



GridPP

UK Computing for Particle Physics

HEPiX Fall 2011 Summary Report

HEPSysMan @ QMUL

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Martin Bly, STFC-RAL



Science & Technology Facilities Council

e-Science

- Intro
- Themes
 - Benchmarking
 - IPv6
 - Virtualisation
 - Storage Systems
 - Random Highlights
 - 20th Anniversary
- Next meetings

- Hosted by TRIUMF/Simon Fraser University/University of Victoria at the Harbour Center - Downtown Vancouver
- 20th Anniversary Meeting
 - HEPiX was 'founded' in Autumn 1991 at a meeting at CHEP
- Agenda:
 - <http://indico.cern.ch/conferenceDisplay.py?ovw=True&confId=138424>
- 95 participants from 17+ countries including Australia and China
- Dinner at the restaurant chalet on Grouse Mountain
 - With a quiz and prizes!

- HEP-SPEC06 a great success
 - Used throughout HEP and in wider non-HEP community
- Vendors quoting performance using HS06
 - Dell and AMD presentations about Interlagos and Sandy Bridge quoted HS06 results and comparisons
- Working group still monitoring CPU performance
 - Noted new SPECcpu v1.2
 - Issues: 64 bit apps, evolution of OS/compiler, whole node scheduling
 - SPECcpu v1.2 apps identical
 - Difference widening for 32bit->64bit but not all experiments ready
 - Whole node scheduling still little used
- Conclusions:
 - HS06 no longer accurate but good enough
 - Don't confuse with new benchmark or redefining existing one
 - Create new benchmark when next version of SPECcpu v6 is issued

- Several talks on IPv6 plans and activities including in the security track
- HEPiX Working Group created at Cornell
 - Began with plan to identify operational issues and discuss a possible testbed
 - Coordinated by Dave Kelsey
- Work has now actively started with the testbed activities
 - Several sites have concrete plans (e.g., CERN)
- Many open questions but need to start without an answer to every question
- Membership open to new sites/countries
 - Mailing list, contact Dave
- IPv6 security readiness talk by Bob Cowles...

- Several talks on virtualisation projects
 - Troy Dawson (now RedHat) talked about OpenShift - tool for publishing WebServices
 - Ian Collier on activities at RAL
- HEPiX WG active but progress has been slow after a spring flurry
 - Several folks busy
 - Focus for the next months: demonstrating the concept of trusted virtual images is usable with cross-site demonstrations
- F2F work days at RAL December 7-8
- Concerns on the long-term maintenance of required tools
 - Is StratusLab the answer?

- Status update for Castor and EOS
- Still an active WG continuing storage evaluation
 - From the performance point of view
- Program of continued benchmarking of various file systems against experiment workflow types, with no intent to provide a definitive answer or recommendation
 - Baseline for discussions and choices
 - AFS on Lustre suites for a lot of workflows
- Will begin to look at new storage solutions from the cloud world
 - e.g., OpenStack Swift

- **Infrastructure**
 - Hardware Failures at CERN
 - 30% of warranty repairs out side contract time
 - Moving to in-house for simple stuff, off-site for complex repairs
 - Configuration management at GSI
 - Review of tools to replace cfengine
 - Chef looks promising but yet to mature
 - Disk supply issues (spares, capacity)
 - (S)GE starting to be used at T1s
- **Networking**
 - LHCONE, PerfSonar-PS
- **Computing**
 - TACC 10-Pflop system (Dell)
 - System based on Zeus blocks

- Various talks on topics related to HEPiX past and present
 - Reminiscences from Alan Silverman (ex-CERN) and Thomas Finnern (DESY)
 - Networking retrospective from Les Cotterill (SLAC)
 - 20 years for AFS - Rainer Toebbicke (CERN)
 - Entertaining view of hardware changes based on ‘numbers’ from Corrie Kost (ex-TRIUMF)

- Spring 2012: Pragua April 23-27
 - Hosted by FZU (ATLAST2)
 - <https://indico.cern.ch/conferenceDisplay.py?confId=160737>
- Fall 2012: Beijing
 - Hosted by IHEP (ATLAS/CMS T2)
 - Target date: 2nd half of October
- Still looking for more T2 involvement and attendance