

# *RTI Persistence Service*

for RTI Data Distribution Service

## **Release Notes**

Version 4.5e



The Global Leader in DDS



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# Release Notes

## 1 Compatibility

*RTI Persistence Service* is included with *RTI Data Distribution Service Professional Edition* and *Elite Edition*. If you choose to use it, it must be installed on top of *RTI Data Distribution Service*.

*RTI Persistence Service* 4.5e is compatible with *RTI Data Distribution Service* 4.5e, as well as 4.5[b,c,d], 4.4d, 4.3e and 4.2e; it is supported and has been tested with the architectures listed in [Table 1.1](#).

Table 1.1 **Supported Architectures**

Platforms	Operating System	Architecture	Format
AIX	AIX 5.3	p5AIX5.3xlc9.0 64p5AIX5.3xlc9.0	Executable
INTEGRITY	INTEGRITY 10.0.0	pentiumInty10.0.0.pcx86	Library
Linux®	CentOS 5.4, 5.5 (2.6 kernel)	i86Linux2.6gcc4.1.2 x64Linux2.6gcc4.1.2	Executable
	Red Hat® Enterprise Linux 4.0	i86Linux2.6gcc3.4.3 x64Linux2.6gcc3.4.5	Executable
	Red Hat Enterprise Linux 5.0	i86Linux2.6gcc4.1.1 x64Linux2.6gcc4.1.1	Executable
	Red Hat Enterprise Linux 5.1, 5.2, 5.4, 5.5	i86Linux2.6gcc4.1.2 x64Linux2.6gcc4.1.2	Executable
	Red Hat Enterprise Linux 6.0, 6.1 (no external database support)	i86Linux2.6gcc4.4.5 x64Linux2.6gcc4.4.5	Executable
	Ubuntu® Server 10.04 (2.6 kernel)	i86Linux2.6gcc4.4.3 x64Linux2.6gcc4.4.3	Executable

Table 1.1 Supported Architectures

Platforms	Operating System	Architecture	Format
Solaris™	Solaris 2.10	sparcSol2.10gcc3.4.2 sparc64Sol2.10gcc3.4.2	Executable
Windows®	Windows 7	i86Win32VS2010 x64Win64VS2010	Executable
	Windows Server® 2008 R2	x64Win64VS2010	Executable
	Windows 2000	i86Win32VS2005	Executable
	Windows 2003	i86Win32VS2005	Executable
	Windows Vista®	i86Win32VS2005 i86Win32VS2008	Executable
	Windows XP Professional	i86Win32VS2005 i86Win32VS2008	Executable

### 1.1 Command-Line Options Compatibility

Starting with version 4.5b, the command-line parameter **-srvName** has been replaced with **-cfgName**, which is a required parameter.

### 1.2 Library API Compatibility

The following fields in the `RTI_PersistenceServiceProperty` structure have new names:

- ❑ `app_name` has been replaced with `application_name`
- ❑ `stack_size` has been replaced with `thread_stack_size`

### 1.3 Persistent Storage

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

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.

*RTI Persistence Service* has been tested with the MySQL 5.1.44 with MySQL ODBC 5.1.6.

The usage 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.

## 2 Available Documentation

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

- ❑ Installation instructions: *RTI Persistence Service Installation Guide*  
(<NDDSHOME>/doc/pdf/RTI\_Persistence\_Service\_InstallationGuide.pdf, also available for download from RTI's Self Service Portal.)
- ❑ General information on *RTI Persistence Service*:  
Open <NDDSHOME>/ReadMe.html, then select **RTI Persistence Service**.
- ❑ Example code: <NDDSHOME>/example/<language>/helloWorldPersistence.

Additional documentation is provided with *RTI Data Distribution Service*:

- ❑ Configuration, use cases, and execution of *RTI Persistence Service*:  
*RTI Data Distribution Service User's Manual*  
(<NDDSHOME>/doc/pdf/RTI\_DDS\_UsersManual.pdf)
- ❑ Overview of persistence and durability features:  
Open <NDDSHOME>/ReadMe.html, choose your desired API (C, C++, or Java), then select **Modules, RTI Data Distribution Service API Reference, Durability and Persistence**.

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## 3 What's New in 4.5e

### 3.1 Support for INTEGRITY 10 Systems

This release adds support for INTEGRITY 10 systems on Pentium CPUs (architecture pentiumInty10.0.0.pcx86).

### 3.2 Support for Red Hat Enterprise 6.0 and 6.1 Systems

This release adds support for Red Hat Enterprise Linux 6.0 and 6.1 systems on Pentium CPUs (architectures i86Linux2.6gcc4.4.5 and x64Linux2.6gcc4.4.5).

### 3.3 Ability to Embed Persistence Service in Your Application

*RTI Persistence Service* is deployed as a C library for select architectures. This library allows you to embed *RTI Persistence Service* in your applications.

### 3.4 Remote Administration

*RTI Persistence Service* can be controlled remotely by sending commands through a special DDS Topic. This release includes a new shell application, **rtipssh**, which sends/receives these commands.

The following commands are supported in this release.

- START
- STOP
- SHUTDOWN
- STATUS

See the chapter, *Administering RTI Persistence Service from a Remote Location*, in the *RTI Data Distribution Service User's Manual* for more information.

### 3.5 Sample Memory Management

The memory allocation policy (dynamic versus preallocation) for the samples created by *PRSTDataReaders* and *PRSTDataWriters* can be controlled with a new tag, **<memory\_management>**.

See the chapter, *Configuring RTI Persistence Service*, in the *RTI Data Distribution Service User's Manual* for additional details on memory management.

### 3.6 New Command-Line Options

The following new command-line options are related to remote administration:

- identifyExecution:** Appends the host name and process ID to the appName to help ensure unique names.
- remoteAdministrationDomainId:** Enables remote administration and set the domain ID for the communication.
- noAutoStart:** Use this option if you plan to start *RTI Persistence Service* remotely.

Other new options:

- infoDir:** The info directory associated with the running persistence service.
- maxObjectsPerThread:** Sets the maximum number of objects that can be stored per thread for a *DomainParticipantFactory*.
- serviceStackSize:** Configures the service thread stack size.

See the Chapter 23, *Running RTI Persistence Service*, in the *RTI Data Distribution Service User's Manual* for more information.

### 3.7 New XML Configuration Tags

This release includes these new XML configuration tags:

- ❑ `<administration>` Enables and configures remote administration.
- ❑ `<memory_management>` Configures the memory management policy for the samples created by `PRSTDataReaders` and `PRSTDataWriters`.
- ❑ `<journal_mode>` and `<vacuum>` Configure various aspects of the persistent storage.
- ❑ `<trace_file>` Specifies the name of the trace file for debugging purposes.

### 3.8 TimesTen Support Removed

This release does not support use of the TimesTen database.

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## 4 What's Fixed in 4.5e

### 4.1 Writer-side Filtering on Keyed Topics Resulted in Crash

*RTI Persistence Service* may have crashed when performing writer-side content filtering on a keyed topic. This problem has been resolved.

[RTI Bug #13897]

### 4.2 Inconsistent QoS Errors when Using Durability Service

Setting the XML configuration tag `<use_durability_service>` to true in *RTI Persistence Service* may have caused the following error:

```
[D0009|Pub(308)|T=Example HelloWorld|CREATE
Writer]DDS_Publisher_create_datawriter_disabledI:ERROR: Inconsistent
QoS (more information at WARN verbosity level)
PERSISTENCEServiceTopic_initialize:!create dds data writer
PERSISTENCEServiceTopic_new:!init PERSISTENCEServiceTopic object
PERSISTENCEServiceParticipant_processRemotePublication:!create ser-
vice topic
```

This problem only occurred when `durability_service.max_samples` was set to a value other than `DDS_LENGTH_UNLIMITED` in the *DataWriter* whose QoSs were used to configure *RTI Persistence Service*. This problem has been resolved.

[RTI Bug # 13948]

### **4.3 Incorrect Typecode Propagated if Many Topics used Same Data Type**

When persisting several topics with the same underlying type, *RTI Persistence Service* may have propagated the wrong typecode for its *DataWriters* and *DataReaders*. This problem has been resolved.

[RTI Bug # 14069]

### **4.4 Artificial Limit of 99 was Imposed for Domain IDs**

Previously, *RTI Persistence Service* limited the maximum valid domain ID to 99. This limitation has been removed; no restriction is imposed by *RTI Persistence Service*. A domain ID that cannot be mapped to existing ports will cause *RTI Data Distribution Service* to fail.

[RTI Bug # 14074]

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## **5 Known Issues**

### **5.1 TCP Transport not Supported**

The TCP transport is not supported by *RTI Persistence Service*.

### **5.2 Coherent Changes are Not Propagated as a Coherent Set**

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

### **5.3 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.