

Site Report: CERN

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LHC: The Inner Triplet story

- March 27: Quadrupole broke during pressure test at CERN
 - Support structure holding cold mass in cryostat did not stand the longitudinal forces
 - Cryogenic and power distribution box damaged as well
- Review of repair actions on 24/25 April
 - Proposed repair actions can be performed underground, except broken inner triplet
- No statement yet concerning potential impacts on LHC startup schedule

Communication Systems

- New firewall put in operation, closed UDP ports, TCP ports to be closed in May
- Firmware update on routers
- New audioconferencing system (operator-free, web-driven) in production

Database and Engineering Support

- Using NAS appliances as Oracle back-end, Linux servers as front end
 - Good experience so far
 - Tested successfully a dual quad-core server
 - Physics databases remain on SAN-based Oracle RAC
- Critical bug in Oracle 10.2.0.2 in autumn (wrong cursor sharing)
 - Took weeks and several attempts to get it right
- Solaris support stopped
- Looking at Microsoft SharePoint as potential replacement for Twiki

Fabric Infrastructure and Operations (1)

- Procurements

- Sep 06: 112 CPU nodes, 200 midrange servers, 60 disk arrays, 50 small disk servers
- Dec 06: 650 CPU nodes, 160 disk servers
- Next tender: ~ 650 CPU nodes, 250 disk servers
- More details: My talk tomorrow
 - Will cover blades, large disk servers, ... as well

- New burn-in test

- See Andras Horvath's talk on Thursday

Fabric Infrastructure and Operations (2)

- Some period with insufficient physics UPS coverage, now solved
 - Impact on commissioning of December delivery
- Critical power (dual UPS, diesel backup) almost exhausted
- Will run out of power in current data centre in '09...'10
 - Now very power-aware in procurements
 - Planning for new data centre started, all options being considered
- Decided to buy both IBM and SUN/STK tape infrastructure
 - STK Powderhorns being dismantled

Fabric Infrastructure and Operations (3)

- Quite a number of issues with SATA disks
 - Single vendor concerned, several firmware bugs in different drive types
 - About 3'000 drives concerned for sure, possibly more
 - Good collaboration from disk manufacturer and machine integrator for upgrades
- New operations contract
 - Now result-oriented
- Lemon Alarm System in full production
 - Replacement for > 10 year old SURE

Fabric Infrastructure and Operations (4)

- Castor performance problems being addressed
 - Task force formed (chair: Bernd Panzer)
 - Adapted development priorities
- Comprehensive study of silent data corruptions
 - Triggered by user reports of corrupted files
 - See Peter Kelemen's talk

Fabric Infrastructure and Operations (5)

- Linux support
 - Stopped support of SLC3 x86_64
 - Desktops can now be installed via PXE
 - Lxplus.cern.ch alias switched to SLC4
 - Considering plans for SLC5 with community
- Phasing out Kerberos 4
- Moving to ssh version 2 as default

Internet Services

- Certification Authority set up, accredited with EuGridPMA, in full production
 - Previous CA based in GD group stopped
- All 1063 printers moved to new, Windows-based print infrastructure
- Insecure mail protocols (pop, imap without SSL, anonymous smtp) blocked
- CMF (Computer Management Framework) now deployed on all NICE desktops at CERN
- Automatic screen lock of Windows desktops
- Office 2007 being deployed

User and Document Support

- Evaluating combined printer-copier solutions

Computer Security

- Incidents in 2006: Record of 1'417
 - Most of them due to unauthorised software (Skype, P2P, ...)
- Number of compromised computers down to 162 (212 in 2005, 385 in 2004)
 - Better central management
- 0-day exploits on the rise
- CDS (CERN Document Service) server compromised
 - Vulnerable PHP code probably identified by Google Code Search

Miscellaneous

- CRA (Computer Resource Administration) in full production
 - Automatic account blockage if no further affiliation with CERN
- Single sign-on making progress