RTI Limited Bandwidth Plugins

Release Notes

Version 5.3.1

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Release Notes

The *RTI® Limited Bandwidth Plug-ins* distribution includes:

- Limited Bandwidth Endpoint Discovery Plugin (LBED)
- Limited Bandwidth Participant Discovery Plugin (LBPD)
- Limited Bandwidth Real-Time Publish Subscribe Plugin (LBRTPS)
- Limited Bandwidth Simulation Plugin (LBS)
- Compression Real-Time Publish Subscribe Plugin (ZRTPS)

1   Supported Platforms

Table 1.1 lists the platforms supported by *Limited Bandwidth Plug-ins*.

Table 1.1   **Supported Platforms**

Operating System	
Linux® (Intel® CPU)	CentOS 5.4, 5.5, 6.0, 6.2 - 6.4, 7.0
	Red Hat® Enterprise Linux 5.0, 5.1, 5.2, 5.4, 5.5, 6.0 - 6.5, 6.7, 6.8, 7.0
	Ubuntu 14.04 LTS, Ubuntu 16.04 LTS
QNX®	QNX Neutrino® 6.4.1 *(For LBED Plugin only)*
Windows®	All Windows platforms listed in the *RTI Connext® DDS Core Libraries Release Notes*.

1.1   Requirements when Using Microsoft Visual Studio

You must have the appropriate Microsoft® Visual Studio® Redistributable Package installed on the machine where you are *running* an application linked with dynamic libraries. For details, see the *RTI Connext DDS Core Libraries Platform Notes*.

2   Compatibility

Limited Bandwidth Plug-ins is an optional product for use with *RTI Connext DDS* with the same version number.

The plugins are known not to work with *rtiddsspy, RTI Recording Service, RTI Shapes Demo, RTI Persistence Service,* or *RTI Database Integration Service*.

When using the LBPD plugin with *RTI Routing Service,* either the 'key' or 'participant_name' property may be used. If the 'participant_name' property is used, it must match the participant name generated by *Routing Service*, which uses this format for naming participants: "RTI Routing Service: <service name>.<domain_route name>#{1,2}".

2.1 Discovery Wire Compatibility with Applications using Connext DDS 5.2.0 and Earlier

Starting with *Connext DDS* 5.3.0 (also in 5.2.7) the numbers of locators that can be announced by a DomainParticipant has been increased from 4 to 16. If your *Connext DDS* application runs on a machine with multiple interfaces, or if you have enabled multiple transports, the discovery information that is announced to other participants may be incompatible with applications running *Connext DDS* 5.2.0. This problem does not affect applications running *Connext DDS* 5.2.3.

2.2 Discovery Wire Compatibility with Applications using Connext DDS 5.2.3 and Earlier

Starting with *Connext DDS* 5.3.0 (also in 5.2.7), a DomainParticipant is able to propagate changes to IP addresses as part of the discovery traffic. Note that applications using *Connext DDS* 5.2.3 and earlier versions will report errors like the one below if they detect changes to IP addresses.

```
PRESParticipant_assertRemoteParticipant:!assert remote participant ac110001
3a33 1 due to different ro area
DISCParticipantDiscoveryPlugin_assertRemoteParticipant:!assert remote par-
ticipant: 0XAC110001,0X3A33,0X1,0X1C1
DISCSimpleParticipantDiscoveryPluginReaderListener_onDataAvailable:!assert
remote participant
```

You can disable the notification and propagation of IP address changes in order to be compatible with 5.2.3 by setting the transport property **<subtransport prefix>.disable_interface_tracking**.

For example, to disable it when using LBRTPS with a UDPv4 subtransport, the property name is **dds.transport.lbrtps.UDPv4.disable_interface_tracking**.

3 What's New in 5.3.1

This release adds support for Ubuntu 16.04 LTS (Intel CPU). For details, see the *RTI Connext DDS Core Libraries Platform Notes*.

4 What's New in 5.3.0

4.1 New Platforms

This release adds support for Red Hat Enterprise Linux 6.8 platforms. For details, see the *RTI Connext DDS Core Libraries Platform Notes*.

4.2 All UDPv4 Transport Properties in LBRTPS and ZRTPS Transports now Supported

In previous releases, when using UDPv4 as a LBRTPS or ZRTPS subtransport, only specific UDPv4 properties were supported. This release adds support for all UDPv4 properties.

4.3 Properties to Configure Verbosity of Security-Related Log Output from Secure Transports

This release provides new configuration properties that allow you to configure the verbosity of the security-related log output generated by these secure transports:

- RTI Secure TCP Transport (nddstransporttcp)

The new property **security_logging_verbosity_bitmap** is a bitmap that specifies the verbosity of security-related log messages generated by the transport.

- RTI Secure WAN Transport (nddstransportwan)

The new property **security_verbosity** specifies the verbosity of security-related log messages generated by the transport.

- RTI Secure Transport (nddstransporttls)

The new property **security_verbosity** specifies the verbosity of security-related log messages generated by the transport.

For more information, see *RTI Core Libraries User's Manual.*

5 What's Fixed in 5.3.0

5.1 XML Parser did not Support Setting ReliabilityQosPolicy.acknowledgment_kind for LBED Plug-in

The XML parser did not support setting the **ReliabilityQosPolicy.acknowledgment_kind** in the LBED plug-in configuration file. Therefore if an endpoint was created with a non-default value for **acknowledgment_kind**, it would not match with any remote endpoints.

This problem has been resolved. Now you can set the **acknowledgment_kind** of a DataWriter and DataReader in the configuration file.

[RTI Issue ID COREPLG-412]

5.2 Application Acknowledgments did not work with the Limited Bandwidth Endpoint Discovery Plugin

Endpoints configured to use application acknowledgments would communicate, but the application acknowledgments that were sent by an application were not actually being used in order to mark samples as acknowledged. Therefore it was as if the acknowledgment kind was not changing from DDS_PROTO-COL_ACKNOWLEDGMENT_MODE. This issue would have been most noticeable when the on_application_acknowledgment DataWriterListener was not called. This problem has been resolved.

[RTI Issue ID COREPLG-416]

5.3 Participant Liveliness Lease Duration not Used in Limited Bandwidth Participant Discovery Plugin

The value for **DiscoveryConfigQosPolicy::participant_liveliness_lease_duration** was not used in the Limited Bandwidth Participant Discovery Plugin. This value is usually sent during discovery, but was not sent in the participant messages used by the Limited Bandwidth Plugin.

Now you can configure the **participant_liveliness_lease_duration** of a participant in the LBPD Plug-in configuration file with the tag <liveliness_lease_duration>.

{RTI Issue ID COREPLG-417}

6 Known Issues

6.1 Transport-Related Limitations for ZRTPS

The following are known transport-interaction limitations when using the ZRTPS transport plugin:

- Neither Shared Memory (SHMEM) nor UDPv6 may be used as sub-transports.
- The UDPv4 transport may not be used simultaneously as a transport and a ZRTPS sub-transport.

6.2 Some QoS not Currently Supported by LBED Discovery Plugin

The following QoS (introduced in *Connext DDS* 5.0) are not currently supported in the LBED Plugin configuration file:

- AvailabilityQosPolicy
- TypeConsistencyEnforcementQosPolicy

6.3 Some Features not Currently Supported by LBPD Discovery Plugin

The following features are not currently supported by the LBPD Plugin:

- Security
- TopicQueries
- The **locator_reachability_lease_duration** in the DiscoveryConfigQosPolicy
- Propagation of properties in the PropertyQosPolicy during discovery

[RTI Issue ID COREPLG-418]

7 Available Documentation

The following documentation is provided with *Limited Bandwidth Plug-ins*:

- *Installation Guide*:
  <NDDSHOME>/doc/manuals/connext_dds/limited_bandwidth_plugins/RTI_LimitedBandwidthPlugins_InstallationGuide.pdf
- *User's Manual*:
  <NDDSHOME>/doc/manuals/connext_dds/limited_bandwidth_plugins/RTI_LimitedBandwidthPlugins_UsersManual.pdf
- Example code

  For UNIX-based systems: **/home/***your user name***/rti_workspace/***version***/examples/connext_dds/c/limited_bandwidth_plugins**

  For Windows systems: **C:\Users***your user name***\Documents\rti_workspace***version***\examples\connext_dds\c\limited_bandwidth_plugins**