Minutes of the meeting ROOT/GFAL 11 June 2007

Attendees: Jean-Philippe Baud, Rene Brun, Philippe Charpentier, Flavia Donno, Gerri Ganis, Dietrich Liko, Stefan Roiser

Minutes by: Flavia Donno

The conclusions of our discussions are:

1. It was decided to wait for the common CASTOR/DPM libshift and not to introduce major changes in the GFAL and/or ROOT code in the mean time. The new common libshift will probably come by the end of 2007 but probably even later. The reason being that the code changes are major since the code keeping the context (especially the RFIO type) has to be extracted from a large set of methods such as read, write, seek, etc. and put in the common library, while the rest of the context must be handled in the specific plug-in.

2. While waiting for the new libshift library, experiments will use either environmental variables (solution 3 in the doc [https://twiki.cern.ch/twiki/pub/LCG/GSSD/ROOT_GFAL_Proposals.pdf](https://twiki.cern.ch/twiki/pub/LCG/GSSD/ROOT_GFAL_Proposals.pdf)) or symbolic links to set the appropriate library to use through either GFAL or the ROOT rfio plug-in. In particular, given a SURL, experiments will check if the SURL contains the string “/castor”. If the ROOT GFAL plug-in is used, then the experiments will set the environmental variable LCG_RFIO_TYPE to "castor", will use lcg-gt with protocol "rfio" to get the correspondent TURL, will pre-pend the string "gfal:" to the obtained TURL, will invoke ROOT Tfile::Open passing the new string "gfal:<TURL>". If instead the ROOT rfio plug-in is used and only in the case the SURL does not contain the "/castor" string, experiments should take care of creating in some directory a symbolic link pointing libshift.so to libdpm.so and put the directory where the symbolic link has been created as first in LD_LIBRARY_PATH. Then lcg-gt can be used to obtain the rfio TURL that can be directly passed to ROOT Tfile::Open.
   **Action:** Experiments to verify that the proposed solution is acceptable. Philippe Charpentier and Dietrich Liko to perform tests and update their web Pages ([https://twiki.cern.ch/twiki/bin/view/LHCb/FileAccess](https://twiki.cern.ch/twiki/bin/view/LHCb/FileAccess) and [https://twiki.cern.ch/twiki/bin/view/Atlas/IssuesWithPosixIO](https://twiki.cern.ch/twiki/bin/view/Atlas/IssuesWithPosixIO))

3. We should work with the CASTOR team to make sure that all products released by the development team are consistent. For instance, rfio TURLs returned by the CASTOR2 SRM component should be well digested by the CASTOR rfio client library.
   **Action:** Flavia will talk to the CASTOR team.

4. A document describing rfio TURL format should be formalized. This document will be complemented by a validation and verification test suite that will be part of the CASTOR2 test suite.
**Action:** Flavia will provide such a test suite to CASTOR in agreement with the CASTOR development team.

**Action:** Dietrich Liko has agreed to provide Flavia with his current test suite as a starting point.

5. We will need to ensure that GFAL deals correctly with CASTOR and DPM rfio TURLs.
   **Action:** Jean-Philippe to react to problems reported and to provide fixes in case of GFAL being the culprit.
   **Action:** A validation test suite will be developed by Flavia.

6. It should be investigated how to remove rfio TURL parsing from the ROOT module. Rfio TURL parsing should be embedded in the rfio_open method and not exposed at the application level.
   **Action:** Flavia will talk to Giulia Taurelli and report to this group and to the ROOT developers.

7. The SLC3 version of the WLCG middleware client tools should be made available in the external area created for AA. Experiments should be notified when this is done.
   **Action:** Flavia will talk to Oliver Keeble to coordinate this.
   **Result:** Apparently there was already a meeting with few people in AA where this item was already discussed with the conclusion that a distribution for SLC3 will be possible with the gLite 3.1 releases since the building system is being adjusted to accommodate this request.

8. AA has requested to have in the external area the WLCG middleware client libraries and tools before they go through the WLCG certification process.
   **Action:** Flavia to check with WLCG.
   **Result:** Flavia talked to Oliver Keeble and Markus Schulz and verified that this is already the case in the external area that Oliver makes available to AA. This area contains various versions of the WLCG middleware requested. A file lists the versions that are in production and for which WLCG provides full support. For problems encountered with non-certified versions it has to be clear that WLCG can provide only partial support on a best effort base.
Appendix

The following three pictures summarize the TURLs format that are now accepted by the ROOT rfio/castor plugins, CASTOR (rfio api) and DPM (rfio api). For more information, please check the document written by Giulia Taurelli: https://twiki.cern.ch/twiki/bin/view/FIOgroup/RfioRootTurl

The document is the starting point for a more general document that will be made available, describing the agreed syntax for rfio TURLs that should be respected by all storage client and servers offering the rfio protocol.

Note: I have not checked the correctness of the pictures with Giulia, but I will change the pictures with Giulia’s corrections, if needed.
rfio:///tmp/file
rfio:///host:[port]///tmp/file
rfio:///castor/dpm/cern.ch/user/n/nobody/file

Root rfio plug-in

Rfio_parse
Rfio_open
Rfio_parse

OK

Rfio_open
Rfio_parse

OK

Rfio_open
Rfio_parse

OK

rfio://[stagerHost][:stagerPort]/castor?[[svcClass=MYSVC] & [castorVersion=MYVER] & ]
path=/castor/cern.ch/user/n/nobody/file
rfio://[stagerHost][:stagerPort]
[/]castor/cern.ch/user/n/nobody/file[?[svcClass=MYSVC]
& [castorVersion=MYVER]]

Root rfio/castor plug-in

Rfio_parse
Rfio_parse
Rfio_open

OK

Rfio_open
Rfio_parse

KO