

RTI Real-Time Connect

for

RTI Data Distribution Service

Release Notes

Version 4.5e



The Global Leader in DDS



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Release Notes

1 Supported Platforms and System Requirements

RTI Real-Time Connect 4.5e requires *RTI Data Distribution Service 4.5e*.

RTI Real-Time Connect supports Oracle TimesTen In-Memory Database 11.2.1, MySQL 5.1, and Oracle Database 11g Release 2; you must have at least one of these installed. Details of the supported platform configurations are specified in [Table 1.1](#).

- ❑ The *RTI Real-Time Connect* to Oracle TimesTen daemon, **rtirtc_timesten.exe**, has been built and tested on all supported platform configurations with TimesTen 11.2.1.
- ❑ The *RTI Real-Time Connect* to Oracle 11g daemon, **rtirtc_oracle.exe**, has been built and tested on all supported platform configurations with Oracle 11.2.0.
- ❑ The *RTI Real-Time Connect* to MySQL daemon, **rtirtc_mysql.exe**, has been built and tested on all supported platform configurations with MySQL 5.1.44.

Table 1.1 **Supported Platforms**¹

Operating System		CPU	Database	32-bit	64-bit
Linux®	CentOS 5.4, 5.5	x86 and x64	TimesTen 11.2.1	Yes	Yes
			Oracle 11g	Yes	Yes
			MySQL 5.1	Yes	Yes
	Red Hat Enterprise Linux 5.0-5.2, 5.4, 5.5 (2.6 kernel)	x86 and x64	TimesTen 11.2.1	Yes	Yes
			Oracle 11g	Yes	Yes
			MySQL 5.1	Yes	Yes
	Ubuntu® Server 10.04 (2.6 kernel)	x86 and x64	MySQL 5.1	Yes	Yes

Table 1.1 **Supported Platforms**¹

Operating System		CPU	Database	32-bit	64-bit
Windows®	Windows 2000, Windows 2003, Windows XP Professional, Windows Vista®	x86	TimesTen 11.2.1	Yes	No
			Oracle 11g	Yes	No
			MySQL 5.1	Yes	No
	Windows 7	x86 and x86_64 ²	TimesTen 11.2.1	Yes	Yes
			Oracle 11g	Yes	Yes
			MySQL 5.1	Yes	Yes
	Windows Server 2008 R2	x86_64 ²	TimesTen 11.2.1	No	Yes
			Oracle 11g	No	Yes
			MySQL 5.1	No	Yes

1. Additional platforms not listed in this document may be supported through special development and maintenance agreements. Contact your RTI sales representative for details.

2. Requires Microsoft Visual C++ Redistributable Package on computers that do not have Visual C++ 2010 installed.

1.1 ODBC Driver Requirements

The *RTI Real-Time Connect-to-MySQL* daemon 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.

2 Compatibility

2.1 Compatibility with RTI Data Distribution Service

RTI Real-Time Connect 4.5e is not compatible with *RTI Data Distribution Service* 4.2c and lower.

RTI Real-Time Connect 4.5e is compatible with *RTI Data Distribution Service* 4.5[b,c,d,e], 4.4, 4.3 and 4.2e, except as noted below.

2.1.1 Compatibility with Older Versions When Sending 'Large Data'

The large data format in *RTI Data Distribution Service* 4.2e, 4.3, 4.4b and 4.4c is not compliant with RTPS 2.1. 'Large data' refers to data that cannot be sent as a single packet by

the transport. This issue has been resolved, starting with *RTI Data Distribution Service* 4.4d.

As a result, by default, large data in *RTI Real-Time Connect* 4.5 is not compatible with *RTI Data Distribution Service* 4.4c and earlier. You can achieve backward compatibility by setting the following properties to 1 in the XML QoS profiles used to configure the *RTI Real-Time Connect* publications and subscriptions:

- ☐ `dds.data_writer.protocol.use_43_large_data_format`
- ☐ `dds.data_reader.protocol.use_43_large_data_format`

2.1.2 Compatibility with RTI Data Distribution Service 4.2e

Out of the box, *RTI Real-Time Connect* 4.5e is not compatible with *RTI Data Distribution Service* 4.2e when the data types contain 8-byte or larger primitive types (double, long long, unsigned long long or long double). To enable compatibility, *RTI Real-Time Connect* will have to be run with the command line option **-use42eAlignment**.

2.2 Compatibility with Other Versions of RTI Real-Time Connect

RTI Real-Time Connect 4.5 is compatible with *RTI Real-Time Connect* 4.4, 4.3 and 4.2 with the same exceptions that apply to *RTI Data Distribution Service*. Therefore, *RTI Real-Time Connect* 4.5e will not be compatible with an older *RTI Real-Time Connect* version if it is not compatible with the associated *RTI Data Distribution Service* version.

2.3 Configuration Compatibility

2.3.1 Configuration File Format

Starting with *RTI Real-Time Connect* 4.5b, the format of the configuration file has changed from INI to XML.

The deprecated format is still functional to preserve backwards compatibility. However it should not be used as it may be removed in future releases.

2.3.2 Configuration File Loading

Starting with *RTI Real-Time Connect* 4.5b, the way configuration files are loaded has changed:

These are the new approaches, listed in load order:

- ☐ `$NDDSHOME/resource/qos_profiles_4.5x/xml/NDDS_QOS_PROFILES.xml`
- ☐ Files in the environment variable `NDDS_QOS_PROFILES`

- ❑ `<working directory>/USER_QOS_PROFILES.xml`
- ❑ `<RTI Real-Time Connect executable location>/../resource/xml/RTI_REAL_TIME_CONNECT.xml`
- ❑ `<working directory>/USER_REAL_TIME_CONNECT.xml`
- ❑ File specified using the command line parameter `-cfgFile`

The following configuration loading options have been deprecated:

- ❑ `$RTIRTC_HOME/resource/xml/RTI_RTC_QOS_PROFILES.xml`
- ❑ `$RTIRTC_HOME/resource/ini/RTI_RTC.ini`
- ❑ File in the `RTIRTC_INI` environment variable (deprecated in 4.4d)
- ❑ File specified using the command line parameter `-inifile`

Although the old options are still functional to preserve backwards compatibility, its usage should be avoided as they may be removed in future releases.

2.3.3 Command-Line Options

Starting with *RTI Real-Time Connect* 4.5b, the following command-line options have been deprecated:

- ❑ `-inifile` (Replaced with `-cfgFile`)
- ❑ `-loglevel` (Replaced with `-verbosity`)

The deprecated options are still functional to preserve backwards compatibility. However they should not be used as they may be removed in future releases.

3 Deliverables

You will receive the following with your copy of *RTI Real-Time Connect*:

- ❑ *RTI Real-Time Connect Getting Started Guide, RTI_RTC_GettingStarted.pdf*. This document guides you through the steps of installing *RTI Real-Time Connect* and running a first application.
- ❑ *RTI Real-Time Connect* installation file. This file includes the *RTI Real-Time Connect* executables, library, and documentation.
- ❑ Oracle TimesTen installation file. This file includes the Oracle TimesTen libraries and executables, demo programs, utilities, and documentation.

If any of these items are missing, please contact RTI for support (support@rti.com).

4 What's New in Release 4.5e

This release adds compatibility with *RTI Data Distribution Service 4.5e*.

5 Known Issues

5.1 Manual Table Creation in Oracle and MySQL Does Not Trigger Daemon to Create Publication/Subscription when Typecode is Unknown

If an entry is inserted into the `RTIDDS_PUBLICATIONS` or `RTIDDS_SUBSCRIPTIONS` table *and* the typecode for the data type specified in the entry has not yet been discovered by the daemon, the daemon will delay the creation of the DDS publication/subscription if the table does not already exist in the database. When either the daemon discovers the typecode or the user manually creates the table, the daemon should create the corresponding DDS publication/subscription.

However, for the Oracle 10g and MySQL databases only, in the situation described above, if you create a table manually for a pending entry, the daemon is not triggered to create the corresponding publication/subscription. The workaround is to update the entry by modifying the entry in the corresponding meta-table. This will trigger the daemon to create the publication/subscription.

5.2 WCHAR and VARCHAR Not Supported as Primary Keys for MySQL

Due to a bug in MyODBC (MySQL bug# 17983), tables with a `WCHAR` or `VARCHAR` column in the primary key are not supported in conjunction with MySQL.

5.3 WCHAR and VARCHAR Not Published Correctly for MySQL

The contents of `WCHAR` and `VARCHAR` fields are not published correctly by *RTI Real-Time Connect* Publications in MySQL. Zero (0) is published instead of the correct value.

5.4 IdentifierSeparatorChar Cannot Be '.' for MySQL

When using MySQL, the IdentifierSeparatorChar cannot be '.' due to a bug in MyODBC (MySQL bug# 15547). The default IdentifierSeparatorChar for MySQL is '\$'.

5.5 IdentifierSeparatorChar Cannot Be '.' for TimesTen Cache Connect to Oracle

If your application uses IDL types that contain strings, long doubles, or hierarchical IDL types, the IdentifierSeparatorChar cannot be '.' when using TimesTen Cache Connect to Oracle. This is due to a bug in Cache Connect to Oracle that causes quoted column names containing the character '.' (such as "A.B") to be handled incorrectly.

5.6 Applications with Disabled Inline-Keyhash

If the *RTI Data Distribution Service* application has a keyed data-type and has **DataWriterProtocolQosPolicy.disable_inline_keyhash** set to TRUE (not the default setting), *RTI Real-Time Connect* may misinterpret samples as being from the wrong instance or report deserialization errors.

5.7 RTI Real-Time Connect Daemon with '-nodaemon' Option does not Communicate over Shared Memory with MySQL 5.0 Server or Oracle 10g Server when Running as Windows 2003 or Windows Vista Service

On Windows 2003 and Windows Vista systems, if the *RTI Real-Time Connect* daemon for MySQL 5.0 and Oracle 10g is run with the **-nodaemon** option, it will not communicate with the MySQL and Oracle database servers.

There are three ways to enable communication:

1. Run both the *RTI Real-Time Connect* daemon and the database server as services.
2. Run both the *RTI Real-Time Connect* daemon and the database server from the command line.
3. Use the *RTI Real-Time Connect* command-line option, **-dbtransport 1**, to communicate using UDPv4.

5.8 Table Initialization in Database Replication Scenarios May Require Keeping a Copy of the Table In Memory for Oracle and MySQL

If *RTI Real-Time Connect* is configured in table replication mode using the INI attribute, **TableReplicationMode**, the daemon may end up keeping a copy of the whole table in memory. This may be a problem for databases such as Oracle and MySQL where tables may become quite large.

To avoid the problem, disable table initialization by setting **dw.durability.kind** in **RTIDDS_PUBLICATIONS** and **dw.durability.kind** in **RTIDDS_SUBSCRIPTIONS** to **VOLATILE_DURABILITY_QOS**.

5.9 RTI Real-Time Connect for Oracle Cannot Be Run as a Windows Service

If *RTI Real-Time Connect* for Oracle is run as a Windows service, the following error is reported:

```
Error 1053: The service did not respond to the start or control  
request in a timely fashion
```

