



24/7 Operations for US-CMS TI

LCG-MB Meeting
October 3, 2006



Existing Infrastructure



24/7 Support for the Tier-1 center works within the existing infrastructure at FNAL for off-hour support

- ➔ Critical Systems and Services are monitored by NGOP
 - (Next Generation OPerations tool developed at FNAL)
 - Failures are flagged
 - System stops responding to ping
 - Disk passes a fill percentage
 - Load Level is exceeded
 - Processes are missing
 - Service tests fail
 - SRM transfers are run between Tier-1 and Tier-2 centers
 - Job submission is performed for both OSG and LCG
 - File systems are monitored and worker nodes are held in case of failure
 - dCache is heavily monitored, data scans, integrity checks, cron jobs
 - Errors are given to Remedy which initiates a ticket or a page
 - Tickets are tracked and reminders sent
 - Pages go through a rotation of primary, secondary and tertiary responders



Current Team



The facility current consists of

- ➔ 4 FTE for facility operations
 - Growing over the next 12 months
- ➔ Currently we have 2 FTE of troubleshooting and integration work
 - One open position we are trying to fill
- ➔ 1 FTE for storage operations (CMS contribution to a much larger team)
- ➔ Additional positions in grid development and integration

Everyone who we hire in facility support is asked whether they are willing to carry a pager and provide off-hour support

- ➔ Requirements are in the job description
 - Off-hour support does not incur additional cost
 - Need to prevent wearing people out
 - Pager rotation of primary is performed weekly
 - Rotate to one week of secondary and then off for two weeks



Current Status



We switched to 24/7 support of critical facility components in July

- ➔ We monitor the health of machines and generate pages for failures
 - Response to ping of srm server
 - Response of ping grid gatekeepers
- ➔ We monitor the existence of processes
 - Some of these can generate pages, but many generate tickets
- ➔ If a percentage of the cluster is held, operators are paged

We are still discovering items that need monitoring and items potential failure modes in the monitoring system

The list of services that result in an immediate page is given

- ➔ http://cmsmon1.fnal.gov/cgi-bin/get_critical_item_status

Main monitoring page is

- ➔ <http://cmsmon1.fnal.gov/cgi-bin/status>



Outlook



The US-CMS Tier-I center is in good shape to offer 24/7 operations of all critical components by the beginning of 2007

➔ Many services are currently monitored and responded to

Operations effort is increasing, which should allow improved response time and quality of service

More services and functionality are being added to the currently monitored services