Final summary

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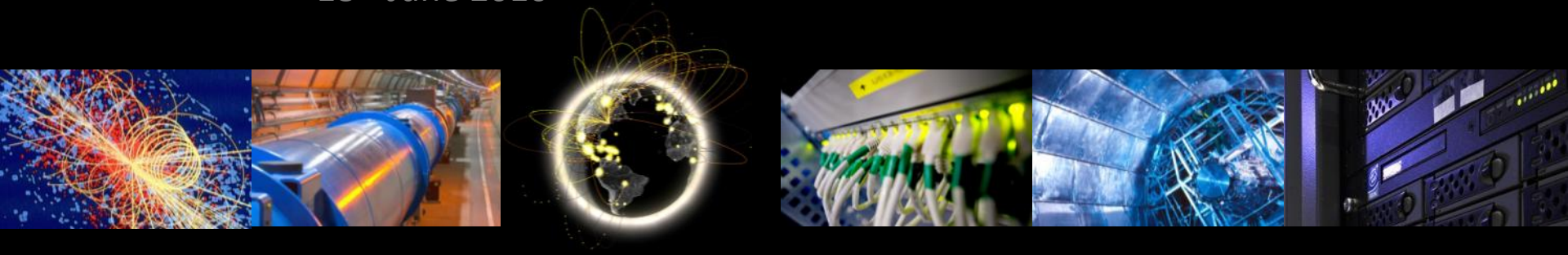

WLCG
Worldwide LHC Computing Grid

Potential Demonstrators

- Bockelman
  - xrootd demonstrator (with filesystems): should collab with IT-DSS xrootd ideas?
- Massimo:
- Stewart: +DIRAC
  - Panda dynamic data placement?
- CHIRP (== afs-like fs) – similar to xrootd proposals?
- Behrman:
  - ARC caching – general use?
- Baud/McCance:
  - Use MSG as weak coupling to address data consistency (storage, catalogues, apps)? Or as DM info system?
- CMS catalogues – Simon Metson
- Catalogues: Oscar
  - DHT, Bloom filters, MQ, Alien FC ???
- Pablo: LFC vs AlienFC

- Jeff:
  - CoralCDN
- Dirk/Rene: proxy caches
- NFS j-p/gerd
- File access - jens

And…

- Need network planning group (David F.)

Discussion items

- Data transfer...
  - Many suggestions – both here and in contributed docs
  - Not all coherent...
  - Probably need a group to address this:
    - Can “FTS” + suggestions/fix do what is needed
    - Do we need an (other) asynchronous data transfer mechanism (job finishes, here is output, deliver it to archive)
- SRM:
  - Is it dead?
    - Separate archives from caches – archive interface is simpler (subset of SRM?); cache interface is fs (-like)
    - Not dead but only use limited pieces

Discussion items

- Access protocol
  - Can we have a data access common protocol?
  - Is it xrootd?
- What is it we are trying to optimise?
  - Not CPU! But this is what (all) we measure today...
  - Should better specify metrics for success
- Monitoring now
  - We need to measure what we are doing so that we have something to compare with!
  - Real information from MSS and other data management components is missing. We need it now.

And …

- Can we have a simulation ??
- What are the metrics??
- Security issues
  - WN access to WAN
  - Policies
- Demonstrators
  - Follow up in GDBs

My personal summary

- Storage:
  - Separate archive (tape) and cache systems
  - Simplifies interfaces to both
  - Allows industrial (standard) solutions for archives
  - Never read tapes
- Data Access layer
  - Need combination of data placement and caching
  - Effective caches can reduce (or optimise existing) space usage (separate tools from policies)
    - Several potential caching mechanisms
  - Can't assume that jobs find all of the files needed at a site – get 90% remote access (cache) the rest
  - Can't assume that catalogues are fully up to date
  - Model of access is filesystem (-like)

Summary -2

- Data transfers
  - Need a reliable way to move data from a job to an archive (or point to point)
  - Need data placement mechanism
  - Need transport for caching
  - Need remote access mechanism
- Namespaces, catalogues, authz, quotas etc.
  - Want dynamic catalogues that reflect changing contents of storage
    - Could be LFC + MQ, DHT, Bloom filters, Alien FC (?)
  - Computing models should recognise that information is best guess (not 100% reliable)
- Grid-wide home directory
  - Is needed
  - Technologies? How to do this?