

HEPIX Fall 2015 Summary

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Who we are

- 110 registered participants (we had ~70 in 2004)
 - 39 from North America
 - 49 from Europe
 - 11 from Asia/Pacific
 - 8 from sponsors
 - 3 from private companies (not sponsors)
- 32 institutes (9 from North America, 19 from Europe, 4 from Asia/Pacific) and 5 private companies
- Newcomers and the return of old friends (BNL last hosted HEPIX in 2004)

Group Photo



Summary of Contributions

- 82 presentations over 4.5 days (1630 minutes total)
- Track breakdown
 - Site Reports (20)
 - Security & Network (8)
 - Storage & Filesystems (10)
 - Grid, Cloud & Virtualization (14)
 - Computing & Batch (8)
 - IT Facilities (6)
 - Basic IT Services (10)
 - End User Services (5)
 - Miscellaneous (1)
- Managed (barely) to keep all presentations to 20 min timeslots
- Presenters did a great job staying within allocated timeslots

Site Reports

- Several sites reported new (or renewed) support for non-traditional activities
- Infrastructure incidents (fire, water, ups, monitoring, etc) at some sites
- Leasing – an alternative procurement approach
- Increasing support for cloud computing
- Power and cooling constraints at various sites – need to investigate possible solutions (water cooling, oil-based immersion, etc)

Security & Network

- IPv4 addresses (nearly) exhausted – sites urged to dual stack to accommodate IPv6
- Continuing perfSONAR deployment and more comprehensive network performance monitoring
- Security concerns at data centers
 - Third party software
 - Targeted phishing attempts
 - Malware
 - Need for continuous awareness campaigns

Storage & Filesystems

- Ceph is increasingly adopted at various sites
 - Production usage at RAL, BNL
 - CERN's presentation of Ceph and CVMFS
- Continuing development of dCache pools at US Tier1 sites (BNL and FNAL)
- CERN users home directories migrating away from AFS (CERNBOX + EOS)
- DDN presentation on reduction of file system latency (IME parallel file system)
- WD's presentation on predictive failure analysis
- DESY's presentation on QoS and Data Cycle management for storage systems

Grid/Cloud/Virtualization

- Docker containers
 - support in Condor
 - tested at various sites
- Increased interest in commercial cloud services
 - Benchmarking @ CERN
 - Continuing tests of AWS
- Several sites reported VM provisioning of cloud resources via OpenStack (becoming standard?), but some still use OpenNebula
- OSG-accessible resources increasingly available
 - OSG overview provided by FNAL
 - alternative to commercial cloud providers in some cases (see Martin Purschke's presentation)

Computing & Batch

- HTCondor increasingly used at many sites, but LSF/Grid Engine are still hanging on at some sites
 - Partitionable slots
 - Discussions with HTCondor team at HEPIX are useful to many sites
- NVMe disk drives
 - overcoming latency and bandwidth limitations with blazing performance (at a price)
 - Bypassing SATA controller is the most significant reason
- Discussion of benchmark standard
 - HS06 does not measure performance of multi-core processors well
 - Usage of experimental code to cross-check
 - No prospect for a new standard until SPEC releases a new benchmark
- Demand by non-traditional fields for computing support

IT Facilities

- LBL's new data center
 - Innovative cooling infrastructure
 - Orderly migration from the Oakland facility
- HP consolidation presentation
 - Visiting HP data center during SuperComputing 15 (Austin, TX)
 - If you are there on Thursday, Nov. 19 and are interested, please send mail to tony@bnl.gov
- BNL's proposed new data center
 - Multi-disciplinary facility
 - ~30,000 ft² (~2800 m²)
- Asset management/tracking with Infor EAM @ CERN
 - Tracking purchased IT equipment
 - Thousands of incorrect bar-code stickers changed by supplier

Basic IT

- BNL using ELK to monitor application activity logfiles on storage systems (dCache, others)
- Consolidation of monitoring (environmental, system, batch, etc) at LBL
 - ELK integrated into monitoring infrastructure
 - Power over ethernet hardware feature
- Service/system monitoring @ CERN
 - Ceph SLS dashboard
 - ELK integrated
- Detailed presentation on configuration management @ CERN w/Puppet
- FNAL presentation on Online Computing support
 - “taking over” and standardizing to ITIL practices
 - Ongoing drive to users on best practices
- Quattor has an active community supporting it (RAL, Brussels, Paris-Sud, etc)
- Foreman and GitHub (configuration management tools) presentations by BNL and KIT
- InfluxDB and Grafana as alternatives to Ganglia

End-User Services

- SL update from FNAL
 - Continuous release (less emphasis on point releases)
 - Active support for SL6 and SL7 images
- CERN CentOS7 updates
 - Puppet for desktops
 - CENTOS and RHEL common base
- Docker support with both distros
- ownCloud presentation by RAL/STFC/PPD –cloud-like access to storage on multiple devices
- Support for Mac/iOS and mobiles at CERN – mobile device count rising fast while PC count is flat

Other Highlights @ BNL meeting

- Ian Collier's presentation on young IT internships
- Tours of the RACF (22 people)
- Tour of PHENIX/STAR (10 people)
- Reception at EastWind
- Dinner at Lombardi's on the Bay
- Phishing exercise

HEPiX Board Meeting (1)

- Present meeting
 - Very high number of participants for a North-American meeting
 - Very large number of (well presented, interesting) contributions
- Spring 2016 meeting: DESY Zeuthen (near Berlin), 18 – 22 April
 - Expect announcement before Christmas
 - Local organization in good hands, well advanced
 - Same tracks as this time
- Fall 2016 meeting: LBNL Berkeley CA
 - Most likely 17 – 21 October, the week following CHEP (and the WLCG workshop in San Francisco)
- Future meetings
 - Firm proposal for spring 2017 (in Europe)
 - Increased Asian participations means re-consider traditional alternation between Europe and North-America
 - Expressions of interest for 2018 (and beyond)

HEPiX Board Meeting (2)

- Working groups
 - Some discussion about how benchmarking WG fits with WLCG effort
- Technical services
 - Web page moved! Thanks to DESY, FNAL, LAL
 - Rota of volunteers established to keep site up-to-date
 - All participating sites invited to contribute to site list (contact Peter van der Reest or Andreas Petzold or Arne Wiebalck with URL, short intro, logo)
 - Addressing mailing lists, Wikis, file space next
- AOB
 - 2016 is 25th anniversary of HEPiX, to be marked in Zeuthen
 - Photo gallery – please contribute! (Contact Wolfgang Friebel)

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- BNL Conference Management Office & Fiscal Division
- Our sponsors
 - Western Digital (Platinum)
 - HP (Gold)
 - Red Hat (Gold)
 - DDN (Silver)
- Thanks to all of you for coming to BNL!

See you in Zeuthen!

