## HEPiX Sys. Management 1

- Experiences with fabric management and monitoring tools
  - QUATTOR (LAL)
    - GRIF distributed grid 'site' over 5 institutes, Ile de France
    - Worked well for sharing experience, configurations, but also local customisations
    - Very positive about active community support (outside CERN)
      - Now not "just a grid tool"
    - Use Subversion-based CDB and LCG QWG maintained templates
      - Good graphical repository tools with Subversion
    - Work in progress for Nagios configuration
    - Some discussion over gradient of learning curve
  - Cfengine (Glasgow)
    - Used by some UK sites
    - "Plan is to describe "Finished Config" not what to do."
    - Not compared with other tools or experience
    - ~150 machines managed, Nagios integration
    - "Easy to learn and use"
  - Nagios monitoring (GridKa)
    - Basic introduction. Chosen after high costs of (?) a commercial product.
    - 1600 hosts with 13000 service checks + Ganglia for workload monitoring
    - Seemed happy with out-of-the-box capabilities Live demo!
- The "Alan Silverman question"
  - Q: Why not use <product name> from CERN?
  - A: "Already good on-site experience with .. "

Or (paraphrased)

A: "Something else does what I need with wider install base so "<u>Why</u> use <> from CERN?" "

## HEPiX Sys. Management 2

- Grid things ....
  - WLCG/HEPiX System Management Working Group
    - Goal to provide place for best practice advice, tips, tricks and scripts.
      - twiki and script/tool repository
      - Aimed at stabilising and securing site fabric underlying grid services
    - Regular meetings but initial enthusiasm not (yet) matched by real contributions
  - WLCG Grid Services Monitoring Working Group
    - Improve grid service reliability by improving monitoring
      - Not new system but ...
      - Integration and standardization of existing protocols/components
    - Nagios-based prototype from srce/EGEE Central Europe region in test
  - GD/EGEE-SA3 Deployment Strategy (CERN)
    - Overview of distributed certification and testing history & process
      - 5 years from inflexible packaged "solution" to multi-OS modular configuration
      - Interaction with EGEE gLite middleware process & config. tools
      - YAIM tool evolving to be more modular allows local contribution
      - Use of virtualised testbed to quickly/reliably deploy/save configurations
    - Always many problems with poor software portability
      - Complexity of resolving where the "bug" is middleware, config, firewall .....
      - Discussion link to SL track on software (poor) portability

## HEPiX – Scientific Linux

- FNAL and CERN talks
- End-of-life/Security Support:
  - Security support for SL 3.0.x
    - Provide limited legacy support until October 2010 (TUV retirement time)
    - Good news for EGEE because SLC3 porting is behind previous schedule
  - Security support for SL 4.x
    - Provide security errata support until at least 2010
    - Still SLC4 for LHC startup
  - Nobody wants to extend the support lifetime but some labs (DESY) might have to
    - in this case would prefer "centrally-provided" updates as long as TUV provides them
    - Seek narrow definition of "legacy support" to scare away the casual users while keeping the few service managers happy.
- Discussion: homogeneous linux environment has contributed to reduced application (and middleware) portability.
  - Cost trade-offs: portability and backward compatibility
  - Evidenced by problems seen in grid middleware certification and app. porting.
- Merge with CENTos?
  - no real discussion, pro/cons exposed. No 'killer advantage or effort saved : would be expected to contribute back to CentOS
- Requested (again) more volunteers to add/maintain "scientific" applications.

(Thanks to Jan Iven & Steve Traylen for highlighting)

## HEPiX sys management 4

- Virtualisation (DESY)
  - Report from workshop held at DESY earlier 2007
  - In general (of course!) a lot of talk about virtualisation at HEPiX
  - Classification of use-cases
  - Conclusions (from the organiser)
    - Virtualization on the grid is an inevitable development in the next 5 years due to benefits for admins and users
    - Virtualization provides increased job isolation and security
    - Heterogeneous OS support on same hardware is major advantage.
  - Discuss: Driven by sys admins, <u>not</u> users? Nobody wants to run arbitrary user-supplied images. Issue of security updates remains.
- Tools for hardware reliability (CERN)
  - To increase reliability
  - Burn-in/test phase and active background checks
    - Many different tests
    - RAID checks, SMART, fsprobe, memory tests....
- Cyber Security Update (SLAC)
  - Grid Site Operations Policy and Grid User AUP
    - What sites and users agree to do (and not to do)
    - Information handling
  - Security implications of Grid JIT scheduling (glide-in jobs)
  - Trends: personal data is becoming more sensitive and more valuable (to crooks)
  - Commoditisation of botnets, google hacks, personal info.
  - Nightmare scenario: Grid used to take down media site (CNN, NYT, ...)
    - Congress demands action to protect the nation from the Grid until it is "safe"