g Release 1 (11.1) Supported Versions
- 1110675.1
  - Oracle Database Machine Monitoring Best Practices
- 728988.5
  - Oracle Configuration Manager Quick Start Guide

Sponsors

Exadata MAA Team and X Team

- Operational and Configuration best practices
  - Optimized and integrated for Exadata
  - Generic practices for other platforms
  - Examples: Migration, Backup/Recovery, Monitoring, Troubleshooting, Patching, MAA, Consolidation, Active Data Guard, Cloning/Reporting, Application Failover
- Applications MAA and Scalability
  - Optimized and integrated for Exadata and Exalogic
  - Examples: E-Business Suite, Siebel, Peoplesoft, Fusion Middleware
- Exadata Strategic Customer Program

Hardware and Software
Engineered to Work Together


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