

Thomas Jefferson National Accelerator Facility



Site Report
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Update since TRIUMF

Staffing

Clusters

IB

GPUs

Data Analysis

Storage

Disk

Tape

6->12GeV CEBAF Upgrade Status



Staffing

Return to 3 FTE System Administrators in Scientific Computing Operations

For 6 months we were down to only 2

Accelerator Program Deputy

Lab invites staff to be in charge of Accelerator Operations for 2 weeks
oncall 24x7

Take ideas back to Scientific Computing Operations



Clusters

12s “2012 Sandy Bridge” awarded

- 212 SuperMicro dual 8 core 2.0GHz nodes
- 4 nodes in 2u
- 32 GB RAM
- 500GB disk
- QDR, full bi-sectional bandwidth, leaf and spine

Expected delivery end of May

Will require update from CentOS 5.5 to 6.2

Replaces 7n “2007 Infiniband”

Need the space

Power upgrade to 30 amp 5 wire 3 phase

Clusters (cont)

GPUs

Problematic GTX580s finally out of the picture

New 2012 accelerated cluster procurement by year-end

New NVIDIA cards?

OR

Intel MIC?

Data Analysis farm

Save procurement overhead when purchased together with HPC

Add 32 nodes identical to 12s compute nodes, except

2 disks rather than 1

DDR IB recycling from 7n

Storage

Disk

Lustre

Total of 0.5PB on 23 OSSs

Added 3 more AMAX servers

36 2TB disks, LSI controller

Still have slow writes on 14 older 3ware 24 1TB disk systems

Happened at upgrade to 1.6.6-wc1

Update to 1.8.7 planned next month

zfs

Retiring SunFire X4500 Thumpers

Run SunFire X4540 Thors another year or two

Investigating Oracle 7320 appliance

2 head units for redundancy

2 shelves, 20 or 24 3TB disks

Storage (cont)

Tape

IBM TS3500 Library

Replaced 4 of 8 LTO4s with LTO5s

now 8 LTO5s, 4 LTO4s

All new writes to LTO5

Migrating data from LTO4s in background

Working with IBM to resolve short write issue

sometimes destroys end of last file

wastes tape

6->12GeV Upgrade

- Accelerator shutdown next month, for 18 month upgrade
- Upon return to operation
 - One additional experimental hall
 - Double the current data rates in existing halls
- First external IT/Computing review in June
 - Ensure readiness of data acquisition and analysis on day 1