



Jefferson Lab

Site Report

Sandy Philpott
Thomas Jefferson National Accelerator Facility
12000 Jefferson Ave.
Newport News, Virginia USA 23606

Sandy.Philpott@jlab.org
757-269-7152
<http://cc.jlab.org>

Spring 2006 HEPiX – CASPUR

Contents

- Computing
- Storage
 - Online
 - Offline
- Network
- Infrastructure
- Grid
- Other projects

Computing

- Linux - RedHat EL4 64 bit environment
 - 3 machines for testing Physics code
 - Intel EM64T
 - Intel Pentium D810 dual core
 - AMD Opteron dual core
- Solaris 10
 - Sparc platform support planned
 - Small number of x86 machines – support discussed... not planned

Strategy to continue with at least 2 platforms

Online Storage

- Panasas
 - work areas
 - Adding an 8TB shelf to our existing 5 5TB shelves
- StorageTek B280 systems (30TB)
 - Continuing in production for cache areas
 - NFS file services
 - Reliable, stable
- StorageTek Flex680 demo returned
 - 2 instances of data loss in testing
- Dell EMC AX100s
 - Newest cache file systems
 - 3 3TB systems in production, adding 7 more
 - Reliable, stable – EL4, ext3
 - Adding 7 3TB systems

Offline Storage

2 StorageTek Powderhorn Silos

Just over 2PB capacity on 10,000+ tapes

1.5PB stored now

Tape rewrites underway to reuse media

9940A -> 9940B format

reuse 5000 tapes (save big \$\$!!)

Wait for 2nd generation Titanium drives in 2007/8, in
new SL8500 silo...

Network

Upgrading LAN and WAN to 10GigE

LAN: Foundry BigIron RX8

mostly smooth transition, but some problems with trunking and code upgrades

WAN: OC-192 expected to be installed in April

Infrastructure

New Data Center is operational!

- 11,000 square feet
- Home to
 - SciComp batch compute farm for Physics Analysis
 - HPC Infiniband cluster for LQCD
- No generator backup; UPS only
 - need IPMI for quick shutdown and subsequent startup
 - Keep core services, file servers, etc in original Computer Center

Grid

- PPDG (Particle Physics Data Grid) collaboration ends
- SRM (Storage Resource Manager) development effort expected to continue (we are participants in SRM SciDAC2 proposal)
- Other grid efforts will be in conjunction with OSG (Open Science Grid)
 - Planning OSG VDT installation in the coming month
 - Investigate VOMS/GUMS
 - Understand job submission – Auger/LSF, PBS

Other Projects

- Wiki web environment
- Subversion code management
- NICE Windows Admin from CERN
- Enira evaluation for Cybersecurity
- PROOF prototype for Physics analysis
 - Parallel ROOT Facility
 - “Interactive” ROOT