GT 4.2.0 Release Notes: RLS

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1. Component Overview

The Replica Location Service (RLS) is a standalone server (i.e., it is not deployed in a Web services container) that provides for the registration and lookup of replica information. Within the RLS, there are two types of services, a catalog service and an index service.

2. Feature summary

Features New in GT 4.2.0

• An embedded database (using SQLite) and ODBC libraries are now included in the RLS Server installation. A default installation of GT, will include a fully configured RLS Server that requires no database installation or configuration by the end user. Advanced users can still use their own database without changes.

• The RLS now includes a new Java client API written entirely in Java. It does not require the C client libraries and allows for Java client support on 64-bit platforms. The new API is fully backward compatible. Users need not make any changes to existing code to take advantage of the new library.

Other Supported Features

• Comprehensive C and Java library for replica registration, replica lookup, replica attributes, index queries, and administrative tasks.

• Command line (globus-rls-cli) tool for client operations on catalogs and indexes.

• Command line (globus-rls-admin) tool for administrative tasks.

Deprecated Features

• None
3. Summary of Changes in RLS

The following changes have occurred for RLS since the last stable release, 4.0.x:

- An embedded database (using SQLite) and ODBC libraries are now included in the RLS Server installation. A default installation of GT, will include a fully configured RLS Server that requires no database installation or configuration by the end user. Advanced users can still use their own database without changes.

- The RLS now includes a new Java client API written entirely in Java. It does not require the C client libraries and allows for Java client support on 64-bit platforms. The new API is fully backward compatible. Users need not make any changes to existing code to take advantage of the new library.

- The RLS Admin Guide has been completely rewritten to account for the embedded database support and to streamline the installation procedures. In addition, a large help section has been added based on an analysis of ODBC and database installation procedures and their compatibility with the RLS.

- Client tools support for bulk operations has been improved. The globus-rls-cli can now read input parameters from a file, and a new globus-rls-bulk.sh script also simplifies repetitive procedures involving bulk operations.

- Bug fixes up through the GT 4.0.6 release are also included in this release.

4. Bug Fixes

- **Bug 3998**: Improve RLS documentation
- **Bug 4873**: segfaults in RLS JNI code
- **Bug 3828**: RLSClIENT crashes when a null parameter is passed to a method
- **Bug 4114**: Java apis fail on 64 bit machine
- **Bug 4630**: RLS java client cannot load libraries through JNI on Mac (see workaround)
- **Bug 5283**: RLS Java Client (non-JNI)
- **Bug 5106**: globus-rls-cli enhancement requests (concerning command line arguments)
- **Bug 5967**: -i option to globus-rls-cli requires file end with end-of-line character
- **Bug 5978**: Automated RLS Unit Tests
- **Bug 5988**: Authentication failures when monitoring RLS with MDS execution aggregator

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1 [http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=3998](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=3998)
2 [http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4873](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4873)
3 [http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=3828](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=3828)
4 [http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4114](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4114)
5 [http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4630](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4630)
6 [http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5283](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5283)
7 [http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5106](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5106)
8 [http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5967](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5967)
9 [http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5978](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5978)
10 [http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5988](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5988)
5. Known Problems

The following problems and limitations are known to exist for RLS at the time of the 4.2.0 release:

5.1. Limitations

- **Threading/Libc Problems:** set `LD_ASSUME_KERNEL=2.2.5` in your environment and see Section 2, “Debian” for more information.

5.2. Outstanding bugs

- **Threading/Libc Problems:** set `LD_ASSUME_KERNEL=2.2.5` in your environment and see Platform Notes for more information.

- **Bug 3656:**
  - ACLs cannot be modified dynamically

- **Bug 4141:**
  - regexec call in auth.c’s auth_getperms

- **Bug 4142:**
  - globus-rls-admin -s always indicates RLI does not exist

- **Bug 4512:**
  - RLS query returns incomplete result on 64bit system *(patch available)*

6. Technology dependencies

RLS depends on the following GT components:

- globus_core
- globus_common
- globus_io
- globus_gssapi_gsi
- globus_usage

RLS depends on the following 3rd party software:

- RDBMS: MySQL, PostgreSQL, or Oracle
- ODBC manager: unixODBC, iODBC
- ODBC driver: MyODBC, psqlODBC, or Oracle

7. Tested platforms

Tested platforms for RLS include most 32-bit flavors of Linux and UNIX, including RedHat, Solaris, and others.

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11 [http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=3656](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=3656)
12 [http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4141](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4141)
13 [http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4142](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4142)
14 [http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4512](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4512)
8. Backward compatibility summary

Protocol changes since GT 4.0.x

• None

API changes since GT 4.0.x

• None

Exception changes since GT 4.0.x

• None

Schema changes since GT 4.0.x

• None

9. Associated Standards

Associated standards for RLS:

• The RLS is implemented as a conventional service and, as such, does not conform to the WSRF or other WS set of specifications.

10. For More Information

See Replica Location Service (RLS) for more information about this component.

Glossary