

RTI Real-Time WAN Transport Release Notes

Version 7.3.0



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Chapter 2 Supported Platforms

See [Supported Platforms](#), in the RTI Connext Core Libraries Release Notes.

Chapter 3 Compatibility

Real-Time WAN Transport is an optional product for use with *Connex* with the same version number.

Chapter 4 What's New in 7.3.0 LTS

For information on new features in releases 7.0.0, 7.1.0, and 7.2.0, which are all also part of 7.3.0 LTS, see *Previous Releases*.

Chapter 5 What's Fixed in 7.3.0 LTS

This section describes bugs fixed in *Connex* 7.3.0 LTS. These are fixes since 7.2.0. For information on what's fixed in releases 7.0.0, 7.1.0, and 7.2.0, which are all also part of 7.3.0 LTS, see *Previous Releases*.

[Critical]: System-stopping issue, such as a crash or data loss. [Major]: Significant issue with no easy workaround. [Minor]: Issue that usually has a workaround. [Trivial]: Small issue, such as a typo in a log.

5.1 [Critical] Possible crash when receiving participant announcements with Real-Time WAN transport *

It was previously possible for a *DomainParticipant* to crash or to experience unbounded memory growth when processing participant announcements (either full participant announcements if using SPDP or bootstrap/configuration messages if using SPDP2) and using the *Real-Time WAN Transport*. This could occur if a participant received a single participant announcement that contained locators that had the same UUID with different public addresses, or received multiple participant announcements from different active participants that also contained locators with the same UUID with different public addresses. See [Transport Locators](#) in the *Core Libraries User's Manual* for more information on UUID and public locators in the *Real-Time WAN Transport*. This problem was not expected in a normal system, where the same UUID is not used for multiple different public addresses or different participants.

[RTI Issue ID CORE-14006]

Chapter 6 Previous Releases

6.1 What's New in 7.2.0

6.1.1 Added Pre-Shared Key Protection to Cloud Discovery Service and Real-Time WAN Transport

In release 7.1.0, the SECURITY PLUGINS (*RTI Security Plugins*) introduced Pre-Shared Key (PSK) Protection as a new protection mechanism, complementary to more-advanced SECURITY PLUGINS features or standalone. In this release, the SECURITY PLUGINS added PSK support for *RTI Cloud Discovery Service* (protecting discovery information relayed by *Cloud Discovery Service*) and *Real-Time WAN Transport* (protecting UDP Binding Ping).

6.2 What's Fixed in 7.1.0

6.2.1 [Major] Duplicate participant announcements sent to WAN peers when using Real-Time WAN Transport

Previous versions of *Real-Time WAN Transport* required you to add 0@ to the beginning of an entry in the `initial_peers` list, or else extra discovery traffic would be generated (five duplicate participant announcements (DATA(P)/DATA(Pb)) would be sent to each initial peer each time one should be written). For example, if you used a value of 5 for `initial_participant_announcements`, then 25 initial participant announcements would be sent. This problem has now been fixed so that only a single participant announcement will be sent to each initial peer. For example, if you use a value of 5 for `initial_participant_announcements`, then five initial participant announcements will be sent.

Excess discovery traffic was also produced from the locators received from a remote participant. If a remote participant had multiple UUID locators that mapped to the same `<peer_public_address>:<peer_public_port>`, then a participant would send duplicate participant announcements to each UUID locator, resulting in duplicate traffic to the same `<peer_public_address>:<peer_public_port>`. This issue has been resolved, and UUID locators that map to the same `<peer_public_address>:<peer_public_port>` will only result in one participant announcement being sent, regardless of the number of UUID locators.

[RTI Issue ID CORE-13245]

6.3 What's New in 7.0.0

6.3.1 New builtin XML snippets facilitate UDP communication over WAN or third-party networks

This release includes two new XML snippets to facilitate UDP communication over WAN or third-party networks:

- Transport.UDP.AvoidIPFragmentation
- Transport.UDP.WAN

For WAN communications, it is not a good idea to rely on IP fragmentation. IP fragmentation causes significant issues in UDP, where there is no integrated support for a path MTU (maximum transmission unit) discovery protocol as there is in TCP.

The Transport.UDP.AvoidIPFragmentation snippet configures a Participant to avoid IP fragmentation when using the builtin UDP transports.

The Transport.UDP.WAN snippet uses Transport.UDP.AvoidIPFragmentation and enables the *Real-Time WAN Transport*. We recommend this snippet for configurations that require sending data over the WAN.

Example:

```
<qos_profile name="DisableIPFragmentationWAN">
  <base_name>
    <element>Transport.UDP.WAN</element>
  </base_name>
</qos_profile>
```

6.4 What's Fixed in 7.0.0

6.4.1 [Minor] Real-Time WAN Transport did not work if accept_unknown_peers was FALSE

With *Real-Time WAN Transport*, an internal participant should be able to communicate with an external participant regardless of the `discovery.accept_unknown_peers` setting, as long as the internal participant sets its initial peer to the public IP address and port of the external participant. For example:

```
udpv4_wan://34.45.6.1:3456
```

But communication with `discovery.accept_unknown_peers` set to FALSE on the internal participant was not possible. This problem has been resolved.

For more information, see [Disabling IP Fragmentation for Real-Time WAN Transport, in the RTI Connex Core Libraries User's Manual](#).

[RTI Issue ID COREPLG-628]

* *This bug does not affect you if you are upgrading from 6.1.x or earlier.*