The ALICE standpoint on Baseline Services (1)

Baseline Services group meeting

Geneva, 4 March, 2005

Scope

➢ Discussion on File placement, file transfer and storage management

➢ "This should not be a design exercise – rather it should draw on existing software, practice and experience – and propose only developments that are achievable within the next 12 months and which have been agreed in principle by the teams that would undertake any such developments."

File placement

- **Guidelines:**
  - **1. SRM interface – agree on subset of SRM options**
  - **2. Specify MSS implementation to be provided at named key sites**
  - **3. Availability of base disk pool manager for other sites**
  - **4. Experiment's solution**
- 1. SRM options:
  - Available in the talk of Jean-Philippe Baud
  - Implementation of options varies per site (largely a choice of the site administrators):
    - We don't understand why this is the case
  - Current performance results and limiting factors are not widely available:
    - To be tested during SC2 (Robust Data Transfer)
  - SRM in its original proposal is a viable service for ALICE
- 2. MSS site implementation:
  - If MSS backend is implemented in SRM, we do not have any particular preference toward the existing and under development MSS systems
- 3. Base disk pool manager:
  - xrootd
- 4. ALICE - AliEn SE:
  - Tested during PDC'04 at CERN and CNAF (CASTOR), LBL (HPSS), and at 20 sites (as a disk pool manager), xrootd tested for analysis tasks (ARDA)
  - Observed performance limitations - only by the underlying storage service implementation

Reliable File Transfer

- **Guidelines:**
  - **1. Low-level service that underlies data placement services**
  - **2. Network aware, MSS implementation aware**
  - **3. Implementation of gLite/LCG being tested for SC's**
  - **4. Understand what interfaces/functionality is needed**
  - **5. Experiment's solution**
- 2. Failure recovery: sensitive to network conditions? Out of scope for this service – only if no other service (SRM) available?
- 3. gridftp:
  - Mostly used by other experiments in the past
  - Performance to be tested during SC2 (Robust Data Transfer) – from this we can estimate the suitability wrt ALICE computing model data transfer requirements
- 5. AIOD/gLiteIO:
  - AIOD tested during PDC'04 for all data transfer between sites:
    - Full recovery on failure (server, network), data caching
  - At CERN running on the same infrastructure (GRIDftp) as the gridftp

Storage Management Service

- ➢ **Guidelines:**
  - ➢ **1. Selects "best" site as destination of data**
  - ➢ **2. Are generalised algorithms realistic? – or should this be an experiment specific service?**
  - ➢ **3. E.g. CMS PhedEx; gLite FPS**
  - ➢ **4. Experiment's solution**

- ➢ 1. Destination site is VO specific – in that sense the service should offer graduation of 'suitability', assignment of sites per VO and space management:
  - ➢ With a VO choice of File and Metadata catalogue

- ➢ 2. Generalized in the terms of gLite FPS, with the caveat above

- ➢ 3. gLite FPS:
  - ➢ The schedule for release and testing is currently unknown – is that a part of a SC?

- ➢ 4. ALICE – AliEn FTD (file transfer daemon):
  - ➢ Tested during PDC'04, coupled to AliEn SE and AIOD

General common conditions

➢ Baseline Services design and deployment:

> ➢ As per the definition of 'baseline' – these services should allow for experiment-specific choice of higher-level components (for example File Catalogue, Metadata Catalogue)

Questions

➢ Workload management, VO management

> ➢ We do need a list of items to be discussed

➢ Application software installation

> ➢ GAG requirements – list of available tools and which requirements are covered