

Using Wireshark

with
RTI Connex DDS

Release Notes

Version 1.99.1_RT1520



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Chapter 1 System Requirements

The RTI® distribution of Wireshark™ is compatible with RTI Connex™ DDS 4.5 and higher, as well as RTI Data Distribution Service 4.0-4.5; it is supported on these operating systems:

Table 1.1 Supported Platforms

| Operating System | | CPU | Compiler | RTI Architecture Abbreviation |
|------------------|---|-----|-----------|-------------------------------|
| Linux | CentOS 6.0 - 6.5 (2.6 kernel) | x86 | gcc 4.4.5 | i86Linux2.6gcc4.4.5 |
| | | x64 | gcc 4.4.5 | x64Linux2.6gcc4.4.5 |
| | CentOS 7 (3x kernel) | x86 | gcc 4.8.2 | i86Linux3gcc4.8.2 |
| | | x64 | gcc 4.8.2 | x64Linux3gcc4.8.2 |
| | Red Hat Enterprise Linux 6.0 - 6.5 (2.6 kernel) | x86 | gcc 4.4.5 | i86Linux2.6gcc4.4.5 |
| | | x64 | gcc 4.4.5 | x64Linux2.6gcc4.4.5 |
| | Red Hat Enterprise Linux 7 (3.x kernel) | x86 | gcc 4.8.2 | i86Linux3gcc4.8.2 |
| | | x64 | gcc 4.8.2 | x64Linux3gcc4.8.2 |
| | Ubuntu® Server 12.04 LTS (3.x kernel) | x86 | gcc 4.6.3 | i86Linux3.xgcc4.6.3 |
| | | x64 | gcc 4.6.3 | x64Linux3.xgcc4.6.3 |
| | Ubuntu Server 14.04 LTS (3.x kernel) | x86 | gcc 4.8.2 | i86Linux3gcc4.8.2 |
| | | x64 | gcc 4.8.2 | x64Linux3gcc4.8.2 |

Table 1.1 Supported Platforms

| Operating System | | CPU | Compiler | RTI Architecture Abbreviation |
|------------------|--|-----|-----------|-------------------------------|
| OS X | OS X 10.8 | x64 | clang 4.1 | x64Darwin12clang4.1 |
| | OS X 10.10 | x64 | clang 6.0 | x64Darwin14clang6.0 |
| Windows | All Windows® platforms described in the <i>RTI Connex DDS Core Libraries Release Notes</i> for 5.2.0 | | | |

1.1 Additional Libraries for Red Hat Systems

On Red Hat systems, you need to update gtk2 and install zlib and libX11:

```
yum update gtk2 && yum install zlib && yum install libX11
```

When Wireshark starts, you may see an error indicating that the symbol `pcap_set_timestamp_precision` is not found. This is likely on Red Hat Enterprise Linux 6.0 systems.

To correct this problem, update pcap:

```
yum update libpcap
```

1.2 Additional Debian packages for Linux (Ubuntu) Systems

For Linux (Ubuntu) systems, Wireshark dependencies are the following:

- `wireshark-common`: `libc6` (>= 2.15), `libcap2` (>= 2.10), `libcrypt11` (>= 1.4.5), `libglib2.0-0` (>= 2.31.18), `libnl-3-200` (>= 3.2.3), `libnl-genl-3-200` (>= 3.2.3), `libpcap0.8` (>= 1.0.0), `libwireshark0` (>= 1.99.1), `libwiretap0` (>= 1.99.1), `libwsutil0` (>= 1.99.1), `zlib1g` (>= 1:1.1.4), `debconf` (>= 0.5) | `debconf-2.0`, `debconf`, `libcap2-bin`
- `wireshark-gtk`: `libc6` (>= 2.15), `libcairo2` (>= 1.2.4), `libgdk-pixbuf2.0-0` (>= 2.22.0), `libglib2.0-0` (>= 2.31.8), `libgtk-3-0` (>= 3.3.16), `libnl-3-200` (>= 3.2.3), `libnl-genl-3-200` (>= 3.2.3), `libnl-route-3-200`, `libpango1.0-0` (>= 1.14.0), `libpcap0.8` (>= 0.9.8), `libportaudio2` (>= 19+svn20101113), `libwireshark0` (>= 1.99.1), `libwiretap0` (>= 1.12.0~rc1), `libwsutil0` (>= 1.99.0), `zlib1g` (>= 1:1.1.4), `wireshark-common` (= 1.99.1), `xdg-utils`
- `wireshark-qt`: `libc6` (>= 2.15), `libgcc1` (>= 1:4.1.1), `libglib2.0-0` (>= 2.31.8), `libnl-3-200` (>= 3.2.3), `libnl-route-3-200`, `libpcap0.8` (>= 0.9.8), `libqtcore4` (>= 4:4.8.0), `libqtgui4` (>= 4:4.8.0), `libstdc++6`

(>= 4.1.1), libwireshark0 (>= 1.99.1), libwiretap0 (>= 1.12.0~rc1), libwsutil0 (>= 1.99.0), zlib1g (>= 1:1.1.4), wireshark-common (= 1.99.1), xdg-utils

A quick way to install Wireshark is to install the provided packages:

- For Ubuntu 12.04 32 bits:
dpkg -i libwsutil0_1.99.1_i386.deb libwiretap0_1.99.1_i386.deb libwireshark-data_1.99.1_all.deb libwireshark0_1.99.1_i386.deb wireshark-common_1.99.1_i386.deb wireshark-gtk_1.99.1_i386.deb tshark_1.99.1_i386.deb
- For Ubuntu 12.04 64 bits:
dpkg -i libwsutil0_1.99.1_amd64.deb libwiretap0_1.99.1_amd64.deb libwireshark-data_1.99.1_all.deb libwireshark0_1.99.1_amd64.deb wireshark-common_1.99.1_amd64.deb wireshark-gtk_1.99.1_amd64.debtshark_1.99.1_amd64.deb
- For Ubuntu 14.04 32 bits:
dpkg -i libwsutil0_1.99.1_i386.deb libwiretap0_1.99.1_i386.deb libwireshark-data_1.99.1_all.deb libwireshark0_1.99.1_i386.deb wireshark-common_1.99.1_i386.deb wireshark-qt_1.99.1_i386.deb tshark_1.99.1_i386.deb
- For Ubuntu 14.04 64 bits:
dpkg -i libwsutil0_1.99.1_amd64.deb libwiretap0_1.99.1_amd64.deb libwireshark-data_1.99.1_all.deb libwireshark0_1.99.1_amd64.deb wireshark-common_1.99.1_amd64.deb wireshark-qt_1.99.1_amd64.deb tshark_1.99.1_amd64.deb

Then run `sudo apt-get -f install` to install the dependencies. Wireshark should be correctly installed after that.

1.3 System Hardware

To minimize the chance of packet capture loss and to optimize the overall performance of Wireshark, you should have a 1.7-GHz (or better) processor with at least 512 MB RAM. (The minimum values are 600-MHz and 256 MB RAM.)

1.4 Network Adapters

For information on the network adapters supported by Wireshark, see [Wireshark's FAQ page \(www.wireshark.org/faq.html\)](http://www.wireshark.org/faq.html).

Chapter 2 What's New in 1.99.1_RTI520

2.1 Proper Version Number Appears in "About Wireshark" Window

The version shown in "About Wireshark" is now updated in every release.

2.2 New Dissector to Parse RTITCP Messages

This release adds support for parsing RTITCP messages. This support provides details regarding the control packets sent to manage TCP connections, as well as the user data that uses RTITCP as a transport.

2.3 Support to Dissect RTITCP Data Coming in More Than One TCP Segment

In this release, RTITCP data can be dissected, even if TCP provides it in several segments.

2.4 Locators Summary

In this release, there is a summary for every locator provided in the data(p) packets. This allows you to read the locator info without needing to expand the subtrees.

2.5 Inspection of Flags in PID_BUILTIN_ENDPOINT_SET

In this release, the flags contained in the PID_BUILTIN_ENDPOINT_SET are inspected and shown in detail.

Chapter 3 What's Fixed in 1.99.1_RTI520

3.1 Timestamps were not Interpreted Properly

Timestamps were parsed without taking into account that RTPS uses a base time set to January 1st 1970. (While NTP uses January 1st 1900). In this release, this offset has been fixed and the timestamp shown is correct.

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Chapter 4 Available Documentation

- *RTI Wireshark Release Notes* describes system requirements, installation instructions, and other important information.
- *RTI Connex DDS Core Libraries User's Manual* provides details on the Connex DDS API and describes how RTPS packets are used by Connex DDS-based applications. In particular, you should review the Discovery chapter. Open `<NDDSHOME>/-doc/manuals/connex_dds/RTI_ConnexDDS_CoreLibraries_UsersManual.pdf`, where `<NDDSHOME>` is where you installed Connex DDS.
- *RTPS Specification*. Please see <http://www.omg.org/spec/DDS/2.1/>.
- *Wireshark online help*. There is extensive online help included with Wireshark. Select **Help, Contents** from the menu bar for a detailed user's guide in HTML format.
- *Wireshark User's Guide* describes how to use *Wireshark's* features. It is not included in the installation, but can be downloaded from *Wireshark's* website (www.wireshark.org/docs). Note that it may pertain to a slightly different version of *Wireshark*.