



CERN Site Report

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HEPiX Fall 2010 Cornell U
01 November 2010

- Council June 2010
 - Full membership no longer restricted to European states
 - Associate membership replaces observer status
- Smooth LHC running over many months
- A lot of appreciation for WLCG achievements by experiments, LHCC, SPC, ...
 - At ICHEP in Paris, results shown based on data taken just the weekend before... and analysed in Tier2 centres
- Transition from EGEE to EGI and EMI

- Major reorg at beginning 2010 (see my site report to spring meeting)
- September 2010: personnel rochade
 - Christian Isnard replaces Anna Cook as deputy DPO
 - Tim Bell replaces Christian Isnard as IT-OIS group leader
 - Massimo Lamanna replaces Tim Bell as IT-DSS-FDO section leader

- What are we trying to achieve?
 - One service desk for CERN (one number to ring, one place to go, 24/7 coverage)
 - Standard processes for all service providers at CERN (one behavior)
 - Services defined from a user's point of view
 - Services easy to find by everybody, without knowledge of CERN internal structures
 - Service and process quality measurable
 - Improved collaboration over the borders of sections, groups and even departments
 - Automation of all known procedures
 - Framework for continuous improvement in the fields of efficiency and effectiveness

*Slides courtesy by Mats
Moller / CERN-IT*

- How?
 - Use existing best practice. ITIL V3 framework but stay PRAGMATIC (only take what is useful; leave the rest for later)
 - NO BUREAUCRACY
 - Use external expert help (NCC)
 - Start with reduced scope
 - CERN's IT and GS departments
 - 2 processes (out of 24): Incident management and request fulfilment
 - Then grow and improve (once we have proof it works)
- Why, and why now?
 - LHC transition from construction to operation
 - Increasing number of users (practically doubled in last decade)
 - Reduced resources (Staff down with 30% in same period)
 - New management team arrived 2009 (changes every 5 years)
 - Increasing awareness of weaknesses in service structure/culture
 - Increasing awareness of best practice (ITIL-V3)

- Service catalogue established
 - Functional services & functional service elements
 - Nothing new: lists all technical services, activities & functions
 - E.g. "Mailing Infrastructure", "Technical Network" or "Service Desk 1st Line"
 - Group and section leaders in charge of all quality and resource related topics
 - Related to "Support Groups" - experts that perform 2nd and 3rd line support
 - Customer services & service elements
 - From the user's point of view
 - Different for different types of users
 - Combination of functional elements to provide a complete functionality for users
 - New "Service Owner" role representing services
 - Functional & customer service element relations
 - Connecting both dimensions of the catalogue
 - Contains classification to show level of importance
 - Supports automation & selected views
 - Related to priority matrix for incident management

- New Service Desk
 - Open 07:30-18:30, with counter
 - Service desk manager SDM – Continuously monitoring service desk operation
 - Service manager on duty SMOD – A ‘face’ that is available during working hours to assist and help users in particular situations, or to arbitrate and help resolve complex problems
- Tool Selection
 - >40 products long-listed and evaluated against preselection criteria
 - 6 providers invited for a detailed evaluation using technical questionnaire (>300 questions)
 - For top 2: technical challenge presentations, live instance tests.
 - > 6 reference visits
 - Commercial, TCO, and planning considerations
 - Service-now.com selected based on functional coverage, architecture, flexibility, 100% Web based, SAAS
- Tool implementation
 - Ongoing
 - In "coach" mode with Aspediens
 - Field testing in December
 - Target: go live 1st Feb 2011

- External hosting: Part of our 'critical machines' are now run in hosting centre 15 km away from CERN
- Ongoing work on scripts to shut down large number of servers in a controlled way in case of emergency
- ELFms support forum now live
- No 'procurement fun points' slide – see dedicated talk
- B513 upgrade – see dedicated talk

- Testing 40 Gb/s and 100 Gb/s WAN connections
- New framework contracts concluded for routers and switches (CERN-wide)
- Wireless infrastructure rejuvenated in many places
 - Older chips (such as Intel Pro/Wireless 2100) don't work any longer

- Introduced Oracle VM for non-mission critical applications
- First tests of Oracle 11.2
- Considering GoldenGate to replace Streams
 - Less performant, but (hopefully) more reliable
- R&D on storage consolidation for Oracle services
 - Traditionally SAN/FC and NAS
- Testing NAS storage with a flash buffer layer

- Castor running smoothly (see dedicated talk)
- Unfortunate data loss in Castor
 - Mostly affecting Alice
 - Mostly recovered (entirely so for Atlas and CMS)
- Working on xroot-based demonstrator (EOS) (see dedicated talk)
- Introduced tape scrubbing (read entire tape, compare checksum file by file, no disk involved)
- Preparing for heavy-ion run of LHC: 270 TB/day rather than about 70 TB/day for proton-proton
- Single Kerberos realm (see dedicated talk)

- Web content management: On multiple user requests, instantiated pilot service based on Drupal 6, next year moving to Drupal 7 with Oracle backend
- Macs now supported (no iPhones or iPads)
 - Purchase, HW support, support contract with Apple
 - Not a centrally managed platform
- FIM (Microsoft Forefront Identity Manager) replacing CRA in 2nd half of November 2010
- Windows 7 supported since April 2010, phase-out plans for Vista and XP (see dedicated talk)

- EOL for SLC4 by end 2010
- SLC no longer supported on laptops (doesn't affect desktops)
- Printer infrastructure rejuvenated in spring
- Migration to Exchange 2010 (see dedicated talk)
- Apache/AFS web servers being upgraded to SLC5

- Virtualisation: service consolidation, batch virtualisation (see dedicated talks)
 - We have batch jobs on virtual machines now!
- Migration off SLC4: lxplus alias change, reduction of public capacity, upgrade of dedicated servers
 - Main worries: LCG CE, WMS
- Lxplus node freezes under heavy IO: still there at a low level (both under SLC4 and SLC5)
- Enhancing security of public nodes (lxplus, lxadm, lxbatch)
- New stuff
 - Whole node scheduling requested and being implemented
 - New services: ActiveMQ, CernVM FS to follow
 - BOINC/LHC@home getting back to CERN

- Looking for a CAD 3D viewer accessible via the Web
- Fortran compilers and libraries for beams department
- Ordered Flexera licence management software giving comprehensive reports, being installed now
- Parallel cluster (mainly for engineers) established with Intel NetEffect cards and standard CPU worker nodes
- Engineering interactive and batch linux nodes moved and integrated as subclusters into physics services

- Testing Vidyo as alternative videoconferencing tool
- Chat room functionality being added to Indico
- INSPIRE launched (see dedicated talk)

- (see dedicated talk)
- List of problems: no surprises
 - User credentials in public AFS files or Web pages
 - Reminder of obligations under OC5
 - Web servers: proxies relaying requests from intranet to internet, cross-site scripting and SQL injection
 - Phishing e-mails
 - SSH attacks against academic sites
 - Stuxnet targeting SCADA systems
 - Several Linux vulnerabilities
 - re-installed or at least upgraded many thousand nodes

- Language-specific courses on secure software development
- Computer security day
- Security baselines
- Obligatory web-based security course (with test)
 - New account holders: within five days of registration
 - Existing account holders: once every three years