

# **RTI Real-Time WAN Transport**

## **Installation Guide**

**Version 7.1.0**



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# 1 Paths Mentioned in Documentation

The documentation refers to:

- **<NDDSHOME>**

This refers to the installation directory for *RTI® Connex®*. The default installation paths are:

- macOS® systems:  
**/Applications/rti\_connex\_dds-7.1.0**
- Linux systems, non-*root* user:  
**/home/<your user name>/rti\_connex\_dds-7.1.0**
- Linux systems, *root* user:  
**/opt/rti\_connex\_dds-7.1.0**
- Windows® systems, user without Administrator privileges:  
**<your home directory>\rti\_connex\_dds-7.1.0**
- Windows systems, user with Administrator privileges:  
**C:\Program Files\rti\_connex\_dds-7.1.0**

You may also see **\$NDDSHOME** or **%NDDSHOME%**, which refers to an environment variable set to the installation path.

Wherever you see **<NDDSHOME>** used in a path, replace it with your installation path.

**Note for Windows Users:** When using a command prompt to enter a command that includes the path **C:\Program Files** (or any directory name that has a space), enclose the path in quotation marks. For example:

```
"C:\Program Files\rti_connex_dds-7.1.0\bin\rtiddsgen"
```

Or if you have defined the **NDDSHOME** environment variable:

```
"%NDDSHOME%\bin\rtiddsgen"
```

- *<path to examples>*

By default, examples are copied into your home directory the first time you run *RTI Launcher* or any script in *<NDDSHOME>/bin*. This document refers to the location of the copied examples as *<path to examples>*.

Wherever you see *<path to examples>*, replace it with the appropriate path.

Default path to the examples:

- macOS systems: */Users/<your user name>/rti\_workspace/7.1.0/examples*
- Linux systems: */home/<your user name>/rti\_workspace/7.1.0/examples*
- Windows systems: *<your Windows documents folder>\rti\_workspace\7.1.0\examples*

Where 'your Windows documents folder' depends on your version of Windows. For example, on Windows 10, the folder is *C:\Users\<your user name>\Documents*.

Note: You can specify a different location for **rti\_workspace**. You can also specify that you do not want the examples copied to the workspace. For details, see *Controlling Location for RTI Workspace and Copying of Examples* in the *RTI Connex Installation Guide*.

## 2 Download Instructions

Download *Real-Time WAN Transport* from the RTI Customer Portal, accessible from <https://support.rti.com/>.

You will need your username and password to log into the portal; these are included in the letter confirming your purchase or license-managed (LM) copy. If you do not have this letter, please contact [license@rti.com](mailto:license@rti.com).

Once you have logged into the portal, select the **Downloads** link, then select the appropriate version of *Real-Time WAN Transport* for your platform. Download both of the following:

- **rti\_real\_time\_wan\_transport-7.1.0-host-<host platform>.rtipkg**

For example: **rti\_real\_time\_wan\_transport-7.1.0-host-x64Linux.rtipkg**.

- **rti\_real\_time\_wan\_transport-7.1.0-<target architecture>.rtipkg**

For example: **rti\_real\_time\_wan\_transport-7.1.0-target-x64Linux4gcc7.3.0.rtipkg**.

Architecture names are described in the [RTI Connex Core Libraries Platform Notes](#). See also the [RTI Real-Time WAN Transport Release Notes](#) for any updates.

Optionally, you can download and install *RTI Cloud Discovery Service* for use with *Real-Time WAN Transport*. *Cloud Discovery Service* is required if the *DomainParticipants* communicating over a WAN are behind cone NATs (see [RTI Real-Time WAN Transport](#) in the *RTI Connex Core Libraries User's Manual* for more information):

- **rti\_cloud\_discovery\_service-7.1.0-<host platform>.rtipkg**

For example: **rti\_cloud\_discovery\_service-7.1.0-x64Linux.rtipkg**.

If you are installing an LM package, the [RTI Real-Time WAN Transport](#) and [RTI Cloud Discovery Service](#) packages are included in a single bundle with the rest of *Connex*. The bundle is

named as follows: **rti\_connex\_tdds-<version>-lm-<target\_architecture>.<extension>**. For example: **rti\_connex\_tdds-7.1.0-lm-x64Win64VS2017.exe**.<sup>1</sup>

If you need help with the download process, contact **support@rti.com**.

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<sup>1</sup>The LM package also includes *RTI Security Plugins* and a prebuilt version of OpenSSL 3.0.8. If you wish to build your own version of OpenSSL 3.0.8, you can find the source code here: <https://www.openssl.org/source/>.



## 3 Installation Instructions

You do not need administrator privileges. All directory locations are meant as examples only; adjust them to suit your site. <NDDSHOME> is described in [1 Paths Mentioned in Documentation on page 1](#).

### 3.1 Installing a License-Managed (LM) Version

1. Install the *Connex* license-managed ("lm") bundle as described in the *Installing RTI Connex* chapter, in the [RTI Connex Installation Guide](#).

The installer places files into an **rti\_connex\_dds-6.x.y** directory, including the *Real-Time WAN Transport* functionality. Unlike with the regular version, the license-managed version does not require the installation of a separate *Real-Time WAN Transport* package.

2. If not already included, add <NDDSHOME>\lib<architecture> to your Path environment variable. For example (enter this on one line):

On Linux and macOS systems:

```
export PATH=<NDDSHOME>/lib/<architecture>:${PATH}
```

On Windows systems:

```
set PATH=<NDDSHOME>\lib\<architecture>;%PATH%
```

These commands set your Path environment variable temporarily. To set your path longer term, consult your operating system's documentation.

3. Your *Real-Time WAN Transport* distribution may require a license. See the *License Management* chapter, in the [RTI Connex Installation Guide](#).

After installing, see the *RTI Real-Time WAN Transport part* in the [RTI Connex Core Libraries User's Manual](#).

## 3.2 Installing a Regular Version

### 3.2.1 Installing on Windows Systems

1. Install the *Real-Time WAN Transport* host and target **.rtipkg** files on top of *RTI Connex*.

There are two ways to install these files: from *RTI Launcher* or from the command line.

#### To install from *RTI Launcher*:

- a. Start *RTI Launcher*:

```
cd <NDDSHOME>
bin\rtilauncher
```

- a. From the **Configuration** tab, click on **Install RTI Packages**.
- b. Use the + sign to add the **.rtipkg** files that you want to install.
- c. Click **Install**.

#### To install from the command line:

```
cd <NDDSHOME>\bin
.\rtipkginstall <path to .rtipkg file>
```

This will install files into the existing **rti\_connex\_dds-7.x.y** directory. The installer will put the *Real-Time WAN Transport* libraries in **<NDDSHOME>\lib<architecture>**.

2. If not already included, add **<NDDSHOME>\lib<architecture>** to your Path environment variable. For example (enter this on one line):

```
set PATH=<NDDSHOME>\lib<architecture>;%PATH%
```

This command sets your Path environment variable temporarily. To set your path longer term, consult your operating system's documentation.

3. To verify your installation, find the *Real-Time WAN Transport* library (*nddsrwt*) in **<install dir>\lib<target architecture>**.

See the [RTI Connex Core Libraries Platform Notes](#) for a list of the *Real-Time WAN Transport* libraries for your platform.

After installing, see the *RTI Real-Time WAN Transport part* in the [RTI Connex Core Libraries User's Manual](#).

### 3.2.2 Installing on Linux and Other Systems

1. Install the *Real-Time WAN Transport* host and target **.rtipkg** files on top of *RTI Connex*.

There are two ways to install these files: from *RTI Launcher* or from the command line.

**To install from RTI Launcher:**

- a. Start *RTI Launcher*:

```
cd <NDDSHOME>/bin
./rtilauncher
```

- a. From the **Configuration** tab, click on **Install RTI Packages**.
- b. Use the + sign to add the **.rtipkg** files that you want to install.
- c. Click **Install**.

**To install from the command line:**

```
cd <NDDSHOME>/bin
./rtipkginstall <path to .rtipkg file>
```

This will install files into the existing **rti\_connex\_dds-7.x.y** directory. The installer will put the *Real-Time WAN Transport* libraries in **<NDDSHOME>/lib/<architecture>**.

2. If the following are not already included in your path:
  - a. Add **<NDDSHOME>/bin** to your PATH environment variable:

```
export PATH=<NDDSHOME>/bin:$PATH
```

- b. Add **<NDDSHOME>/lib/<architecture>** to your library search path (pointed to by the LD\_LIBRARY\_PATH environment variable on Linux systems, DYLD\_LIBRARY\_PATH on macOS systems).

For example (enter this on one line):

```
export LD_LIBRARY_PATH=<NDDSHOME>/lib/<architecture>:${LD_LIBRARY_PATH}
```

These commands set your paths temporarily. To set them longer term, consult your operating system's documentation.

3. To verify your installation, find the *Real-Time WAN Transport* library (*libnndsrwt*) in **<install dir>/lib/<target architecture>**.

See the [RTI Connex Core Libraries Platform Notes](#) for a list of the *Real-Time WAN Transport* libraries for your platform.

After installing, see the *RTI Real-Time WAN Transport part* in the [RTI Connex Core Libraries User's Manual](#).

## 3.3 Installing Cloud Discovery Service (Optional)

Install *Cloud Discovery Service* from *RTI Launcher* or the command line just as you did above. For details, see the "Installation" chapter of the [RTI Cloud Discovery Service](#) documentation.

If you are installing a license-managed ("lm") bundle, which includes *Cloud Discovery Service*, follow the instructions in the *Installing RTI Connex* chapter, in the [RTI Connex Installation Guide](#).

## 4 Additional Documentation

The following documentation on *Real-Time WAN Transport* is provided with the *RTI Connex* distribution.

- Release Notes: `<NDDSHOME>/doc/manuals/addon_products/realtime_wan_transport/release_notes/RTI_RealTime_WAN_Transport_ReleaseNotes.pdf`
- User's Manual:  
`<NDDSHOME>/doc/manuals/connex_dds_professional/users_manual/RTI_ConnexDDS_CoreLibraries_UsersManual.pdf`
- API Reference HTML documentation: Under the **Modules** tab, navigate to **RTI Connex API Reference, Transports, Built-in Transport Plugins, Real-Time WAN Transport**.

`<NDDSHOME>` and `<path to examples>` are described in [1 Paths Mentioned in Documentation on page 1](#).