dCache, SRM 2.2 status (Apr 26, 2007)

Patrick
for the dCache Team

support and funding by

dCache.ORG

dCache.ORG
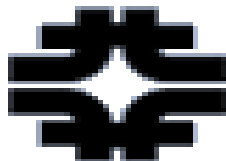
SRM 2.2

Milestones

Status

Issues

SRM version interoperability issues

SRM evaluation deployment plan

Jamie Shiers (WLCG)

Services are required for testing in Q2 (two) in preparation for the
Dress Rehearsals in Q3 (and the LHC pilot run in Q4)...

- **1st April 2007** - target date for the needed services to be in place at the sites
- **1st June 2007** OSG aims for having SRM 2.2 stable in dCache
- **1st July 2007** - start date of Dress Rehearsals (also the date when the WLCG service is commissioned)

dCache

See subsequent slides

Basic WLCG MoU functionality

Missing 0 out of 25

WLCG MoU functionality due end of 2007

Missing 2 out of 4

Non MoU functionality

Missing 6 out of 12

Extended use cases

Missing 5 out of 40

Flavias stress test started just recently

Up to date information from Flavias 'test page'

http://grid-deployment.web.cern.ch/grid-deployment/flavia/

dCache.ORG

dCache.ORG

Issues

Behavior of reserved space in Custodial-Nearline (T1D0)

Option I (dCache current behavior)

- Reserved space on disk is reduced by the amount of space flushed to the HSM.

- New space has to be reserved for a new bunch of incoming data.

Option II (WLCG understanding of agreement)

- Reserved space on disk stays the same.

- Incoming data is streamed through this reserved space.

dCache behavior (Option I -> II) is adjusted very soon.
(Work in progress)

SRM issues (minor)

* File name limitation <= 199 characters (full path has no limit)

  |- Caused by the underlying file system engine (pnfs)

  - Will be fixed with upcoming new engine (chimera)

  - Production date for chimera is not decided yet (~ end of the year)

* PUT overwrite

  - very likely fixed within the next week
  - will be certainly fixed in dCache 1.8.0

* SURL doesn't exist on PUT before data transfer starts
  - Our opinion is that this part of the spec. may introduce usability problems.
  - If client doesn't clean up in case of a problem, subsequent PUT on the same filename will fail until a timeout expires. Except for overwrite=ALLWAYS

dCache.ORG

dCache.ORG

SRM version interoperability and deployment restrictions

- The initial dCache version with SRM 2.2 included, is **dCache 1.8.0.**

- **dCache 1.8.0** and higher will support **SRM 1.1 and SRM 2.2** at the same time on the same TCP Port.

- Both SRM protocol versions will run in the same dCache instance, using just one file system instance. (pnfs)

- Both SRM versions will have access to the **same file name space.**

- Files written with 1.1 can be accessed via 2.2 and vice versa.

SRM evaluation deployment plan (restrictions)

- Full upgrade to 1.8.0 is a prerequisite for the SRM 2.2 activation.

- There is no way to have dCache versions prior to 1.8 running with

  SRM 2.2

- The following restrictions apply concerning the agreed test systems :
  - It will be a special dCache evaluation instance, and **not part of the production system**.
  - The service is not part of the production monitoring and may be **shut down at any time**, without further notice.
  - All **data** should be regarded as **'not persistent'** and should be copied to the production system in order to become permanent.

SRM evaluation deployment plan and reality

dCache.ORG

Scheduled by dCache.ORG

April *(guided and scheduled deployment)*

  1. Week : FERMI   Done
  1. Week : DESY   Done
  2. Week : Installation at BNL   Done
  3. Week : Installation at gridKa   Done
  4. Week : Installation at IN2P3   starting May 2

BNL and gridKa already installed dCache 1.8 **without our help**

Ahead of planning :

  RPM and Installation Instructions already on dCache.ORG

SRM evaluation deployment plan (timing)

GSSD agreement

gridPP, UK site will start deploying now

dCache SRM 2.2 endpoint will be integrated into EGEE Pre-Production System 1st and 2nd week of May

All available end point should be stress tested before May 15.

dCache.ORG says :

Although it's certainly our goal to be in production shape in July, we can't yet give advice on whether or not to use dCache SRM 2.2 during the Dress Rehearsal.

GSSD groups says

No agreement on when sites should upgrade to dCache 1.8.

★

Data of upgrade to SRM 2.2 highly depends on the confidence sites AND experiments get after sufficiently testing evaluation SRM 2.2 evaluation endpoints.

Storage Classes

Administrator determines 'retention policy' and 'access latency'

Retention policy REPLICA, CUSTODIAL
Access Policy   ONLINE, NEARLINE

Tape1-Disk0 : NEARLINE + CUSTODIAL
Tape1-Disk1 : ONLINE + CUSTODIAL
Tape0-Disk1 : ONLINE + REPLICA

Storage Class Transitions foreseen (not high priority)

Space Tokens

To guarantee space for incoming transfers.
Later maybe for 'restores from tape' as well.

dCache.ORG

dCache.ORG

Further reading

www.dCache.ORG