CERN Site Report

News from CERN since the HEPiX Autumn Meeting 2013 in Ann Arbor

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Computing Facilities

- ## Wigner Data Center
  - Capacity increasing, new deliveries split 80:20
  - Hardware: ~780 servers (Meyrin: ~11k), ~17k cores (100k), ~50 TB RAM (350GB), ~17 PB storage (130PB)
  - Services: OpenStack (batch), EOS
  - CERN usage of SafeHost will stop spring next year

- ## Investigating Computer Center optimisations
  - "High-density" racks (going from 3.5kW to 7kW) being tested
  - Increase of hot-aisle width (to get a better-to-manage heat distribution)

- ## Planning for new network hub
  - For business continuity
  - Several options for physical location currently being discussed
  - ETA: end of 2015 / beginning of 2016

- ## Open Compute Project
  - Evaluation of first systems
  - All details in Olof's talk on Wed afternoon!

- ## Remedy finally shut down
  - Hardware management was last process to be migrated
  - All work flows now moved to ServiceNow

Collaboration Services

- ## Indic8r
  - Pilot conference aggregator service (for HEP related conferences)
  - https://indic8r.cern.ch

- ## New JACoW server
  - Joint Accelerator Conference Website
  - http://indico-jacow.cern.ch

- ## Indico
  - Version 1.2 in production: new registration form, rich-text abstract editor

- ## Vidyo
  - Version 3.0 in production: improved interface, chat feature
  - MyTeamwork audio conferencing planned to be phased out end of 2014
  - Missing firewall configs may be responsible for connection drops, config info is here:
    https://information-technology.web.cern.ch/services/fe/info/vidyo-routers-cernlhc-vidyo-network
    http://information-technology.web.cern.ch/services/fe/vidyo/info/firewall-configuration-vidyo-desktop

Communication Services

- ## EduRoam
  - Production service available for all CERN visitors
  - Production service for CERN people visiting elsewhere planned for Q4/2014

- ## lxplus-ipv6 service opened
  - Dual-stack lxplus instance with full IPv6 connectivity

- ## WiFi roll-out across site continues
  - EduRoam significantly increased the number of connected devices

- ## LHC tunnel
  - TETRA localisation: the LHC tunnel will be fully equipped before the end of LS1 and it is likely that the LHC experimental caverns will also be fully equipped before the start of Run 2
  - LTE (4G) project to measure mobile data capacity in the tunnel

- ## Potential use of WiFi technologies within an FCC detector

Databases

- **Database-on-demand service very popular**
  - Number of databases constantly increasing
  - Many production services rely on the service (e.g. OpenStack, LHCb DIRAC, ...)

Database on Demand instances

Evolution of the amount of MySQL, Oracle, and PostgreSQL instances in the DBOD service
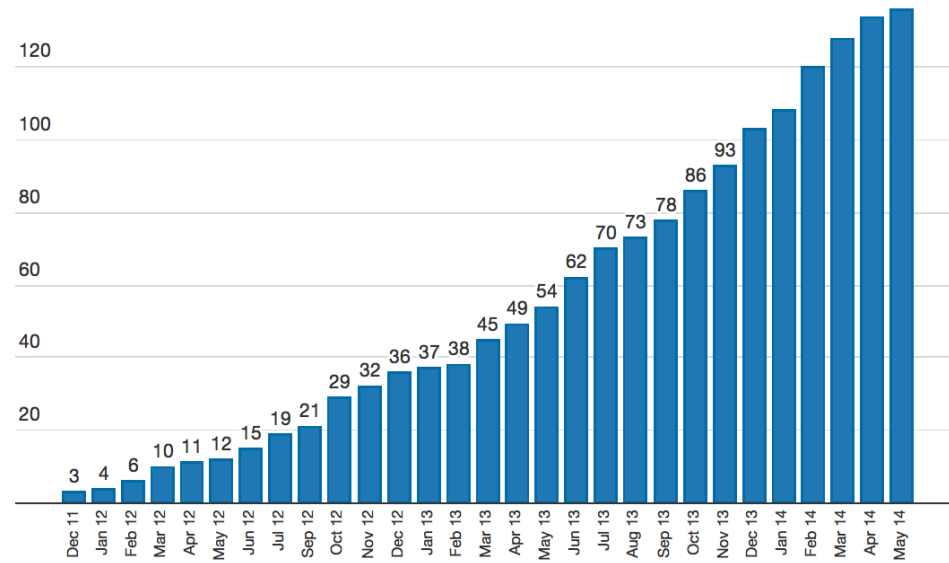

- **Migration**
  - hardware (to 2xE5 2650, NetApp FAS 6220), software (to 11.2.0.4 or 12.1.0.1), configuration management (to Puppet), physical location
  - brought significant speed-ups (e.g. CMS PhEDEx)

- **Replication**
  - Replication infrastructure s/w change from ORACLE Streams to GoldenGate
  - workshop planned for beginning of June

Data & Storage Services

- ## CASTOR
  - Minor issues with new T10KD drives now fixed (SCSI timeouts)
  - Repack (1/4/5.5TB to 8.5TB) progressing at 2PB/week, 30PB repacked already
  - All details in German's talk on Thu morning!

- ## EOS: new version deployed (v0.3, code name Beryl)
  - Features "reversible" file deletion

- ## "CernBox" / OwnCloud service
  - Beta service
  - More details probably at the autumn meeting

- ## European Kerberos and AFS conference end of March organised at CERN
  - ~80 participants
  - Lively discussions (community, IPv6, OpenAFS Foundation, ...)

- ## Ceph: volume service for OpenStack opened
  - Good uptake (400 vols, 100TB), works well!
  - Per volume IO throttling enabled
  - All details in Dan's talk on Thu morning!

Operating Systems & Infrastructure Services

- ## Cloud infrastructure service growing
  - ~2'800 HV's (~450 at Wigner), ~64k cores, ~115TB RAM, ~6'000 VMs
  - Volume service based on Ceph opened
  - Active migration out of CVI starting
  - Specialised cells for TN access, or critical power
  - All details in Stefano's talk on Thu afternoon!

- ## Preparations for the update to Lync 2013 ongoing
  - Available for iPhone, Android, Windows Phone
  - Instant messaging, VOIP, video calls, presence display, call forwarding management, …
  - Lync for mobile users and BYOD users

- ## "Social" platform moved to production
  - Twitter-like functionality
  - social.cern.ch

- ## Windows
  - Windows XP: still being used, actively being phased out
  - Windows 8: All details in Sebastien's talk … yesterday :)

- ## Power plan change for centrally managed Win machines
  - Reduced power consumption during night hours
  - Can have significant impact on electricity bill!

Platform & Engineering Services

- ## Batch service
    - Migration to SLC6 at 80%, SLC5 user communities left
    - Efficiency: Wigner no impact, SLC5/SLC6, phys./virtual, AMD/Intel being investigated
    - Details on the future of batch at CERN in Daniel's talk later today!

- ## Quattor-to-Puppet migration ongoing
    - End of Quattor planned for Q4/2014
    - Resource-intensive!

- ## Refinement of AI workflows
    - Snapshots for all repositories, i.e. QA for config and s/w
    - Automatic notification of upcoming changes
    - First release of CI framework
    - More details in Ben's and Jerome's talks Thu afternoon!

- ## SCM and Issue tracking
    - CVS finally decommissioned!
    - GitLab under review, planned for later this year
    - All details in Alvaro's talk (also yesterday)

Computer Security

- ## Heartbleed
  - SSL upgrades, certificate changes, password change campaign, ...

- ## Windigo
  - CERN actively contributed to the Windigo operation, involving over 25'000 root compromised servers

- ## Technical network disconnection test
  - What's the impact of a disconnection from the CC and its services?
  - LS1 a good opportunity to test
  - Some issues identified

- ## Pastebin-like service opened
  - Public services usually indexed by search engines
  - Core dumps (sensitive data in general) stay within CERN

- ## Social media usage guidelines published
  - Aligned with CERN Code of Conduct

- ## All details in Vincent's talk on Wed morning!

Thanks!