Status of the Globus Distribution for Testbed 1

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Overview

- Current release: beta-21 (= Globus 2.0beta1)

- "Showstoppers" with Globus 2.0beta1

- Release-24 (= Globus 2.1.3 / 2.2beta)

- Static and shared versions of Release-24

- What will be in 1.2.x

- Going to a pure Globus 2.2 Testbed release.

- Summary

Current release: beta-21

◆ This is based on Globus 2.0 beta1 released last November.

◆ Beta code only differed from alpha releases (eg alpha-15) in terms of bug fixes.

◆ However, which flavors of each subpackages are available followed Globus recommendations (this mainly affected pgm -> pgm_static)

◆ We stopped building the "empty" Globus subpackages any more (ie that just contain the metadata file and filelist.)

◆ Several bugfixes were introduced during 2002, with subrelease numbers (eg beta-21b)

   ▪ See http://datagrid.in2p3.fr/distribution/globus/beta-21/CHANGELOG

◆ But, this version has some serious problems when used for Testbed.

Showstoppers in Globus 2.0beta1 (beta-24)

- GASS Cache problem which affects jobmanager

    - The cache management code can produce corrupted caches.

    - This means job submission at high rate (> 5 at the same time!) leads to a significant percentage of job submissions failing (100% in worst case)

    - Various solutions have been tried.

    - Current solution uses Condor rewrite for Globus 2.2 backported to 2.0 by Francesco Prelz.

- GridFTP transfer time limit

    - This results in an unintended time limit on transfers of about 21 minutes

    - Not related to size, just time.

- MDS instabilities

    - makes a hierarchy unusable in practice

Release-24

◆ This is based on Globus 2.1.3 from last month (equivalent to one of the Globus 2.2 betas.)

◆ We've made some changes to the packaging, to make it simpler to write rpmlists: each package (globus_gss_assist) now has one RPM with binaries, headers, libraries etc.

◆ Globus 2.1.3 includes fixes for GASS Cache, GridFTP and MDS showstoppers.

◆ BUT introduces incompatibilities:

- Job submission (where cache problem shows up) has new PBS etc script format (in Perl not Bash now!) and RSL no longer compatible with RSL used by WP1

- New GridFTP not backwards compatible.

- Some changes to MDS schemas.

Static and shared versions of Release-24

- By default, all packages in release-24 were built with shared libraries

  - makes it easier to update one component in isolation.

- However, to test and possibly use fixes from Globus 2.1.3, also built static library versions to be used alongside beta-21

  - Install into /opt/staticglobus-24

- However, some MDS packages cannot be built static (they load shared modules) so need to be able to install from shared release

  - Install into /opt/globus-24

- This means can install alongside beta-21 which is still the official release

  - Installs into /opt/globus

What will be in 1.2.x (1.3.x?)

- The Testbed release intended to fix the 3 showstoppers will have:
  - Beta-21 as in 1.2.2, plus:
  - Francesco's backported Condor GASS cache fix for beta-21
  - The GridFTP server and globus-url-copy client from release-24
  - The MDS from release-24
  - Necessary globus-edgconfig updates for the above.
  - Some EDG packages updated for use with release-24
    - GDMP and Replica Manager (relinked)
    - Replica Catalog and Job Submission (changed MDS schema)

Going to a pure Globus 2.2 Testbed release

- Obviously this mixture of Globus versions is a workaround
  - will lead to conflicts and inconsistencies of its own
  - harder to support.

- Globus 2.2 fixes what's wrong with beta-21 but has incompatibilities with it

- To use it we need to
  - make a release-25 built from the released Globus 2.2 + updates
  - get a working configuration for it (eg get PBS scripts that work)
  - modify our own packages where the Globus API has changed (eg RSL)

- We would then have just one, up to date Globus installation which we can legitimately complain about if it doesn't work.

Summary

- Beta-21 (Globus 2.0beta1) is still the official current version

- Release-24 (Globus 2.1.3) exists in shared and static forms

- A mix of beta-21 and release-24 exists which fixes the showstoppers.

- This will be used for 1.2.x (1.3.x?)

- We would have to make some changes to our packages to work with Globus 2.2 + updates as released.