DB Questions and Answers open session
(comments during session)

WLCG Collaboration Workshop,

CERN Geneva, 24 of April 2008.

DBA Q & A Session

-Recommended sources of information-

- 3D twiki

  https://twiki.cern.ch/twiki/bin/view/PSSGroup/LCG3DWiki

- DBA area

  https://twiki.cern.ch/twiki/bin/view/PSSGroup/DbaArea

- Oracle support website Metalink

  metalink.oracle.com

  Documents

  White papers

  Service Request

- Oracle books

DBA Q & A Session
-general RAC questions-

Why on each node has one different VIP address?
why don't RAC use one VIP address for all the nodes?
The RAC system is designed to work under this implementation for load balancing
and fail over without requiring external software component. In the case of
using one VIP the external software is needed to do load balance and failover.

TAF example where VIP is used:
Transparent Application Failover

- When node is down VIP fails over to one of the other node

- Node that gets VIP will re-ARP to the world indicating new mac address of surviving node.

- Clients that were connected to this VIP will immediately get a reset packet sent. Client get error immediately rather than waiting for TCP time out value

- If client is connecting to the node will get error and the APPLICATION will choose the next connection descriptor.

DBA Q & A Session
-database patch best practices-

- **Do I need to patch more than $ORACLE_HOME?**

Depends on the patch purpose. Please consult OTN, which has detailed documentation related to the patch specifications.

- **Is +ASM to be patched or updated?**
  - Read specific information related to the patch purpose (README.TXT). This will advise which oracle home needs to be patch.

  Suggested documentation:

  - Also this paper has Oracle CPU patch best practices

  http://www.oracle.com/technology/deploy/security/pdf/cpu_whitepaper.pdf

  - Rolling Patch - OPatch Support for RAC DocID:Note:244241.1

  Information related oracle patching can be found at

  https://twiki.cern.ch/twiki/bin/view/PSSGroup/DbaArea#Patching_and_Service_Changes

  Please follow Miguel's procedure if you want to have access to this documentation:

  1- Create CERN external account:https://cernaccount.web.cern.ch/cernaccount/RegisterAccount.aspx

  2- Create Twiki account:https://twiki.cern.ch/twiki/bin/viewauth/TWiki/TWikiRegistration

  3- Send the Twiki name via email to Miguel Anjo he will give you privileges to this documentations

DBA Q & A Session
-OEM and database OS system maintenance-

- **How to prevent Grid Control fill up all disk?**

  Although jobs can be created trough OEM to clean up directories is not recommend.

  At CERN and in some Tier 1 there are clean up scripts implemented using logrotate and cron jobs

- **Monitoring admin files from Grid Control, include analyze history data?**

- **Any experience or recommendation for Grid Control?**

  Please refer to Dawid Wojcik presentation (WLCG workshop at CERN November 2007)

- **How to get rid of $ORACLE_HOME/rdbms/audit/ files?**

  Example can be found in the Gordon Brown

  presentation (WLCG workshop at CERN November 2007)

DBA Q & A Session
-database performance metrics-

- Collecting Oracle Server performance metrics (throughput, I/O ...) best practice?

  Information about this topic was presented in the past WLCG November 2007 Service and reliability workshop:

  DB performance tuning in a RAC environment

  for administrators by Luca Canali

There is a suggestion to extend the current performance metrics (including number of sessions, idle time and others) on the 3D monitoring system.

DBA Q & A Session
-postgres to oracle migration tools-

CERN provided a useful script to migrate LFC catalog from mysql to oracle.

For all the TER1 using dCache and who want to migrate from postgres to oracle (chimera project).

Did CERN provide a similar super script able to make the postgres2oracle migration?

No. CERN does not support dcache

Information about chimera and migration tools in evaluation can be found at
http://trac.dcache.org/trac.cgi/wiki/ChimeraSetup

Developer contact info:

Tigran Mkrtchyan

tigran.mkrtchyan@desy.de

DBA Q & A Session
-external vs normal ASM redundancy-

Better doing striping/mirroring at ASM level or at hardware level (SAN)? what is the trade off?

Please refer to documents in metalink

- I/O Tuning with different RAID configuration Note.30286.1
- How does ASM work with RAID where stripping and mirroring are already built-in?
Note:330398.1

DBA Q & A Session
-LFC conversion script-

A site report problem with high logging when running the LFC conversion script

Can a table temporally set up to no logging and then change it backup to logging?
No recommended procedure, inconsistent backup might be affected by doing so.

Verify conversion procedure to find causes of high logging and see whether is due to normal operation or script misbehavior.

DBA Q & A Session
-Stress test on conditions database at Tier1-

3D Tier1 databases need to be tested by the user community to verify that they can sustain expected load demand required during LHC data taking.

DBA Q & A Session

-Firewall on Tier1-

Is there any problem with the network connection from the BNL's worker nodes to the BNL conditions database which is located outside the firewall?

BNL needed to move their Conditions database outside the firewall due to stream replication performance issue when replicating data from CERN.

Network tests had shown that there is not major impact of the firewall when the BNL workers nodes connect to the database.

DBA Q & A Session
-Partitioning tables-

Best practices for partitioning tables for applications

-Depending on the application partitioning is a suitable tool to organize tables with the aim of improving the overall database performance.
-The implementation need to be considered CAREFULLY in the application design.

-More information related with this topic can be found at:
http://download-west.oracle.com/docs/cd/B10501_01/server.920/a96521/partiti.htm#20590

Bibliography

Oracle Database 10g Real Application Clusters Handbook,
   McGraw

Hill Osborne Media; 1 edition (November 22, 2006)