Applications Area Issues

RWL Jones

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General operational issues

- Interoperability issue for future and running experiments
  - Workload Management
    - Submission and load balancing across Grids
      - Common/shared information system
      - How do we handle an experiment requesting an incompatible system?
  - File Catalogues
    - Issue for future experiments
    - Layering additional catalogue over existing catalogues labour intensive and risky
    - Unfair to ask experiments to arbitrate between Grids
- Creating a VO – how?
- Getting a certificate
  - Reports of missing mails and delays
  - Supported browsers
  - Simple scripts for certificate manipulation

LCG issues

- Specific LCG issues
  - Immensely low throughput on the RB – see next slide
  - LCG-Castor failures
  - RLS corruption
  - Big-bang releases return!
  - SL3/SL3C – never again! But the dissemination of the information on the problem was slow and could be improved
- Disk Storage
  - SEs currently declare they are permanent storage by default
  - More likely to be volatile or semi-permanent
  - Should be declared!
- Storage technologies are also an issue, but already discussed
  - Encouraged by the SRM-dcache installation work at T1 - appreciated
- Experiments looking at expected disk i/o to inform judgements of mirrored disk vrs staged data vrs spin on demand

- ATLAS at least gets few jobs run – why?
  - Immensely low throughput on the RB
  - Requirement for 2.3.x
    - Getting better
  - SL3 ATLAS kit problems
    - Now resolved (e.g. Sheffield running jobs), but because the first installation was missed, fix-up is by hand
  - Over-reliance on DTEAM tests
    - Note: often fail simply because the site is busy with jobs!
    - Note: tests some time fail because third party sites fail
    - Note: tests rely on performance of one (random) WN
    - Do we have an analysis of failures for a sample period?
    - Experiments need to select stable sites, but needs to be smarter – but the tests themselves could be better!
- LHCb jobs do better – why?
  - Run resource grabber job that then pulls in work
  - Far weaker requirements
    - If resource grabber fails, nothing is lost
  - Smart, but is it acceptable ('Would you put up with this at a pool table?')

Integration of Service Challenges

- Service challenges until now largely separate from experiment planning
  - ATLAS and CMS now trying to integrate activities (and LHCb based on Jamie's talk? But in the UK?)
  - Need close liaison with DTEAM and others
  - Need for monitoring tools
    - Monitor to match the Real Time Monitor and Portal Demonstrator (applications area)
      - Could develop this with ESLEA

- **There are clear tensions given the expected hardware profile**
  - Fundamentally, there is not enough
  - CB has indicated how it wishes the sharing to be done in the UK
    - This may present problems for experiments given hopes in MoUs, planned internal Tier threshold sizes etc.
  - LHC experiments have articulated the roles of the Tiers in the computing model review in January
    - Cannot trivially move tasks from Tier-1 to Tier-2
    - Is there a similar clear view in the other experiments
    - All resources (Tier 1 and Tier 2) should count towards experiment, but different roles