Summary of meeting on Replica Registration Service

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Introduction

- Meeting held at LBNL in September with representatives from JLAB, FNAL,USC, LBNL and CERN
- Main topic: interoperability between Replica Management systems

Replica Management

- Select Replica Catalog
- Get SURLs of files to be replicated
- Allocate space (Storage Resource Manager)
- Copy files
- Register files

Replica Registration

- One or more catalogs
- Standard Replica Catalogs
- Experiment File Catalogs

Outcome from the first part of the discussion

- No standard Replica Catalog
- Different interfaces
- The design/implementation of the existing Replica Catalogs is frozen

Proposal

- Implement a Replica Registration Service which would provide:
  - Handling of multi-file requests
  - Parallel registration of files in several catalogs
  - Robustness (automatic retries…)
  - Asynchronous service to allow for getting request status, request history, monitoring
  - Interface to any catalog (Globus RLS, EDG RLS, experiment catalog like ATLAS-FC)
- The RRS could reuse some of the SRM code as many underlying functions are similar.

Secondary issues

- How does the Replica Manager gets the list of default Replica Catalogs (Monitoring and Discovery Service could be used)
- Should the replica catalogs be automatically updated by the Mass Storage Systems when
  - A permanent copy on tape is destroyed
  - A volatile copy on disk has been removed by the garbage collector
- Access control

GUIDs vs LFNs

- EDG RLS is the only catalog externalizing the Grid Unique Identifiers (uuid like)
- Globus RLS takes the first LFN as GUID; this can be a problem when modifying or deleting LFNs. A GUID can be stored as an LFN in the Globus RLS.
- The GUIDs are used by POOL
- To register a new file in EDG RLS, RRS would get a UUID and contact the RMC and the LRC
- To register a file replica in EDG RLS, RRS would get the GUID from the RMC and contact the LRC

Conclusion

- The sites present at the meeting agreed to develop the RRS interface to their own Replica Catalog, although nobody has proposed yet to do the interface to the Globus RLS.
- It is proposed that GFAL and POOL use the RRS. This would simplify their code.
- Note: We have to be careful as the future Globus RLS will handle “data replicas” and not anymore “file replicas”