

# GT 4.2.0 Release Notes: Data Replication Service (DRS)

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<titleabbrev>Release Notes</titleabbrev>

## 1. Component Overview

The Data Replication Service (DRS) is provided with the Globus Toolkit 4.2.0 and first appeared in the GT 3.9.5 Beta release. The primary functionality of the component allows users to identify a set of desired files existing in their Grid environment, to make local replicas of those data files by transferring files from one or more source locations, and to register the new replicas in a Replica Location Service. The DRS conforms to the WS-RF specification and exposes a WS-Resource (called a "Replicator" resource) which represents the current state of the requested replication activity and allows users to query or subscribe to various Resource Properties in order to monitor the state of the resource. The DRS is built on the GT 4.2.0 Java WS Core and uses the Globus RLS to locate and register replicas and the Globus RFT to transfer files.

## 2. Feature summary

Features new in release GT 4.2.0:

- None.

Other Supported Features

- Improved implementation of the Data Replication Service: a WS-Resource, called the *Replicator*, which accepts a request from a client to locate, transfer, and register new replicas of data files in the Grid environment.
- A set of command-line tools to create (`globus-replication-create`), start (`globus-replication-start`), stop (`globus-replication-stop`), suspend (`globus-replication-suspend`), resume (`globus-replication-resume`) replication requests, and find item status (`globus-replication-finditems`).
- WSDL-defined SOAP operations to *create*, *start*, *stop*, *suspend*, and *resume* a replication request, along with operations to get the status of individual replicas in the request. For details, [click here](#)<sup>1</sup> to view a listing of the WSDL-defined interface from the Globus CVS repository.

<sup>1</sup> [http://viewcvs.globus.org/viewcvs.cgi/ws-replica/replicator/common/schema/replica/replicator/?only\\_with\\_tag=globus\\_4\\_0\\_branch](http://viewcvs.globus.org/viewcvs.cgi/ws-replica/replicator/common/schema/replica/replicator/?only_with_tag=globus_4_0_branch)

- APIs to allow users to implement custom replica source selection algorithms.
- Supports secure transport, secure conversation, and secure message communication as provided by GT 4.2.0.

#### Deprecated Features

- Database-backed State Persistence: State is now maintained in memory and lasts only for the lifetime of the WS-Resource or as dictated by the service container. This change simplifies setup of the DRS. We intend to reintroduce other persistence model(s) after we have collected additional user feedback on the DRS.

## 3. Summary of Changes in DRS

The Data Replication Service (DRS) has been updated to conform to the Java spec upgrade (bug 5495) and Security restructuring (bug 5559) for Java WS Core.

## 4. Bug Fixes

- [Bug 5495](#)<sup>2</sup>: Java spec upgrade
- [Bug 5810](#)<sup>3</sup>: null exception when SAML Callout authorization is configured

## 5. Known Problems

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

### 5.1. Limitations

- No known limitations exist.

### 5.2. Outstanding bugs

- [Bug 3502](#)<sup>4</sup>: Container freezes (CPU spin) when making remote call between ws-resources. See record for *WORKAROUND*.
- [Bug 4231](#)<sup>5</sup>: DRS does not implement subscription/notification.

See a [bugzilla](#)<sup>6</sup> query on Replication Services, DRS to list the bugs outstanding.

## 6. Technology dependencies

DRS depends on the following GT components:

- Java WS Core
- WS Authentication and Authorization

<sup>2</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5495](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5495)

<sup>3</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5810](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5810)

<sup>4</sup> [http://bugzilla.globus.org/globus/show\\_bug.cgi?id=3502](http://bugzilla.globus.org/globus/show_bug.cgi?id=3502)

<sup>5</sup> [http://bugzilla.globus.org/globus/show\\_bug.cgi?id=4231](http://bugzilla.globus.org/globus/show_bug.cgi?id=4231)

<sup>6</sup> <http://bugzilla.globus.org/globus/query.cgi>

- Delegation Service
- RFT
- RLS

DRS depends on the following 3rd party software:

- None

## 7. Tested platforms

Tested Platforms for DRS

- Linux (RedHat, Debian)

## 8. Backward compatibility summary

Protocol changes since GT version 4.0.x:

- None

API changes since GT version 4.0.x:

- None

Exception changes since GT version 4.0.x:

- None

Schema changes since GT version 4.0.x:

- None

## 9. Associated Standards

Associated standards for DataRep:

- [WS-RF](#)<sup>7</sup>
- [WS-Addressing](#)<sup>8</sup>
- [WS-Security](#)<sup>9</sup>

## 10. For More Information

Click [here](#) for more information about this component.

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<sup>7</sup> <http://docs.oasis-open.org/wsrf/2004/06/wsrf-WS-ServiceGroup-1.2-draft-02.pdf>

<sup>8</sup> <http://msdn.microsoft.com/ws/2004/03/ws-addressing>

<sup>9</sup> <http://msdn.microsoft.com/webservices/understanding/specs/default.aspx?pull=/library/en-us/dnglobspec/html/wssecurspecindex.asp>