

SRM v2.2 ROLL-OUT PLAN				
Project Name			Date	
SRM Storage Services			Updated: 23.10.2007 (FD)	
Author Name				
Flavia Donno				
Status Summary				
<p>Following the release of dcache patch level 21, this was installed at the Tier-1 dcache sites apart from NDGF. Unfortunately it exposed configuration problems and new bugs so essentially all dcache sites except NDGF were unavailable for experiment tests this past week. The developers have now released patches 22 and 23. Patch 23 has been tested at DESY by doing a fresh install and found to fix the patch 21 problems but exposed a new one with gridftp. This has been reported and followed up with the developers by GO.</p> <p>The gridftp problem was due to a configuration problem that was solved. Therefore, dCache 1.8-23 has been released to sites to install.</p> <p>The rollout plan for dCache 1.8 in production has been fully defined site by site. Details can be found here: <a href="http://trac.dcache.org/trac.cgi/wiki/dcache18Deployment">http://trac.dcache.org/trac.cgi/wiki/dcache18Deployment</a></p> <p>Yesterday we had a CERN Oracle problem not understood that was cured restarting the database service. The problem has been escalated to Oracle support. At CNAF, CASTOR became unavailable yesterday and the reasons are not yet clear. CASTOR at CNAF has hardly been used by the experiments because of its high instability. RAL intends to make available its SRM v2.2 test instance for LHCb tests with SRM v2.2. RAL will be tested today or tomorrow by Flavia to make sure it is well configured for LHCb.</p> <p>ATLAS has been exercising transfers but without space tokens. ATLAS will now pause testing till after their M5 detector cosmics run ends on 5 November.</p> <p>We have not yet tried CASTOR at CERN as a source with SRM 2.2 but this is now planned for next week. LHCb are ready for this now but need external sites.</p> <p>We started coordination meetings with accounting, storage services, and high-level tools providers to decide the critical information to be published in the information system. We converged to an agreement. An example will appear soon on the GSSD pages. SAM tests will be adapted accordingly and old and new versions of the high-level tools will be checked against the example for consistency,</p>				
Milestones		Status		Comments
Key Tier-1 sites				
Details published here: <a href="https://twiki.cern.ch/twiki/bin/view/LCG/GSSD">https://twiki.cern.ch/twiki/bin/view/LCG/GSSD</a>				
SRM-01	11.07.07	FZK configured for ATLAS and LHCb tests	Done Upgraded to dCache 1.8.0-14	People assigned to task: <b>Doris Ressmann (FZK)</b> . Installation and configuration of dCache 1.8.0-7 with MSS connectivity. Total disk available <b>10.4TB. 3.3TB</b> for LHCb exercises. <b>5TB</b> for ATLAS exercise. The rest for dteam tests. The site has been upgraded to dCache 1.8.0-14 that provides a tool for static space reservation with VO specific dedicated disk pools. <i>A problem with srmRmdir has been identified. Working with the developers to solve it. Wrong srm return code introduced in this release for srmReserveSpace.</i>

<b>SRM-02</b>	<b>11.07.07</b>	IN2P3 configured for ATLAS and LHCb tests	Done Upgraded to dCache 1.8.0-14	People assigned to task: <b>Lionel Schwarz (IN2P3)</b> . Installation and configuration of dCache 1.8.0-14 with MSS emulation. Total disk available <b>20TB. 5.7TB</b> for LHCb exercises. <b>13TB</b> for ATLAS exercise. The rest for dteam tests. Not possible to assign space independently of the path: Fix is available in dCache 1.8.0-11.
<b>SRM-03</b>	<b>11.07.07</b>	BNL configured for ATLAS tests	Done Upgraded to dCache 1.8.0-14	People assigned to task: <b>Carlos Fernando Gamboa (BNL)</b> . Installation and configuration of dCache with MSS connectivity. Total disk available <b>20TB</b> for ATLAS exercise. The site has been upgraded to dCache 1.8.0-14 that provides a tool for static space reservation with VO specific dedicated disk pools. <i>A problem with srmRmdir has been identified. Working with the developers to solve it. Wrong srm return code introduced in this release for srmReserveSpace.</i>
<b>SRM-04</b>	<b>18.07.07</b>	SARA configured for LHCb tests	Done Upgraded to dCache 1.8.0-14	People assigned to task: <b>Ron Trompert, Mark van de Sanden (SARA)</b> . Installation and configuration of dCache with MSS connectivity. Total disk available <b>5.1TB</b> for LHCb exercise. Site upgraded to dCache 1.8.0-14. <i>Same problems observed at BNL and FZK. Working with the developers.</i>
<b>SRM-05</b>	<b>11.07.07</b>	CERN configured for LHCb tests	Done	People assigned to task: <b>Jan Van Eldik, (CERN)</b> . Installation and configuration of CASTOR version 2.1.3-24 with MSS connectivity. Total disk available <b>20.4TB</b> for LHCb exercise. Permission problem solved. No more blocking problems, only minor that are being fixed by the developers.
<b>SRM-06</b>	<b>18.07.07</b>	NDGF configured for ATLAS tests	Done	People assigned to task: <b>Mattias Wadenstein (NDGF)</b> . Installation and configuration of dCache disk only. Total disk available for ATLAS exercise <b>2TB</b> . <i>Discovered a problem that makes a reserve space status request change a final status over time.</i> <i>Space configuration problems.</i>
<b>SRM-07</b>	<b>18.07.07</b>	CNAF configured for CASTOR ATLAS and LHCb tests	Done	People assigned to task: <b>Giuseppe Lo Re (INFN-CNAF)</b> . Upgrade and configuration of CASTOR 2.1.3-24. Total disk available for ATLAS and LHCb exercises 6TB. 3.1TB dedicated to LHCb, the rest for ATLAS. Basic lcg-utils tests work OK.
<b>SRM-07-A</b>	<b>18.07.07</b>	CNAF configured for StorM LHCb tests	Done	People assigned to task: <b>Luca Magnoni (INFN-CNAF)</b> . Installation and configuration of StoRM test-bed, with up to 36 TB, for LHCb (they explicitly asked for it) and other interested VOs.

<b>SRM-08</b>	<b>11.07.07</b>	LAL configured with DPM as a Tier-2 for ATLAS in production.	Done.	No experiments have asked for Tier-2s configured for testing. However, this instance is made available in production and in pre-production.
<b>SRM-09</b>	<b>11.07.07</b>	Edinburgh configured with dCache and DPM as a Tier-2 for ATLAS and LHCb	Done Upgraded to dCache 1.8.0-14	No experiments have asked for Tier-2s configured for testing. However, this instance is made available in pre-production. This is the first site that has successfully configured Chimera. <i>The site is suffering from instability at the moment. Working with the dCache developers to solve this issue.</i>
<b>SRM-10</b>	<b>from 11.07.07 to 31.07.07 New date 15.09.07</b>	Testing experiment scenarios for the tests with experiment specific certificates. All sites should pass these tests.	Done	People assigned to task: <b>Flavia Donno, Lana Abadie, Stephen Burke</b> and <b>Mirco Ciriello</b> . <i>This is preliminary for experiment testing. This activity can change the status of the sites listed above.</i>
<b>S2 Stress Tests</b>				
<b>SRM-11</b>	<b>31.10.07</b>	S2 stress tests of SRM v2.2 development endpoints: CASTOR, dCache, DPM, StoRM.	In progress	People assigned to task: <b>Flavia Donno, Giuseppe Lo Presti</b> (CERN), <b>Shaun De Witt</b> (RAL), <b>Timur Perelmutov</b> (FNAL), <b>Tigran Mkrтчyan</b> (DESY), <b>Jean-Philippe Baud</b> (CERN), <b>Luca Magnoni, Riccardo Zappi</b> (INFN-CNAF). This activity is done in coordination with SRM v2.2 developers and Storage Service providers. Patches will be provided by the developers as soon as possible and a patch roll-out strategy published by them. Roll-out of new releases and patches will be announced and coordinated through GSSD.

<b>SRM-12</b>	<b>31.10.07</b>	S2 stress tests of SRM v2.2 dedicated CASTOR and dCache endpoints to simulate experiment patterns and traffic. Sites involved: DESY, Edinburgh, CERN.	In progress	<p>People assigned to task: <b>Flavia Donno, Lana Abadie (CERN), Stephen Burke (RAL), Mirco Ciriello (INFN), Patrick Fuhrmann (DESY), Greig Alan Cowan (Edinburgh), Jan Van Eldik (CERN)</b>. This activity is done in coordination with SRM v2.2 developers and Storage Service providers. The goal is to reach and demonstrate the following:</p> <ol style="list-style-type: none"> <li>1. Determining which load can be handled without degradation for more than 7 days in a row. Demonstrate stability (no server crash, no memory leaks) over this period under the established load.</li> <li>2. Downtime of only one day is tolerated.</li> <li>3. Failure rate of less than 1%. A server should be able to protect itself under a load which exceeds its maximum manageable load. The server should be free to deny access for peaks but should become available again after the peak. The time this takes depends on the peak value.</li> <li>4. Degradation of performance of less than 15% for requests in the queue.</li> </ol> <p>A more detailed document is being drafted with details.</p> <p>Patches provided and installed following the established strategy (SRM-09)</p>
<b>High-level Tools/APIs tests</b>				
<b>SRM-13</b>	<b>31.07.07</b>	Definition of tests to be performed. Definition of testing plan. This includes tests on SRM v1.	Done	People assigned to task: <b>Flavia Donno, Lana Abadie (CERN), Stephen Burke (RAL)</b> . This includes tests to demonstrate full compatibility between SRM v1 and v2.
<b>SRM-14</b>	<b>From 1.08.07 to 31.10.07</b>	Testing High-Level Tools/APIs as defined by the plan	In progress	People assigned to task: <b>Flavia Donno, Lana Abadie (CERN), Stephen Burke (RAL), Mirco Ciriello (INFN)</b> . Problems reported to SRM developers, Storage Service Providers, High-Level Tools developers. Patches provided and installed following the established strategy (SRM-11)
<b>SRM-15</b>	<b>31.10.07</b>	High-level tools will be modified to set v2.2 as the default version of SRM	Done	<p>People assigned to task: High-level tools and APIs developers.</p> <p><i>The high level tools have been modified so that it is possible to specify the default version of SRM to use.</i></p>
<b>Experiments testing schedule</b>				
<b>SRM-16-A</b>	<b>31.07.07</b>	LHCb to provide details and plan for their tests	Done	SRM-16 split in A and B.
<b>SRM-16-B</b>	<b>31.08.07</b>	ATLAS and CMS to provide details and plan for their tests	In progress <i>Done for ATLAS</i>	SRM-16 split in A and B.

<b>SRM-17</b>	<b>From 1.08.07 to 31.08.07</b> <b>New date From 25.09.07 to 31.10.07</b>	LHCb transfer exercise from CASTOR@CERN with SRM v2 production data to CNAF, FZK, IN2P3, SARA (all with SRM v2) using FTS 2.0 Production service at CERN. Data reprocessing will also be done using high-level utility and exercising pinning and metadata retrieval. Data will be registered in production catalogue.	In progress	People assigned to task: various people from LHCb already involved in the production exercise, <b>Nick Brook (Bristol)</b> . Details on the testing plan can be found at <a href="https://twiki.cern.ch/twiki/bin/view/LCG/GSSDLHCBPLANS">https://twiki.cern.ch/twiki/bin/view/LCG/GSSDLHCBPLANS</a> . Patches will be provided by the developers as soon as problems are reported and fixed. Roll-out of new releases and patches will be announced and coordinated through GSSD. <i>Waiting for bug-fixes in lcg-utils, new features in gfal, bug-fixes in SRM v2 implementations.</i>
<b>SRM-18</b>	<b>From 1.09.07 to 30.09.07</b>	ATLAS transfer exercise from CASTOR@CERN with SRM v1 to BNL, FZK, IN2P3, NDGF (all with SRM v2) using FTS 2.0 PPS service at CERN.	In progress	People assigned to task: <b>Kors Bos (NIKHEF)</b> , <b>Miguel Branco (CERN)</b> , <b>Mario Lassnig (Innsbruck)</b> . Patches will be provided by the developers as soon as problems are reported and fixed. Roll-out of new releases and patches will be announced and coordinated through GSSD. The use of the CASTOR@CNAF has to be negotiated.
<b>SRM-19</b>	<b>After CSA07</b>	CMS transfer exercises from Tier-1s to Tier-2s and between Tier-1s using PhEDEx and FTS 2.0.	New	People assigned to task: <b>Daniele Bonacorsi (CNAF)</b> . Preliminary tasks will be performed already in August 2007 in coordination with Flavia Donno and some of the sites. Needed resources for this test need to be negotiated. The actual time window for tests has also to be better defined with CMS.
<b>Deployment in production</b>				
<b>SRM-20</b>	<b>From 15.10.07 to 30.11.07</b>	Upgrade and configuration of the production Storage Instance to dCache 1.8.0-n at FZK and FNAL.	New	If no major show-stoppers found. <i>This will only be possible if the experience of ATLAS and LHCb with dCache 1.8 and SRM v2 is positive.</i>
<b>SRM-21</b>	<b>30.11.07</b>	Upgrade and configuration of the production Storage Instance at Key Tier-1 sites to the new versions of dCache and CASTOR.	New	If no major show-stoppers found. <i>This will only be possible if the experience of ATLAS, LHCb and CMS with dCache 1.8 and SRM v2 is positive.</i>
<b>SRM-21-A</b>	<b>30.11.07</b>	SRM v2.2 configuration for all Vos at Key Tier-1 sites.	New	
<b>SRM-22</b>	<b>15.10.07</b>	Start the upgrade and configuration of Tier-2 sites using DPM and StoRM to SRM v2	New	To be finished in January 2008
<b>SRM-23</b>	<b>From 05.01.08 to 31.01.08</b>	Upgrade and configuration of the production Storage Instance with SRM v2.2 at all Tier-1 and Tier-2 sites.	New	
<b>SRM-24</b>	<b>28.02.08</b>	Have all sites fully functional in production with SRM v2.2	New	
<b>Summary of Progress</b>				

Progress will be reported at the WLCG MB. Report major show-stoppers or missed targets at the weekly MB. Flavia will follow very closely with sites and experiments. Ad hoc phoneconf will be organized to solve specific issues. At the Data Management sessions before the CHEP conference progress will be reviewed. A GSSD face-to-face meeting will be organized at the beginning of October 2007 (9 October 2007?) to check the progress.

#### **Milestones Changes and Actions**

We foresee to be able to have the main Tier-1s (the ones involved in the experiment tests) deploying SRM v2.2 in production by the end of 2007.

#### **References and Hyperlinks**

<https://twiki.cern.ch/twiki/bin/view/LCG/GSSDSitesStatus>  
<https://twiki.cern.ch/twiki/bin/view/SRMDev/ImplementationsProblems>  
<https://twiki.cern.ch/twiki/bin/view/SRMDev>  
<https://twiki.cern.ch/twiki/bin/view/LCG/GSSD>  
<http://glueschema.forge.cnaf.infn.it/SpecV13>

#### **Comments and Additional Information**