

GT 4.2.0 Release Notes: RLS

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<titleabbrev>Release Note</titleabbrev>

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](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=3998)¹: Improve RLS documentation
- [Bug 4873](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4873)²: segfaults in RLS JNI code
- [Bug 3828](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=3828)³: RLSCient crashes when a null parameter is passed to a method
- [Bug 4114](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4114)⁴: Java apis fail on 64 bit machine
- [Bug 4630](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4630)⁵: RLS java client cannot load libraries through JNI on Mac (*see workaround*)
- [Bug 5283](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5283)⁶: RLS Java Client (non-JNI)
- [Bug 5106](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5106)⁷: globus-rls-cli enhancement requests (concerning command line arguments)
- [Bug 5967](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5967)⁸: -i option to globus-rls-cli requires file end with end-of-line character
- [Bug 5978](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5978)⁹: Automated RLS Unit Tests
- [Bug 5988](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5988)¹⁰: Authentication failures when monitoring RLS with MDS execution aggregator

¹ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=3998

² http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4873

³ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=3828

⁴ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4114

⁵ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4630

⁶ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5283

⁷ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5106

⁸ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5967

⁹ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5978

¹⁰ 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](#):¹¹ ACLs cannot be modified dynamically
- [Bug 4141](#):¹² regex call in auth.c's auth_getperms
- [Bug 4142](#):¹³ globus-rls-admin -s always indicates RLI does not exist
- [Bug 4512](#):¹⁴ 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.

¹¹ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=3656

¹² http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4141

¹³ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4142

¹⁴ 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