



The Addendum to the WLCG SRM v2.2 Usage Agreement



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The requirements



- The **goal of the SRM v2.2 Addendum** is to provide answers to the following (requirements and priorities given by the experiments)
- **Main questions :**
 - Space protection (VOMS-awareness)
 - Space selection
 - What kind of spaces (T1D0, T1D1, T0D1)
 - Pre-staging
 - Space usage statistics
 - Tape optimization (reducing the number of mount operations, etc.)
- **Main dates** are being adhered to:
 - **17 June:** submission to the MB for approval. Start of the implementation phase



The document



- The most recent version is v1.4 available on CCRC/SSWG twiki:

https://twiki.cern.ch/twiki/pub/LCG/WLCGCommonComputingReadinessChallenges/WLCG_SRMv22_Memo-14.pdf

- 2 main parts:
 - A detailed description of an implementation-independent full solution
 - Implementation plans per storage solution are also detailed with dates for each of the features.
 - An implementation-specific with limited capabilities short-term solution that can be made available by the end of 2008
- The document has been agreed by *storage developers, clients developers, experiments* (ATLAS, CMS, LHCb)



The priorities



- Top priority is services functionality, reliability and performance
- The **short term solution** offers limited functionality and is implementation specific with clients hiding differences

■ **NOTE:** *The short term solution will allow this group to better understand the experiments requirements and the feasibility of the long term solution proposal. In case the short term solution demonstrates to already address the requirements and use cases of the experiments, then this group might decide to either not implement or partially implement or revise the full proposal.*

- The long term solution is a solid starting point



- It is what is technically missing/needed
- Details and functionalities can be re-discussed with acquired experience



The short-term solution



■ CASTOR

- **Space Protection** based on UID/GID.
 - Administrative interface ready by 3rd quarter of 2008.
- **Space selection** already available.
 - srmPurgeFromSpace available in 3rd quarter of 2008.
- **Space types**
 - (T1D1 provided) pinLifeTime parameter on Put operations is negotiated to be always equal to a system defined default.
- **Other points**
 - *srmLs returning space tokens by 4th quarter of 2008*
 - No srmCopy implementation foreseen



The short-term solution



■ dCache

■ Space Protection

- Protected creation and usage of “write” space tokens
- Allowing or denying the access to the tape system for particular DN's or FQAN's.

■ Space selection

- Based on the IP number of the client, the requested transfer protocol or the path of the file.
- Use of the TExtraInfo structure for more refined selection of read buffers.

■ Space types

- (T1D0 + pinning provided). Releasing pins will be possible for a specific DN or FQAN without specifying the Request ID.

■ Implementation plan

- Available by the end of 2008
- Improve reliability and performance of the system



The short-term solution



■ DPM

■ Space Protection

- Support a list of VOMS FQANs for the space write permission check, rather than just the current single FQAN - *September 2008*

■ Space selection

- Not available

■ Space types

- Only T0D1



The short-term solution



■ **StoRM**

■ Space Protection

- Spaces in StoRM will be protected via DN or FQAN based ACLs. StoRM is already VOMS-aware. Improvements in the permission manager.

■ Space selection

- Not available

■ Space types

- T0D1 and T1D1 (no tape transitions allowed in WLCG) -> No srmPurgeFromSpace available

■ **Other points**

- Path and space tokens can be passed to the tape back-end for tape usage optimization, if needed

■ Implementation plan

- Available by November 2008



The short-term solution



■ Client tools: FTS, lcg-utils/gfal

■ Space selection

- The client tools will pass both the SPACE token and the TExtraInfo structure . The number of new keys is restricted to a minimum and well defined set.

■ Pinning

- Client tools will internally extend the pinlifetime of a newly created copy if the pin lifetime is specified on put or copy operations by the client application.

■ Space Types

- The same type of SPACE might be implemented as T1D1 for CASTOR, or T1D0 + pinning in dCache. When releasing a copy, the clients will perform both an srmPurgeFromSpace and an srmRelease without requestID so that the different space types are hidden to the user.

■ Implementation plan

- Coding will start in September 2008 and will last for about 2 weeks. Then certification and pre-testing activities will follow before deployment in production.





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