OCHEP DOSAR Status

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DOSAR Workshop, ISU

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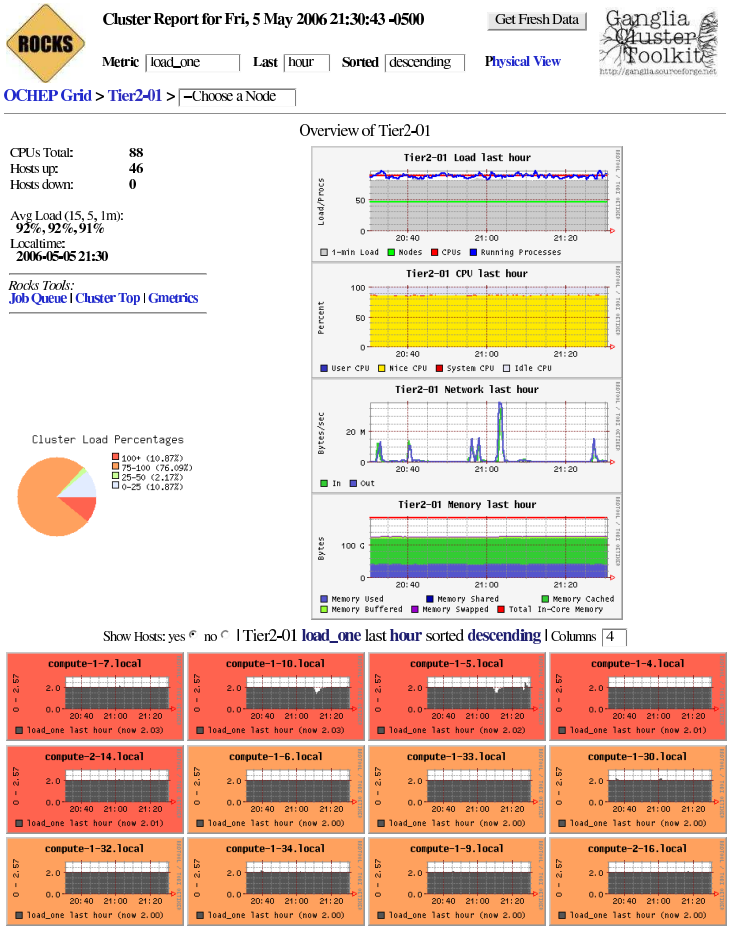
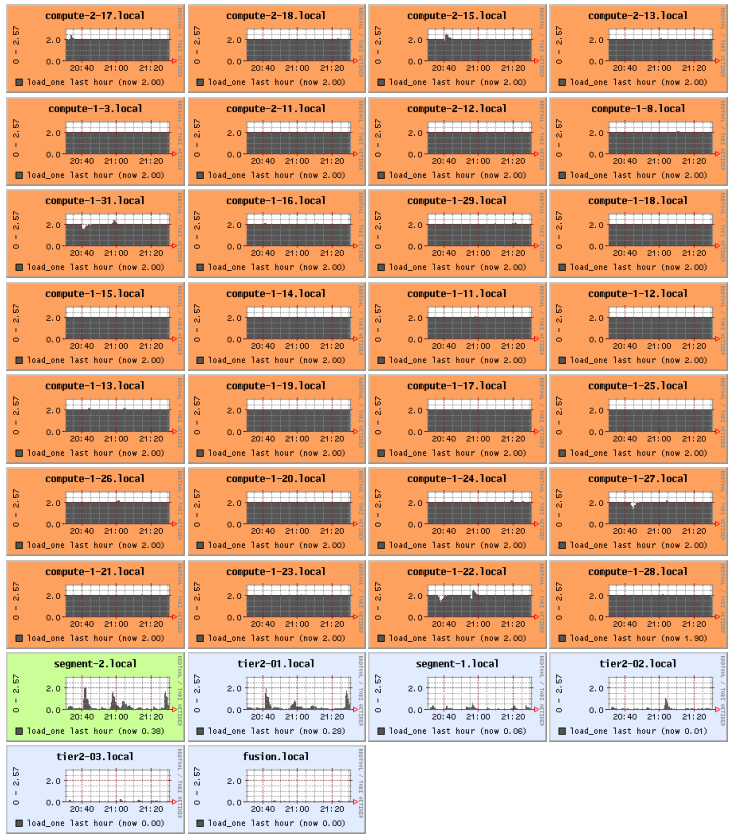
OCHEP Tier 2 Hardware

- 40 Node (80 CPU) 3.2 GHz Xeon-64, with 4 TB storage
- DDN/IBRIX storage – add. 15 TB on order
- ROCKS 3.3 installed on cluster
- OSG 0.4.0 and DDM/DQ2 0.2.1 installed
- Used for PanDA production and OSG integration
- New hardware (20 dual-quad nodes) will be added soon

OCHEP Tier 2 Status

Ganglia Cluster Toolkit:: Cluster Report https://tier2-01.ochep.ou.edu/ganglia/?c=Tier2-01&m=&r=hour&s=desc...Ganglia Cluster Toolkit:: Cluster Report https://tier2-01.ochep.ou.edu/ganglia/?c=Tier2-01&m=&r=hour&s=desc...





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Other OUHEP and LUHEP Resources

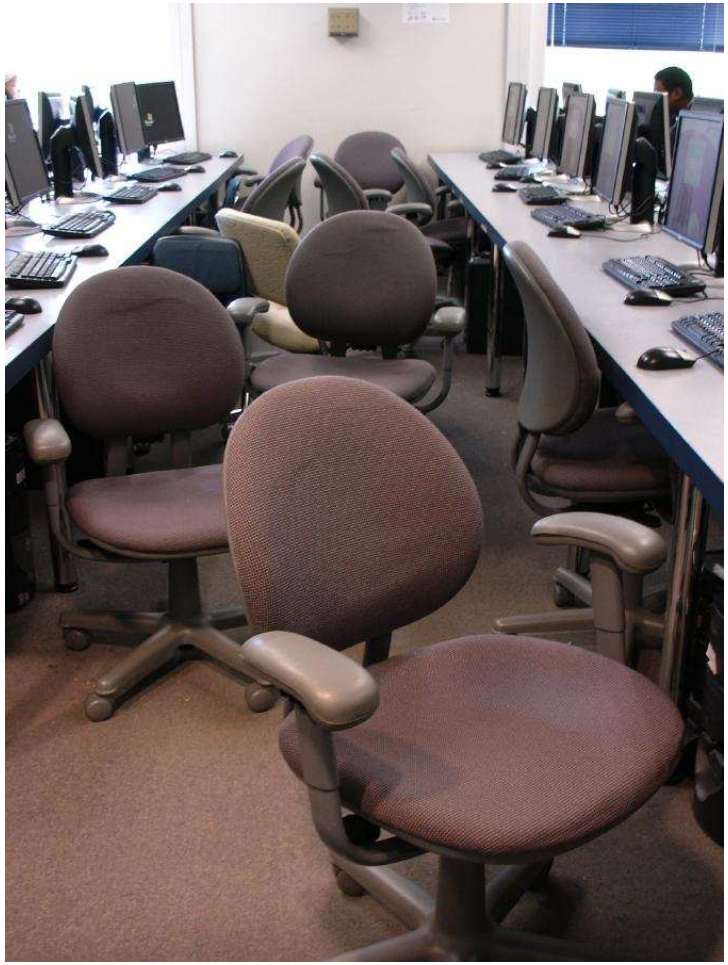
- OUHEP: 32 Node (42 CPU) $\approx$ 2 GHz PIII/P4, 4.5 TB storage
  - OSG Production site, OSG Integration site, SAMGrid Execution site, OUHEP SAM station, OSG SAM station, and DDM/DQ2 and dCache site service
  - Used for DØ SAMGrid production, ATLAS PanDA, and OSG and SAMGrid integration testing, and local theory calculations
- LUHEP: 10 Node (14 CPU) $\approx$ 2 GHz PIII/P4, 2.5 TB storage
  - SAMGrid Execution site and SAMGrid Submission site
  - Used for DØ SAMGrid production

Other OU Resources

- Old OSCER cluster, boomer: 135 Node (270 CPU) 2 GHz Xeon, 5 TB storage; currently down for machine room expansion
- Then take over boomer for primary DØ data processing and MC production
- Current OSCER cluster, topdawg: 512 Node (1024 CPU) 3.2 GHz Xeon-64, 10 TB storage; used for ATLAS Tier 2 and DØ computing as available

OU Condor Pool

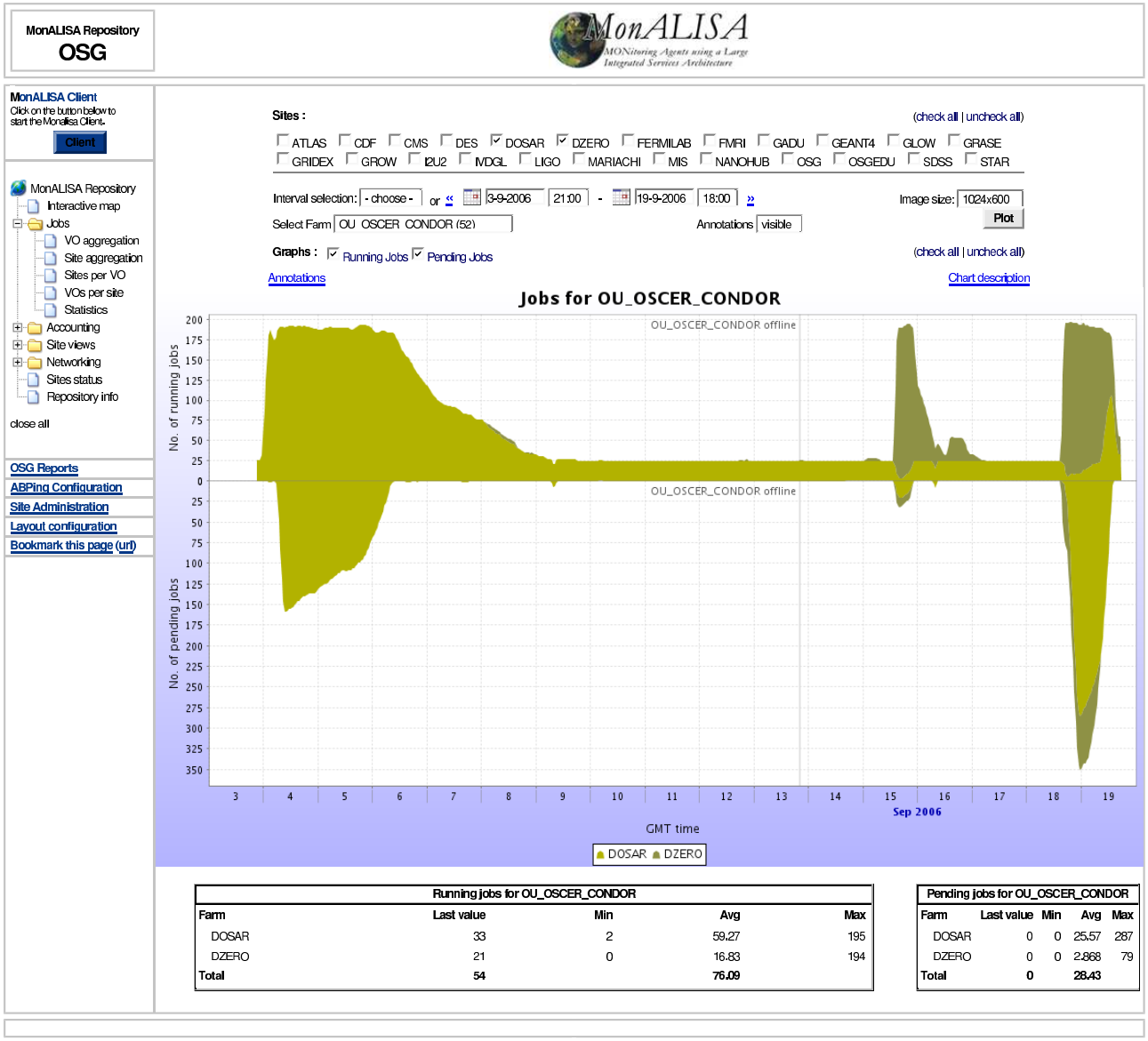
- 160 Node Condor Pool
- 3.0 GHz P4, 1 GB RAM, 40 GB HD, 100 Mbps network
- Distributed over Campus PC labs
- Originally Switched from Win2K to RHEL4
- Added VMWare 5.5 + WinXP, and Condor 6.7
- Now switched back to WinXP and CoLinux and Condor



OU Condor Pool (cont.)

- Central Manager: 2.8 GHz P4, 2 GB RAM, 250 GB HD, 1000 Mbps network (Henry's desktop)
- Special Condor configuration necessary because PC labs are on private Network
- Special Firewall settings and DNS lookup (forward and reverse)
- Nodes imaged by IT with GHOST-like software
- All 750 Campus lab PCs to be included by Summer
- Central Manager also Globus Gatekeeper
- OSG 0.6.0 with modified NFS-lite Condor jobmanager installed
- Reporting Pool Size and VO Jobs to MonALISA Repository

Open Science Grid Monitoring with MonALISA http://monalisa.grid.iu.edu:8080/display

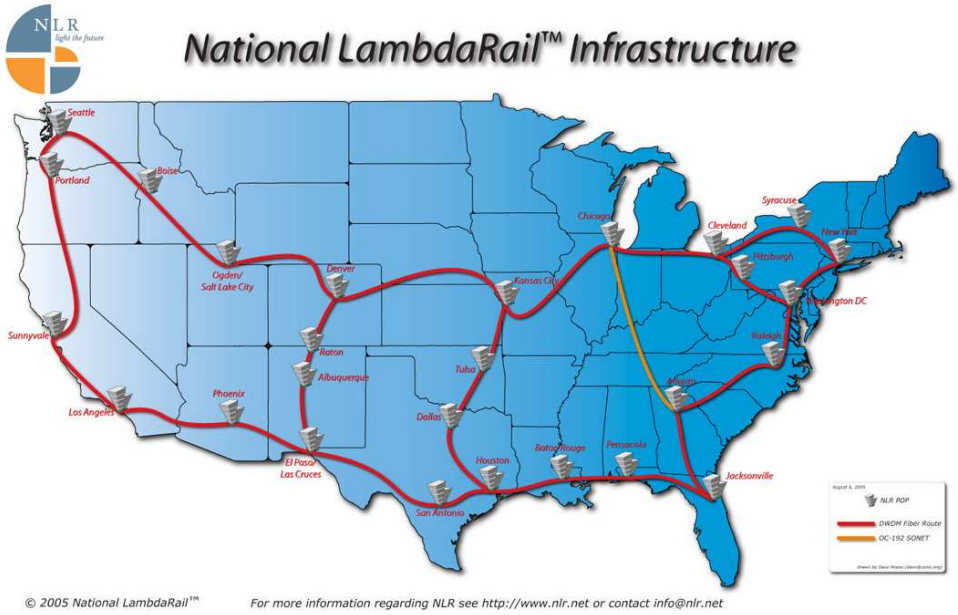


Running jobs for OU_OSCER_CONDOR				
Farm	Last value	Min	Avg	Max
DOSAR	33	2	59.27	195
DZERO	21	0	16.83	194
Total	54		76.09	

Pending jobs for OU_OSCER_CONDOR				
Farm	Last value	Min	Avg	Max
DOSAR	0	0	25.57	287
DZERO	0	0	2.868	79
Total	0		28.43	

OU Network

- OU connected to NLR via OneNet
- OU Campus back bone at 10 Gbps
- OU to OneNet and OneNet to NLR fiber capable of 10 Gbps
- Network hardware supposedly setup for 10 Gbps – need to test



- Network Traffic to and from most important end points routed through NLR

Current Activities

- DOSAR/Condor
  - Pool has been used for local DOSAR jobs since last year
  - Reported to MonALISA Repository as DOSAR VO Jobs
  - Jobs submitted locally because users not yet familiar with Grid procedures
  - Pool certified for DØ SAMGrid production
  - Started official production this past fall

Future Plans

- DOSAR/Condor
  - Expand Condor Pool Usage
  - Continue using it for DØ SAMGrid production
  - Educate local users about OSG interface
  - Then teach them to submit to other OSG resources
- ATLAS
  - Continue to use Tier 2 cluster for OSG and PanDA ops
  - Upgrade to ROCKS 4 and OSG 0.6.0
  - Add more hardware, especially storage
  - Install/configure GUMS and implement role based auth.

Future Plans (cont.)

- Continue utilizing new OSCER cluster, topdawg
- DØ SAMGrid production since last fall, ATLAS still awaiting remote DQ2 operations – very close
- Continue SAMGrid/OSG integration activities (OUHEP/OCHEP/OSCER)
- Take over boomer to do primary DØ data processing, but continue to use for ATLAS computing as available
- SMU and UTD planning to add Tier 3 Clusters to Effort

Summary/Outlook

- OU is in very good position for Grid Computing
- Lots of Hardware, Networking coming along nicely
- Both DOSAR and ATLAS (and DØ) efforts well under way
- Making very good progress
- Much more work to do