Critical SRM 2.2 methods for Data Management tools

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This note describes the SRM 2.2 methods which must be implemented by the SRM providers in order to provide basic SRM 2.2 functionality for the WLCG data management tools.

	Required for FTS	Required for GFAL / lcg-utils
srmMkdir	YES	YES
srmRm	YES	YES
Synchronous srmLs for file and directory stat (numlevel =0)	YES	YES
srmGetSpaceToken	YES	YES
srmPrepareToGet	YES	YES
srmStatusOfGetRequest	YES	YES
srmPrepareToPut	YES	YES
srmStatusOfPutRequest	YES	YES
srmCopy	For SRM copy mode (2)	-
srmStatusOfCopyRequest	For SRM copy mode (2)	-
srmReleaseFile	YES	YES
srmPutDone	YES	YES
srmAbortRequest	YES	YES
srmAbortFiles	-	YES
srmPing	YES	YES
srmGetProtocols	-	YES
srmBringOnline	(1)	For the requested pre-staging lcg-util
srmStatusOfBringOnlineRequest	(1)	For the requested pre-staging lcg-util

(1) Future pre-staging functionality in FTS would rely on these methods
(2) SRM copy must pass the client-requested space type and token to the destination SRM

In order to achieve stable production, it is also critical that the SRM behave the same way. This means that:

- the method call pattern must be the same. i.e. the sequence in which methods must be called is the same for all implementations, both for the success use-case and for the error cases;

- the parameters to be set on all implementations must be the same for the same desired behaviour;
- the exposed SRM state machine must be the same for all implementations;
- the methods must return the same codes on success;
- the methods must return the same error codes upon all classes of failure;
- any ambiguities in the standard or disagreements between the SRM providers upon its interpretation for the above methods must be resolved.

Any branching in behaviour where the client is required do different things dependant on the type of SRM backend will likely introduce significant delays to the deployment of a production quality service based on SRM 2.2.