

# LCG Database Deployment and Persistency Workshop

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## FNAL Site Update

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# Out Lines



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- ◆ HARDWARE
- ◆ DISK CAPACITY
- ◆ SOFTWARE
- ◆ BACKUPS
- ◆ DETECTOR DATABASES EFFORT
- ◆ 3D EFFORT
- ◆ SUMMARY



## 3D :

- ◆ **Machine Name : bager**

**Machine Type:** ASA Computers tower (no model available)

**Location :** WH11w24

**Processors :** 2 Intel(R) Xeon(TM) CPU 2.66GHz

**Memory :** 1 GB

**Disks :** 1x200GB ATA

## Detector Database Machine for HCAL and PIXEL :

- ◆ **Machine Name : uscmsdb03 ( Dev) uscmsdb01 ( Prd)**

**Machine Type:** Dell Power Edge 700

**Location :** FCC

**Processor :** dual 3.2 GHz processors

**Memory :** 2GB of RAM

**Disks :** 2 146Gb of Disks

# Disk Capacity



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## **Bager :**

Disk Capacity : ~200GB

Assigned : 11 GB Used : 859MB

Free : 189GB

## **Uscmsdb03 :**

Disk Capacity : ~240GB

Assigned : 95GB Used 26GB

RMAN/Export Backups : 86GB

Free : 128GB



- ◆ Red Hat Enterprise Linux ES (v. 3 for x86)
- ◆ Oracle 10g Enterprise Edition Release 10.1.0.4
- ◆ Data Modeling Tool : Designer (Repository is on central designer db on machine (fncduh1))
- ◆ Monitoring : OMS 10g

# Backups



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- ◆ HOT BACKUP : RMAN backup daily.
- ◆ Export : Daily
- ◆ TAPE Backup : Dcache/Enstore Mon, Wed , Fri

# Detector Databases Effort



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- ◆ Support for Databases hosted at Fermi for dev/int/prd environments for Detector databases specifically HCAL, PIXEL
- ◆ Support for DATA Modeling tool for - HCAL and PIXEL Schemas.
- ◆ Consultancy and Data Model reviews for schemas.

# 3D Effort



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- ◆ Test-up the 3D test bed between CERN and FERMI  
It is a success.
- ◆ 3d Test participant Site since Mar 2005
- ◆ Provide consultancy on streams replication as needed.
  - ◆ Proposal for Test Plan for 3d
  - ◆ Proposal for development Strategy
- ◆ Support for Database hosted at Fermi for 3D test bed.



# Summary



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- ◆ Security Patches up-to-date.
- ◆ Participant 3D test Site.
- ◆ No more work planned at Fermi for replication since Fermi being Tier1 for CMS and CMS didn't express the need for database replication to TIER1 except on-line to offline replication but that is being handled at CERN.
- ◆ Can provide consultancy on streams replication if needed.
- ◆ Production Deployment of HCAL and PIXEL schemas in production in near future.

# Summary Contd



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- ◆ Learned that there are new features in R2 in regards with
  - ◆ **Support for long and large transactions is much better** Long transactions simplified along with large transactions i.e. a parameter on the apply that identifies
  - ◆ large being 10,000 then spills the apply messages over to disk and releases memory while it waits for all the rows, once it gets the last rows, it applies all messages of that transaction.
  - ◆ **Auto Tuning of Memory for streams** There is no need to tune memory for streams. Set the sga\_target and Oracle Server will tune memory allocations as needed.
  - ◆ Auto Flow Control
  - ◆ No Character set issue
  - ◆ Functional Index, Variable CLOBS are supported
  - ◆ **Production Mode** Release 2 is production. **First Patch set** for Release 2 is expected end of 2005 or Jan 2006
- ◆ CDF at FNAL is planning to upgrade to 10g R2 in Feb/Mar 2006
- ◆ Case Study on CDF Streams replication implementation at Fermi was presented at Oracle Open World 2005 by Sr. Principal Product Manager of streams. Refer Case Study# 3 [http://www-css.fnal.gov/dsg/external/cmsdbmtgs/PS\\_S011\\_274011\\_106-1\\_FIN\\_v3.pdf](http://www-css.fnal.gov/dsg/external/cmsdbmtgs/PS_S011_274011_106-1_FIN_v3.pdf)