



# SRMv2.2 experience

Sophie Lemaitre (<u>Sophie.Lemaitre @cern.ch</u>)
WLCG Workshop - 23<sup>rd</sup> January 2007

www.eu-egee.org







## **Background**

## Testing phase continues

- One test endpoint deployed for each server
  - CASTOR, dCache, DPM
  - DRM, STORM

## Clients being written

- Specific SRMv2.2 test clients
  - Flavia's tests: <a href="http://grid-deployment.web.cern.ch/grid-deployment/flavia/basic/s2\_logs/">http://grid-deployment.web.cern.ch/grid-deployment.web.cern.ch/grid-deployment/flavia/basic/s2\_logs/</a>
  - LBNL tests
- FTS, lcg\_util / GFAL
- Daily problems reported
- Daily fixes made



# Some time ago...

**Enabling Grids for E-sciencE** 

F	avia's
	tests

16 Nov. 2006 05:42

SRM function	CERN CASTOR	FNAL DCACHE	CERN DPM	<u>LBNL</u> <u>DRM</u>	<u>STORM</u>
AbortFiles	StdOut Log	StdOut Log	StdOut Log	StdOut	StdOut Log
AbortRequest	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log
BringOnline	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log
ChangeSpaceForFiles	StdOut Log	StdOut	StdOut Log	StdOut Log	StdOut Log
CheckPermission	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut
Сору	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log
ExtendFileLifeTimeInSpace	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log
ExtendFileLifeTime	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log
GetPermission	StdOut Log	StdOut Log	StdOut Log	StdOut Log	<u>StdOut</u>
GetRequestSummary	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log
GetRequestTokens	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log
GetSpaceMetaData	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log
GetSpaceTokens	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log
GetTransferProtocols	StdOut Log	StdOut	StdOut Log	StdOut Log	StdOut Log
Ls	StdOut Log	<u>StdOut</u>	StdOut Log	<u>StdOut</u>	StdOut Log
Mkdir	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log
Mν	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log
Ping	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log
PrepareToGet	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log
PrepareToPut	StdOut Log	StdOut Log	StdOut Los	StdOut Log	StdOut Log
PurgeFromSpace	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log
PutDone	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log
ReleaseFiles	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log
ReleaseSpace	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log
ReserveSpace	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log
ResumeRequest	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log
Rmdir	StdOut Log	StdOut	StdOut Log	StdOut Log	StdOut Log
Rm	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log
SetPermission	StdOut Log	StdOut	StdOut Log	StdOut Log	StdOut Log
Status Of Bring Online Request	StdOut Log	StdOut Log	SittlCut Log	StdOut Log	StdOut Log



# Yesterday

**Enabling Grids for E-sciencE** 

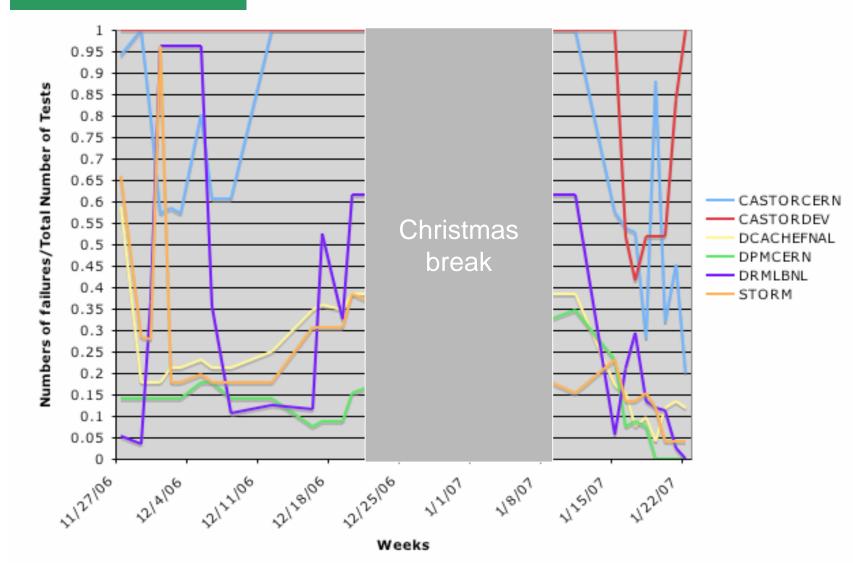
SRM function	CERN CASTOR	CERN CASTORDEV	FNAL DCACHE	CERN DPM	LBNL DRM	STORM						
WLCG MoU SRM v2.2 methods												
Ping	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Los						
PrepareToPut	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Log						
StatusOfPutRequest	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Log						
PutDone	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Log						
PrepareToGet	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Log						
StatusOfGetRequest	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Log						
BringOnline	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Log						
StatusOfBringOnlineRequest	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Log						
AbortRequest	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Log						
AbortFiles	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Log						
ReseaseFiles	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Log						
GetRequestSummary	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Log						
GetRequestTokens	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Log						
GetTransferProtocols	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Log						
Ls	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Log						
Mkdir	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Log						
Rmdir	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Los						
Rm	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log						
Μv	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Los						
ReserveSpace	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Los						
StatusOfReserveSpaceRequest	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Los						
ReleaseSpace	StdOut Log	<u>StdOut</u>	StdOut Log	StdOut Log	StdOut Log	StdOut Los						
GetSpaceTokens	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Log	StdOut Los						
GetSpaceMetaData	StdOut Log	StdOut	StdOut Log	StdOut Log	StdOut Log	StdOut Log						
ExtendFileLifeTime	StdOut Log	StdOut	StdOut Log	StdOut Log	StdOut Loc	StdOut Loc						



## **Basic tests evolution**

#### **From Flavia Donno**

#### **MoU Basic Tests**

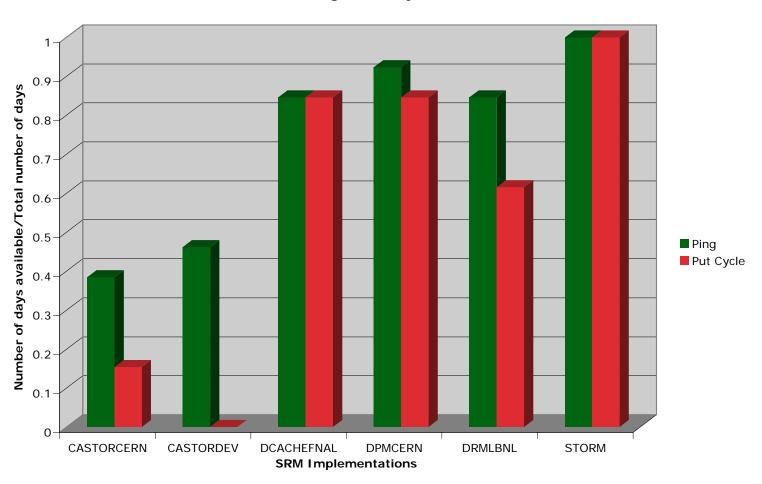




# Ping vs. Put cycle

#### **From Flavia Donno**

Ping vs. PutCycle







#### DPM SRMv2.2

- Very stable since August 2006
- Good stability, reliability and availability

#### dCache SRMv2.2

Good stability, reliability and availability

#### CASTOR SRMv2.2

- Some concerns about stability, reliability and availability
- But significant debugging effort recently



## Main concerns

- Only basic tests
  - On SRMv2.2 test endpoints
  - With no load
- We need to test experiments use cases
  - New problems are likely to appear
  - Still quite some work ahead!
- We need to carry out stress tests



### Status of clients

### FTS

- In final testing phase before release
  - Interoperability shown between dCache, DPM & STORM
  - CASTOR to be retested starting this week

- lcg\_util GFAL
  - Development & testing in progress
    - Feedback given to servers teams



## Issue for clients

- One spec but...
  - ...different implementations
  - ...with different behaviors

 Consistency between implementations has improved a lot



## **Client strategy**

# For FTS and lcg\_util / GFAL

- SRMv1 will be the default until
  - SRMv2.2 is deployed in production
  - SRMv2.2 has proven to be stable

### Site admins

 Have to run SRMv1 together with SRMv2.2 until SRMv2.2 stable



## Clients in practise

# lcg\_util / GFAL

- Get SRM type from the Information System
  - If space token specified by user and SRMv2.2 published, use SRMv2.2
  - Else if only SRMv2.2 published, use SRMv2.2
  - Else, use SRMv1

### FTS

- Default SRM version configurable per channel
- And possible policy
  - Ex1: always use SRMv2.2
  - Ex2: use SRMv2.2, only if no space token defined



# Acknowledgements

- Significant efforts made by
  - Server teams
  - SRMv2.2 testers
  - Client teams

- From all server teams
  - Very high level of support
  - Prompt fixes





- Big effort made
  - Basic tests are ~OK now
- Some concerns with stability and reliability covered before
- Months of work in front of us
  - To make sure experiments use cases are OK
    - For all servers & clients
  - To provide an <u>SRMv2.2 stable service</u>
- To be expected, given the nature of change