

RTI Database Integration Service

Release Notes

Version 6.1.1



© 2022 Real-Time Innovations, Inc.
All rights reserved.
Printed in U.S.A. First printing.
March 2022.

Trademarks

RTI, Real-Time Innovations, Connex, NDDS, the RTI logo, 1RTI and the phrase, “Your Systems. Working as one,” are registered trademarks, trademarks or service marks of Real-Time Innovations, Inc. All other trademarks belong to their respective owners.

Copy and Use Restrictions

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form (including electronic, mechanical, photocopy, and facsimile) without the prior written permission of Real-Time Innovations, Inc. The software described in this document is furnished under and subject to the RTI software license agreement. The software may be used or copied only under the terms of the license agreement.

This is an independent publication and is neither affiliated with, nor authorized, sponsored, or approved by, Microsoft Corporation.

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).

Notice

Any deprecations noted in this document serve as notice under the Real-Time Innovations, Inc. Maintenance Policy #4220.

Technical Support

Real-Time Innovations, Inc.

232 E. Java Drive

Sunnyvale, CA 94089

Phone: (408) 990-7444

Email: support@rti.com

Website: <https://support.rti.com/>

Contents

Chapter 1 Supported Platforms and System Requirements	
1.1 ODBC Driver Requirements	2
Chapter 2 Compatibility	
2.1 Compatibility with Unbounded Types	3
2.2 Compatibility with RTI Connex DDS	3
2.3 ODBC Driver Compatibility	3
Chapter 3 What's New in 6.1.1	4
4 Previous Release	
4.1 What's New in 6.1.0	5
4.1.1 New Platforms	5
4.1.2 Removed Database	5
Chapter 5 Known Issues	
5.1 No Support for Unbounded Types	6
5.2 Manual Table Creation does not Trigger Daemon to Create Publication/Subscription when Typecode Unknown	6
5.3 WCHAR and WVARCHAR Not Supported as Primary Keys for MySQL	6
5.4 WCHAR and WVARCHAR Not Published Correctly for MySQL	7
5.5 IdentifierSeparatorChar Cannot Be '.' for MySQL	7
5.6 Applications with Disabled Inline-Keyhash	7
5.7 Table Initialization in Database Replication Scenarios may Require Keeping Copy of Table in Memory for MySQL	7
5.8 Cannot Run as Windows Service over Shared Memory	7
5.9 Types wchar, wstring, and long double not Supported with PostgreSQL Database	7
5.10 Adding New Subscriptions to RTIDDS_SUBSCRIPTION Table at Run Time not Supported for PostgreSQL Database	8
5.11 Database Integration Service to MySQL UTF Support	8
5.12 'Incorrect arguments to mysqld_stmt_execute' Errors when using MySQL ODBC Driver	9

Chapter 1 Supported Platforms and System Requirements

RTI® Database Integration Service requires *RTI Connext® DDS* software with the same version number.

Database Integration Service supports MySQL™ and PostgreSQL®. You must have at least one of these installed. For version numbers, see [1.1 ODBC Driver Requirements on the next page](#)

Note: Requires Microsoft Visual C++ 2012 Redistributable Package on computers that do not have Visual C++ 2012 installed. The Redistribution Package can be obtained from the following Microsoft website: <https://www.microsoft.com/en-us/download/details.aspx?id=30679>.

Table 1.1 Supported Linux Platforms

Operating System	CPU	PostgreSQL	MySQL
CentOS™ 6.0, 6.2-6.4 Red Hat® Enterprise Linux® 6.0-6.5, 6.7, 6.8 (Available on demand)	x64	YES	YES Tested with MySQL 5.7
SUSE® Linux Enterprise Server 12 SP2, 15 SP1 (Available on demand)	x64	YES Tested with PostgreSQL 9.5.2+ on a SUSE 12 SP2 system with x64 CPU. Only subscriptions are supported.	

Table 1.2 Supported Windows Platforms

Windows Version	CPU	MySQL
Windows 8, Windows Server 2012 R2 (Available on demand.)	x64	YES Tested with MySQL 5.7 on Windows Server 2012 only

For details on these platforms, see the *RTI Connext DDS Core Libraries Platform Notes*.

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

1.1 ODBC Driver Requirements

- MySQL ODBC and UnixODBC

The *Database Integration Service-to-MySQL* daemon requires the separate installation of the MySQL ODBC 5.1.6 (or higher) driver. This release of *Database Integration Service* has been tested with MySQL ODBC driver manager version 8.0.22.

For Linux platforms, UnixODBC 2.2.12 (or higher) must also be installed. See [2.3 ODBC Driver Compatibility on page 3](#).

- PostgreSQL and UnixODBC

The *Database Integration Service-to-PostgreSQL* daemon requires the separate installation of the PostgreSQL ODBC driver. This release of *Database Integration Service* has been tested with PostgreSQL ODBC driver version 09.05.0300.

The UnixODBC driver manager is also required. This release of *Database Integration Service* has been tested with UnixODBC driver manager version 2.3.4.

Chapter 2 Compatibility

Below is basic compatibility information for this release.

For backward compatibility information between 6.1.1 and previous releases, see the *Migration Guide* on the RTI Community Portal (<https://community.rti.com/documentation>).

2.1 Compatibility with Unbounded Types

Database Integration Service does not support topics that contain unbounded types. Any topic containing unbounded sequences or strings will be ignored by *Database Integration Service*.

2.2 Compatibility with RTI Connex DDS

Database Integration Service 6.1.1 is compatible with *Connex DDS* 6.1.1 and lower. It is also compatible with *RTI Data Distribution Service* 4.5[b-e], 4.4, 4.3 and 4.2e, except as noted in the *RTI Connex DDS Core Libraries Release Notes* for 5.3.1.

Database Integration Service is not compatible with *RTI Data Distribution Service* 4.2c and lower.

2.3 ODBC Driver Compatibility

Database Integration Service to MySQL links to the UnixODBC library **libodbc.so.1**. In release 2.3.1, UnixODBC changed the library version from 1 to 2. If after installing UnixODBC *Database Integration Service* cannot find **libodbc.so**, create a symlink to **libodbc.so.1** from **libodbc.so.2**.

Chapter 3 What's New in 6.1.1

There are no changes to *Database Integration Service* in release 6.1.1.

4 Previous Release

4.1 What's New in 6.1.0

4.1.1 New Platforms

This release adds support for MySQL on Windows 8 and Windows Server 2012 R2 platforms (x64).

4.1.2 Removed Database

The Microsoft® SQL Server™ database is no longer supported.

Chapter 5 Known Issues

5.1 No Support for Unbounded Types

Database Integration Service does not support topics that contain unbounded types. Hence, any topic containing any unbounded sequence or string will be ignored by *Database Integration Service*.

5.2 Manual Table Creation does not Trigger Daemon to Create Publication/Subscription when Typecode Unknown

This issue only applies when using the MySQL database.

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 MySQL database 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.

5.3 WCHAR and WVARCHAR Not Supported as Primary Keys for MySQL

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

5.4 WCHAR and WVARCHAR Not Published Correctly for MySQL

The contents of WCHAR and WVARCHAR fields are not published correctly by *Database Integration Service* Publications in MySQL. Zero (0) is published instead of the correct value.

5.5 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 '\$'.

5.6 Applications with Disabled Inline-Keyhash

If the *Connexit DDS* application has a keyed data-type and has **DataWriterProtocolQosPolicy.disable_inline_keyhash** set to TRUE (not the default setting), *Database Integration Service* may misinterpret samples as being from the wrong instance or report deserialization errors.

5.7 Table Initialization in Database Replication Scenarios may Require Keeping Copy of Table in Memory for MySQL

If *Database Integration Service* 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 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**.

5.8 Cannot Run as Windows Service over Shared Memory

If you start *Database Integration Service* as a Windows service, the shared-memory transport is not supported. For details on how to configure DDS applications to use different transport settings, please see the *RTI Connexit DDS Core Libraries User's Manual* (Section 8.5.7, **TRANSPORT_BUILTIN** QosPolicy).

[RTI Issue ID RTC-198]

5.9 Types wchar, wstring, and long double not Supported with PostgreSQL Database

Subscriptions to topics whose types contain wchar, wstring, or long double members are not supported with PostgreSQL integration.

[RTI Issue ID RTC-263]

5.10 Adding New Subscriptions to RTIDDS_SUBSCRIPTION Table at Run Time not Supported for PostgreSQL Database

This version of *Database Integration Service* does not support creating new subscriptions after startup for a PostgreSQL database. Subscription will have to be defined in the configuration XML file or added to the RTIDDS_SUBSCRIPTION table before starting the *Database Integration Service* daemon.

[RTI Issue ID RTC-264]

5.11 Database Integration Service to MySQL UTF Support

Database Integration Service does not support MySQL databases with UTF-8 character set. Consequently, communication between the database service and the *Database Integration Service* daemon (rtirc_mysql) is not established and the updates on the publication and subscription tables are not propagated. You may detect this behavior by checking if the table RTIRTC_TBL_INFO has not been created.

You can check the current database character set with the following SQL statement:

```
SELECT DEFAULT_CHARACTER_SET_NAME, DEFAULT_COLLATION_NAME FROM INFORMATION_SCHEMA.SCHEMATA
WHERE SCHEMA_NAME = '<dbname>';
```

To fix this situation you need to specify the latin1 character set. Here are two ways to do this:

Method 1

Change the default character set of the database used by *Database Integration Service*:

1. Stop the *Database Integration Service* daemon.
2. Run the following SQL statement to change the database character set:

```
ALTER DATABASE DEFAULT CHARACTER SET latin1;
```

3. Delete all the *Database Integration Service* metatables: RTIDDS_PUBLICATIONS, RTIDDS_SUBSCRIPTIONS, RTIRTC_LOG, and RTIRTC_TBL_INFO.
4. Restart the *Database Integration Service* daemon.

Method 2

Comment out the following lines or change them to “latin1” inside the file **my.ini** in your home directory or MySQL installation directory.

```
default-character-set=utf8
character-set-server=utf8
```

The MySQL service should be restarted after changing the values. Also, the database should be recreated after restarting:

```
drop database <dbname>;
create database <dbname>;
```

[RTI Issue ID RTC-141]

5.12 '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.

