

RTI Persistence Service

Release Notes

Version 6.1.0



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The security features of this product include software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>). This product includes cryptographic software written by Eric Young (eay@cryptsoft.com). This product includes software written by Tim Hudson (tjh@cryptsoft.com).

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1 Supported Platforms

RTI® Persistence Service is included with *RTI Connex® DDS*. If you choose to use it, it must be installed on top of *Connex DDS* with the same version number.

Persistence Service is supported on the platforms listed in [Table 1.1 Supported Platforms](#). For details on these platforms, see the *RTI Connex DDS Core Libraries Platform Notes*.

Note: POSIX®-compliant architectures that end with "FACE_GP" are not supported. Custom target platforms are not supported.

Table 1.1 Supported Platforms

Platforms	Description
INTEGRITY®	INTEGRITY 10.0.2 on x86 CPU with multi 5.0.6 (architecture pentiumInty10.0.2.pcx86). Supports Transient Durability Mode only. Available as a static C library, not an executable.
Linux®	All Linux platforms on x64 CPUs listed in the <i>RTI Connex DDS Core Libraries Release Notes</i> for the same version number. Ubuntu® 18.04 LTS on Arm v7 (architecture armv7Linux4gcc7.5.0). The following platforms were tested in PERSISTENT mode with a filesystem and MySQL 5.7: Red Hat Enterprise Linux 6.x, CentOS 6.x. All other platforms were tested in PERSISTENT mode with a filesystem only.
macOS®	All macOS platforms listed in the <i>RTI Connex DDS Core Libraries Release Notes</i> for the same version number. Tested in PERSISTENT mode with a filesystem only. No external database support.
Windows®	All Windows platforms listed in the <i>RTI Connex DDS Core Libraries Release Notes</i> for the same version number. The following platforms were tested in PERSISTENT mode with a filesystem and MySQL 5.7: Windows 8 with Visual Studio 2012 and Windows Server 2012 R2 with Visual Studio 2012. All other platforms were tested in PERSISTENT mode with a filesystem only.

2 Compatibility

When *Persistence Service* is configured in PERSISTENT mode, you may choose between storing the topic data in files or in an external relational database.

The only supported external database is MySQL. For information on the specific version supported, see [5 Optional Database Components on page 6](#).

For backward compatibility information between 6.1.0 and previous releases, see the *Migration Guide* on the RTI Community Portal (<https://community.rti.com/documentation>).

3 What's New in 6.1.0

3.1 New platforms

This release adds support for the following platforms:

- macOS 10.15 (x64)
- Red Hat® Enterprise Linux 7.6 (x64)
- Ubuntu 18.04 LTS (Arm v7)
- Ubuntu 20.04 LTS (x64)

3.2 Removed platforms

These platforms are no longer supported:

- AIX®
- macOS 10.12
- Solaris™
- SUSE Linux Enterprise Server 11
- Ubuntu 12.04 LTS

4 What's Fixed in 6.1.0

4.1 Error starting Persistence Service when restoring from existing MySQL database

Persistence Service may not have started successfully when the command-line option **-restore** was set to 1 and the state was stored in a MySQL database.

This issue only occurred when the *DataReader* in a persistence group was configured with a **destination_order** of `DDS_BY_SOURCE_TIMESTAMP_DESTINATIONORDER_QOS`.

You would have seen an error like this:

```
PRESCstReaderCollator_new:!restore queue state
```

This problem has been resolved.

[RTI Issue ID PERSISTENCE-203]

4.2 Internal failure in Persistence Service did not fully shut down Persistence Service

If *Persistence Service* failed due to an internal problem, *Persistence Service* incorrectly did not fully shut down. Specifically, *Persistence Service* stopped processing newly discovered *DataWriters*, while the *Persistence Service* application remained running. This problem has been fixed. Now, after experiencing an internal failure, *Persistence Service* will fully shut down, and the *Persistence Service* application will stop running.

[RTI Issue ID PERSISTENCE-208]

4.3 Checkpoint period and ACK period configuration parameters may not have been applied correctly

In previous releases, it is possible that a value different than 0 for the `<writer_checkpoint_period>` and `<writer_ack_period>` in a `<persistence_group>` may not have been applied correctly.

4.3 Checkpoint period and ACK period configuration parameters may not have been applied correctly

In addition, when these values were different than 0, *Persistence Service* may have produced a segmentation fault during shutdown.

This problem has been resolved.

[RTI Issue ID PERSISTENCE-214]

5 Optional Database Components

When *Persistence Service* is used in PERSISTENT mode, you can configure it to store DDS samples into a relational database, such as MySQL.

In principle, you can use any database that provides an ODBC driver, since ODBC is a standard. However, not all ODBC databases support the same feature set. Therefore, there is no guarantee that the persistent durability features will work with an arbitrary ODBC driver.

The use of MySQL requires the separate installation of the MySQL ODBC 5.1.6 (or higher) driver. For non-Windows platforms, the installation of UnixODBC 2.2.12 (or higher) is also required.

RTI has tested *Persistence Service* with MySQL 5.7 with MySQL ODBC 8.0.22 driver.

- To use MYSQL, you will need:
 - MySQL 5.7 (download from <http://www.mysql.com>)
 - MySQL ODBC 5.1.6 driver or higher (download from <http://dev.mysql.com/downloads/connector/odbc>)
 - UnixODBC 2.2.12 or higher (download from <http://www.unixodbc.org>.)

The Durable Writer History and Durable Reader State features in *Connex DDS* also use a relational database. Therefore, the installation instructions for MySQL are provided in *RTI Connex DDS Core Libraries Database Setup*.

If you need help with the download or installation process, contact **support@rti.com**.

6 Known Issues

6.1 Coherent Changes not Propagated as Coherent Set

Persistence Service will propagate the samples inside a coherent change. However, it will propagate these samples individually, not as a coherent set.

6.2 BLOBs not Supported by ODBC Storage

The ODBC storage does not support BLOBs. The maximum size for a serialized sample is 65535 bytes in MySQL.

6.3 TopicQueries not Supported in PERSISTENT Mode

Getting TopicQuery data from a *Persistence Service* instance configured to store data on disk is not currently supported.

Note: Getting TopicQuery data from a *Persistence Service* instance running in TRANSIENT (storing data in memory) mode is supported.

[RTI Issue ID PERSISTENCE-143]

6.4 <comm_ports> not Supported when Using Real-Time WAN Transport

Persistence Service can use the *RTI Real-Time WAN Transport*. However, the port configuration using <comm_ports> or the property `dds.transport.UDIPv4_WAN.builtin.comm_ports` is not currently supported by *Persistence Service*.

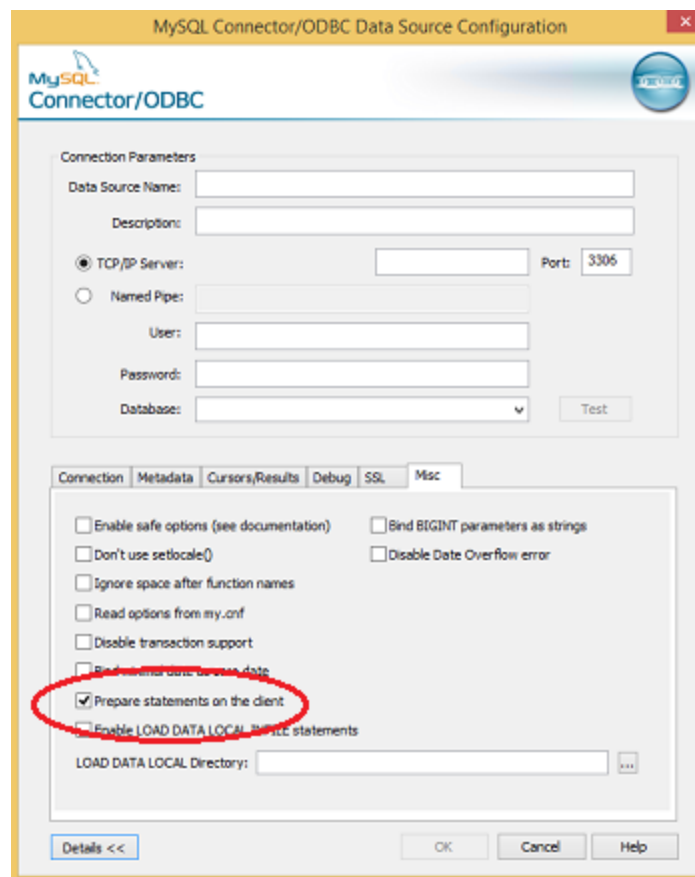
[RTI Issue ID PERSISTENCE-206]

6.5 'Incorrect arguments to mysql_stmt_execute' Errors when using MySQL ODBC Driver

Some versions of the MySQL ODBC driver may not work out-of-the-box and produce ODBC errors that include the following message:

```
Incorrect arguments to mysql_stmt_execute.
```

In this case, you will need to enable the "Prepare statements on the client" option in the DSN configuration. You will find that option under **Details, Misc, Prepare statements on the client** when adding or configuring a DSN. This behavior has been observed with MySQL ODBC driver version 8.0.23, but other versions may also be affected.



7 Available Documentation

The following documentation is provided with the *Persistence Service* distribution. (The paths show where the files are located after *Persistence Service* has been installed in <NDDSHOME>):

- General information, configuration, use cases, and execution of *Persistence Service*:
RTI Connex DDS Core Libraries User's Manual
(<NDDSHOME>/doc/manuals/connex_dds_professional/users_manual/RTI_ConnexDDS_CoreLibraries_UsersManual.pdf)

- Example code

By default, the *Persistence Service* examples are copied here:

- macOS systems:

```
/Users/your user name/rti_workspace/version/examples/persistence_service/  
<language>/hello_world_persistence
```

- Linux systems:

```
/home/your user name/rti_workspace/version/examples/persistence_service/  
<language>/hello_world_persistence
```

- Windows systems:

```
<your home directory>\rti_workspace\version\examples\persistence_service\  
<language>/hello_world_persistence
```

- Overview of persistence and durability features:
Open <NDDSHOME>/ReadMe.html, choose your desired API (C, C++, or Java), then select **Modules, RTI Connex DDS API Reference, Durability and Persistence**.