ARC infrastructure and releases

Anders Wäänänen, NBI

Overview

- Source code repository

- Binary repository

- ARC release status

  - Legal stuff

  - Globus issues

  - 0.6

Software development

- Need for rules / guidelines:
  - Coding style
  - Code submission rules
    - Sign-off
    - Who can submit – and what?
  - Code review
- Further discussion in WP5 tomorrow
  - Please be there if you care about this issue

CVS to Subversion

- We will use subversion rather than CVS

- Conversion using `cvs2svn`

- Testing:
  - Binary files have not been marked (-kb)
  - Some versions checked (eg. 0.5.56)

- Issues:
  - tags/branch names (v_0_5_56 or 0.5.56)
  - CVS specifics ($Id, $Header)

CVS to Subversion - TODO

- Check all tags

- Decide on number of repositories

- Decide on authentication/authorization scheme

- Choose back-end / access methods

Repository layout

- Source code reorganization

    - Use common trunk/tags/branches svn conventions

    - Depends heavily on number of repositories

    - With 1 repository: migration using svn move and copy

Binary repositories

- Download repositories for:

  - ❖ Fedora/RedHat – yum back-end

  - ❖ SuSE – yum back-end

    - But a yast back-end nicer

  - ❖ Mandrake – currently unavailable

  - ❖ Apt back-end for Debian easy

    - But RPMs not interesting :-)

Example installation procedure

- Platform: fedora-5 with yum and RPM

- System tools:

  - rpm – low-level package manager

  - yum – Intelligent package manager

  - pirut – Graphical yum interface

- Use **standard** non-Grid specific tools that sysadmins are familiar with!

Prerequisite

- **2 Intial steps:**
  - ❖ GPG key installation
  - ❖ NorduGrid Repository setup

```
# rpm --import ftp://ftp.nordugrid.org/RPM-GPG-KEY-nordugrid
# cat /etc/yum.repos.d/nordugrid.repo
[nordugrid-devel]
name=NorduGrid - $basearch - devel
baseurl=ftp://ftp.nordugrid.org/repos/fedora/$releasever/$ba
search/devel
enabled=1
gpgcheck=1
```

ARC Release status

- *2 branches/channels (stable and devel)*
- stable: 0.4.5
  - ❖ CA standalone updates
- devel: 0.5.56
  - ❖ To become 0.6

0.6 status

When will we have 0.6?

0.6 issues

- Legal stuff

- Globus issues

ARC License

- ARC is GPLv2 (*check COPYING*)
  - Specific version and no "*or later version*"
- GPLv3 is in draft
  - Fixes for v2 + pushing FSF issues
  - Lots of discussions about v2 vs v3
- Linus prefer Linux to be v2
- LGPL for ARCLib?

OpenSSL license issue

- ARC is GPLv2

- OpenSSL is dual licensed and incompatible with the GPL with an exemption

- Exemption is not good enough for Debian

  - ARC can with current GPL can NEVER be dist as part of Debian

OpenSSL license solutions

- Ignore the issues

- Change ARC license by adding exemption the GPL license

  - Change ARC license

- Replace OpenSSL

  - GNU TLS, Mozilla NSS

    IANAL

Problematic Globus build

➕ *I can't build the Globus RPMs on my system!!!*

➕ Release 0.5 can be built with systems such as Mock. This means:

❖ All build dependencies are in place

❖ No need for special environment variables

NG Globus packages 0.5 release

- Update to upstream 4.0.3.

• - Includes bugfixes and relocatability (no rpath hardcoding!)

• - Official updates to 4.0.3 as of 2006-10-26:

• - globus_gass_transfer-2.11

• - globus_xio-0.35

• - Changes in patches:

• - Modified:

• - globus_core-iov_max.patch

• - Now fixed in upstream and thus removed:

• - globus_gsi_credential-memleak.patch

• - globus_mds_back_giis-badstatic.patch

• - globus_rls_server-lodbc.patch

Added for working with OpenSSL 0.9.8+ (mostly taken from Globus CVS):

NG Globus packages 0.5 release 2

Split globus_libtool into 2 packages: runtime and devel

 - Better libtool and libltdl dependencies on various Linux distros

 - Add build dependency unixODBC-devel to globus_rls_server

 - Fix dependency bug on where packages depends on a devel package without version

 - Autodetect GPT from PATH

   - gpt-build must be in the path

   - last restort check in /opt/gpt

 - Autodetect GLOBUS_LOCATION from PATH (default /opt/globus)

   - libtool-<flavor> (from globus_core) must be in the path

   - last restort check in /opt/globus

 - Files created during post-install are now removed when the package is removed

 - Fix packages so they pass Fedora mock builds

Globus packaging

- "Real" SRPMs with exposed build procedure

- Wraps "system" software which is usually shipped by Globus (unmodified) such as:

  - Libxml2, libtool, openssl

- However, Globus code does not work across various OpenSSL versions

Globus OpenSSL support

- Globus ships an unmodified version of OpenSSL 0.9.7whatever which they have to maintain security patches for

- The standard Globus code actually works across many versions, but not all (FC4)

- More problematic with FC5+, Ubuntu and newer distributions

- Globus OpenSSL upgrade on the way?

Yeah right...

Fine, but when will we have 0.6???

Option: Tag 0.6 Now!

- ✦ No binaries for FC5+ etc.

- ✦ Package Globus version of OpenSSL for FC5+ or all distributions

- ✦ Link against Globus binaries

Option: Tag 0.6 "later"

- **Wait for possible official Globus fix**

- **Somebody else fixes the problem**

  - ❖ Requires intrinsic GSI and OpenSSL knowledge

- **Remove dependency on Globus**

  - ❖ Currently not an option

Fresh from my inbox....

Globus Bugzilla entry #4743 update:

------- Comment #6 from kettimut@mcs.anl.gov 2006-11-07 12:29 -------
I committed some changes that would allow GSI to run on both 0.9.7 and 0.9.8 versions. Anders: If you can check this to make sure it works for you, that would be great.