Baseline Services Group
Status of File Transfer Service discussions

Storage Management Workshop
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IT/GD

Reliable File Transfer

- James Casey presented the thinking behind and status of the reliable file transfer service (in gLite)

- Interface proposed is that of the gLite FTS
  - Agree that this seems a reasonable starting point
- James has discussed with each of the experiment reps on details and how this might be used

- Bring discussion to Storage Management workshop this week

- Members of sub-group
  - ALICE: Latchezar Betev
  - ATLAS: Miguel Branco
  - CMS: Lassi Tuura
  - LHCb: Andrei Tsaregorodtsev
  - LCG: James Casey

> **fts:** *generic file transfer service*
> **FTS:** *gLite implementation*

File transfer – experiment views

Propose gLite FTS as proto-interface for a file transfer service:
(see note drafted by the sub-group)

- CMS:
  - Currently PhedEx used to transfer to CMS sites (inc Tier2), satisfies CMS needs for production and data challenge
  - Highest priority is to have lowest layer (gridftp, SRM), and other local infrastructure available and production quality. Remaining errors handled by PhedEx
  - Work on reliable fts should not detract from this, but integrating as service under PhedEx is not a considerable effort
- ATLAS:
  - DQ implements a fts similar to this (gLite) and works across 3 grid flavours
  - Accept current gLite FTS interface (with current FIFO request queue). Willing to test prior to July.
  - Interface – DQ feed requests into FTS queue.
  - If these tests OK, would want to integrate experiment catalog interactions into the FTS

FTS summary – cont.

- LHCb:
  - Have service with similar architecture, but with request stores at every site
  - Would integrate with FTS by writing agents for VO specific actions (eg catalog), need VO agents at all sites
  - Central request store OK for now, having them at Tier 1s would allow scaling
  - Like to use in Sept for data created in challenge, would like resources in May(?) for integration and creation of agents

- ALICE:
  - See fts layer as service that underlies data placement. Have used aiod for this in DC04.
  - Expect gLite FTS to be tested with other data management service in SC3 – ALICE will participate.
  - Expect implementation to allow for experiment-specific choices of higher level components like file catalogues

4

File transfer service - summary

- Require base storage and transfer infrastructure (gridftp, SRM) to become available at high priority and demonstrate sufficient quality of service

- All see value in more reliable transfer layer in longer term (relevance between 2 srms?)
  - But this could be srmCopy

- As described the gLite FTS seems to satisfy current requirements and integrating would require modest effort

- Experiments differ on urgency of fts due to differences in their current systems

- Interaction with fts (e.g catalog access) – either in the experiment layer or integrating into FTS workflow

- Regardless of transfer system deployed – need for experiment-specific components to run at both Tier1 and Tier2

- Without a general service, inter-VO scheduling, bandwidth allocation, prioritisation, rapid address of security issues etc. would be difficult

fts – open issues

- Interoperability with other fts' → interfaces
- srmCopy vs file transfer service
- Backup plan and timescale for component acceptance?
  - Timescale for decision for SC3 – end April
  - All experiments currently have an implementation
- How to send a file to multiple destinations?
- What agents are provided by default, as production agents, or as stubs for expts to extend?
- From Jon Bakken:
  - What are the anticipated bottlenecks for local internode file transfers needed to make FTS work at high rate?
  - How can global sharing of data pools be implemented in the FTS design?
  - How does FTS scale for writing into the pools if the tape backend stalls, especially given the local file locations on each node.
  - How does pinning work in this local model?
  - How will the DNS certificate issues be addressed?
  - How will multiple files in 1 srmcp be addressed?