HEPiX Summary

HEPSysMan Meeting

University of Birmingham

Martin Bly

Disclaimer

- Significant parts borrowed (stolen) from Michel Jouvin presentation to GDB, Nov '10, and various talks at HEPiX

HEPiX Facts

- 19 years old, meets twice a year for a week
  - Europe (Spring), North America (Fall)
  - Open to any one dealing with fabric management in HEP
  - Mostly system administrators but also service manages
  - Working groups for specific issues (benchmarking, storage, virtualisation)
- Meeting at Cornell University, Ithaca, NY
- 60 participants from 24 sites including Korea, Taiwan

Meeting Attendance
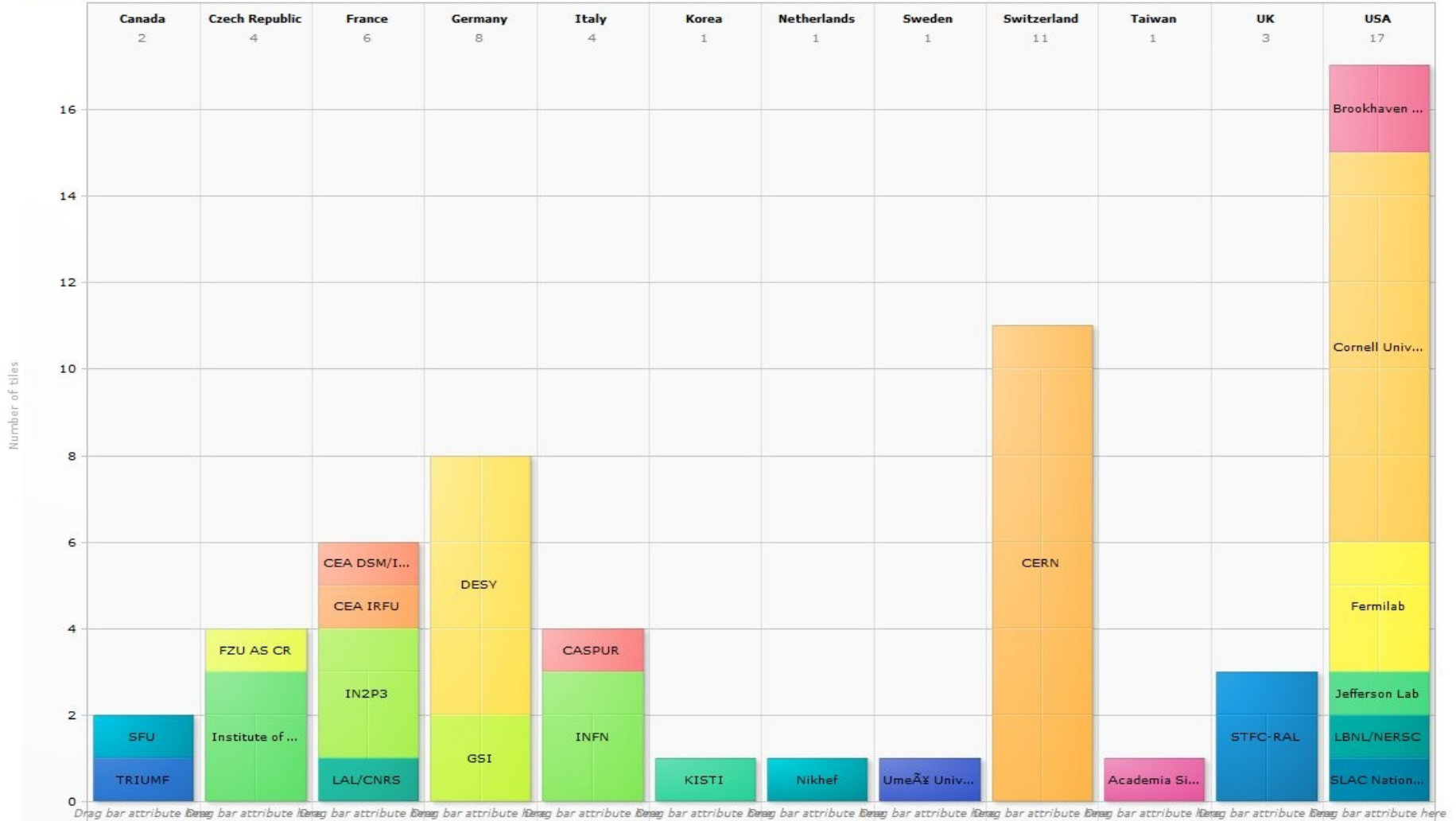
IPV6

- IPV6
  - A topic in the background since 2 years
    - NorduGrid presentation in Umea (Spring 2008)
  - Fred Baker (CISCO): IPv4/v6 transition (Fall 2008)
  - INFN testbed (Fall 2010)
  - A memo from US Federal CIO asking for concrete plans to be in place by the end of this year
    - *http://www.cio.gov/Documents/IPv6MemoFINAL.pdf*
  - Shortage of Ipv4 addresses expected next Fall.
    - Will affect non European/North American countries first
  - A WG to be created soon
    - Identify operational issues and discuss a possible test bed

File Systems and Storage

- Very active track, coordinated by Working Group
- Test bed at KIT (Karlsruhe) to compare solutions
  - Using mainly apps provided by experiments, new versions received after Amsterdam Jamboree
  - New tests run after Amsterdam: assessment of ROOT TTreeCache effect on previous measurements
    - Not able to set Xrootd to file system performance level, mainly compensate absence of kernel caching
    - Also improves a little bit file system performances
- New report on NFS 4.1 as an access protocol
  - Very promising results based on dCache tests
  - DPM should have an implementation ready for testing by the end of the year
- CERN presentation about EOS prototype
  - People present expressed doubts about the feasibility of such a project without a large team…
  - Several previous experiences showed that an appealing prototype is easy but production-quality is very long/hard
  - Also concerns about a product restricted to Xrootd access protocol

Virtualisation & Clouds

- Report from the virtualization WG formed 1 year ago (Berkeley meeting) with focus on trusted VM images
  - First prototype of VMIC (VM image Catalog) in use at CERN
  - More work needed for VMIC interconnection between endorsers and sites: liaise with StratusLab?
  - JSPG policy adoption after wider experience

- Several sites started private cloud infrastructures
  - Presentations from CERN, FNAL, LBNL
  - Connected with grid WNs at CERN

- Many sites leveraging virtualisation for production resilience

- Significant interest in CVMFS work – Ian Collier

- StratusLab just released first version of its toolkit
  - Should ease deployment of private clouds to run grid services, e.g. grid WNs

Oracle / SUN

- Many sites expressed concerns about former Sun products since buyout by Oracle
  - Impact both HW and SW products including Thor, ZFS…

- LUSTRE: Two consortiums founded to drive further developments of LUSTRE
  - US: Livermore + DDN + some big players, very high membership fees (500 k$/year)
  - Europe: more open to small institutes… €3k?

- Grid Engine: a SourceForge project (fork) started
- Oracle saying they want to avoid forks…
- HEPiX sites encouraged to participate to these initiatives

Other Topics

- Data centres: several projects underway
  - CC IN2P3 extension on schedule: to be delivered next Feb.
  - CERN project to extend current CC infrastructure
  - GSI: first prototype of their 3D cube concept presented in Berkeley (Fall 2009)

- OS: discussions between SL and SLC team to better integrate SLC contribution in SL
  - Unify distributions if possible, still keeping CERN specificities
  - Benefit from CERN ability to contribute to kernel patching

Scientific Linux

- Continue to have security updates for all releases of SL 4
- Continue to have fastbug updates for only the latest release of SL 4

- Continue to have security updates for all releases of SL 5
- Continue to have fastbug updates for only the latest release of SL 5

- Releasing S.L. 4.9
  - Estimate - ?? - Not even sure if there will be a 4.9

- Releasing S.L. 5.5
  - Estimate - Spring 2011 ??

- When RHEL 6 comes out, releasing S.L. 6.0
  - RHEL 6 released – November 2010
  - Will not release SL 6 until "it is ready" - estimate - April 2011

- More open environment for building SL
  - Working on Koji, Bodhi, Mash, Pungi, Revisor, Spacewalk

Sites

- SLAC: DOE enforced monitoring: immediate 'don't look at pr0n' memo.

- Several site reporting significant use of GPU clusters (Lattice QCD) – some reporting QA issues

- GSI 'Cube' concept demonstrator

- Significant water cooling infrastructure being deployed

Interesting Stuff

- CERN
  - Distcc
  - Win7, Exchange 2010 rollout and anti-spam
  - IT facilities planning and procurement
- IN2P3 – new network infrastructure