

RTI Secure WAN Transport

Installation Guide

Version 5.3.1



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Chapter 1 **Installation**

This document describes how to download and install *RTI® WAN Secure Transport* and other required components.

1.1 **Download Instructions**

Download *RTI Secure WAN Transport* from the RTI Support Portal, accessible from <https://support.rti.com/>.

Secure WAN Transport also requires OpenSSL. See the *RTI Secure WAN Transport Release Notes* for the version number. OpenSSL is available from RTI's Support Portal, or you may obtain it from another source.

You will need your username and password to log into the portal; these are included in the letter confirming your purchase or evaluation copy. If you do not have this letter, please contact license@rti.com.

Once you have logged into the portal, select the **Downloads** link, then select the appropriate version of *Secure WAN Transport* and OpenSSL for your platform.

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

- **RTI Secure WAN Transport:** The distribution file uses the naming convention, **rti_secure_wan-*<architecture>*.rtipkg**, where *<architecture>* will match your system architecture. System architecture names are described in the *RTI Secure WAN Transport Release Notes*. For example:
 - rti_secure_wan-sparcSol2.10gcc3.4.2.rtipkg
 - rti_secure_wan-i86Win32VS2013.rtipkg
- **OpenSSL:** Distribution files follow the naming convention, **openssl-*<version>*-*<architecture>*.tar.gz** (or **.zip** on Windows systems). The OpenSSL version number and architecture names are described in the *RTI Secure WAN Transport Release Notes*. For example:
 - openssl-*<version>*-sparcSol2.10gcc3.4.2.tar.gz
 - openssl-*<version>*-i86Win32VS2013.zip

2 **Paths Mentioned in Documentation**

The documentation refers to:

- **<NDDSHOME>**

This refers to the installation directory for *Connex DDS*.

The default installation paths are:

- Mac OS X systems:
/Applications/rti_connex_dds-version
- UNIX-based systems, non-*root* user:
/home/your user name/rti_connex_dds-version
- UNIX-based systems, *root* user:
/opt/rti_connex_dds-version
- Windows systems, user without Administrator privileges:
<your home directory>\rti_connex_dds-version
- Windows systems, user with Administrator privileges:
C:\Program Files\rti_connex_dds-version (for 64-bits machines) or
C:\Program Files (x86)\rti_connex_dds-version (for 32-bit machines)

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-version\bin\rtiddsgen"
```

or if you have defined the NDDSHOME environment variable:

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

- **RTI Workspace directory, *rti_workspace***

The RTI Workspace is where all configuration files for the applications and example files are located. All configuration files and examples are copied here the first time you run *RTI Launcher* or any script in <NDDSHOME>/bin. The default path to the RTI Workspace directory is:

- Mac OS X systems:
/Users/your user name/rti_workspace
- UNIX-based systems:
/home/your user name/rti_workspace
- Windows systems:
your Windows documents folder\rti_workspace

Note: '*your Windows documents folder*' depends on your version of Windows.

For example, on Windows 7, the folder is **C:\Users\your user name\Documents**; on Windows Server 2003, the folder is **C:\Documents and Settings\your user name\Documents**.

You can specify a different location for the **rti_workspace** directory. See the *RTI Core Libraries Getting Started Guide* for instructions.

- **<path to examples>**

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

By default, the examples are copied to **rti_workspace/version/examples**

So the paths are:

- Mac OS X systems:

/Users/*your user name*/rti_workspace/version/examples

- UNIX-based systems:

/home/*your user name*/rti_workspace/version/examples

- Windows systems:

***your Windows documents folder*\rti_workspace\version\examples**

Note: '*your Windows documents folder*' is described above.

You can specify that you do not want the examples copied to the workspace. See the *RTI Core Libraries Getting Started Guide* for instructions.

2.1 Installing on UNIX-Based Systems

All directory locations are meant as examples only; adjust them to suit your site. **<NDDSHOME>** is described in [Section 2](#).

1. Install *Secure WAN Transport* on top of *RTI Connex[®] DDS*. There are two ways to install it: from *RTI Launcher* or from the command line.

To install from RTI Launcher:

- a. Start *RTI Launcher*:

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

- b. From the Utilities tab, click on **RTI Package Installer**.
- c. Use the + sign to add the **.rtipkg** file that you want to install.
- d. 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-5.x.y** directory; including placement of the **rtiwanserver** application in **/bin**.

2. Include **\$NDDSHOME/bin** in your **PATH** environment variable, if it is not already included:

```
setenv PATH $NDDSHOME/bin:$PATH
```

3. In your **LD_LIBRARY_PATH** environment variable, include **\$NDDSHOME/lib/<architecture>** if it's not already included. For example (enter this on one line):

```
setenv LD_LIBRARY_PATH
    ${NDDSHOME}/lib/sparcSol2.10gcc3.4.2:${LD_LIBRARY_PATH}
```

4. To verify your installation, enter:

```
> rtiwanserver -help
```

You should see a response similar to:

```
Usage: rtiwanserver [options] ...
Options:
  -help                Display this information
  -address <string>   Server address (default: gethostname() output)
  -port <integer>     Server port (default: 3478)
  -verbosity <integer> Log verbosity [0-5] (default:1-exceptions -)
```

5. Install OpenSSL:

- a. Make sure you have GNU's version of the tar utility, **gtar** (which handles long file names), and GNU's version of the unzip utility, **gunzip**.
- b. Move the downloaded OpenSSL distribution file to a directory of your choice, such as **/local/rti**, and change to that directory:

```
cd /local/rti
```

- c. Use **gunzip** to uncompress the OpenSSL file. For example (your filename may be different):

```
gunzip openssl-<version>-sparcSol2.10gcc3.4.2.tar.gz
```

- d. Use **gtar** to extract the distribution from the uncompressed file. For example:

```
gtar xvf openssl-<version>-sparcSol2.10gcc3.4.2.tar
```

This will extract files into **/local/rti/openssl-<version>**.

- e. Include the resulting **bin** directory for OpenSSL in your PATH. For example, if you install OpenSSL in **/local/rti**, its **bin** directory will be here:

```
/local/rti/openssl-<version>/sparcSol2.10gcc3.4.2/release/bin
```

An example of setting the PATH is seen below (enter this on one line):

```
setenv PATH
    /local/rti/openssl-<version>/sparcSol2.10gcc3.4.2/release/bin:$PATH
```

- f. Include the resulting **lib** directory in your LD_LIBRARY_PATH. For example, assuming we want to use the "release" version of the OpenSSL libraries (enter this on one line):

```
setenv LD_LIBRARY_PATH /local/rti/openssl-<version>/
    sparcSol2.10gcc3.4.2/release/lib:${LD_LIBRARY_PATH}
```

- g. To verify your installation, enter:

```
openssl version
```

You should see a response similar to:

```
OpenSSL <version>
```

2.2 Installing on Windows Systems

You do not need administrator privileges. All directory locations are meant as examples only; adjust them to suit your site. <NDDSHOME> is described in [Section 2](#).

1. Install *Secure WAN Transport* on top of *RTI Connex*® *DDS*. There are two ways to install it: from *RTI Launcher* or from the command line.

To install from RTI Launcher:

- a. Start *RTI Launcher*:

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

- b. From the Utilities tab, click on **RTI Package Installer**.
- c. Use the + sign to add the **.rtipkg** file that you want to install.
- d. 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-5.x.y** directory; including placement of the **rtiwanserver** application in <NDDSHOME>\bin.

2. Add *RTI Secure WAN Transport*'s **bin** directory to your **Path** environment variable if it is not already included: %NDDSHOME%\bin.
3. Add *RTI Secure WAN Transport*'s **lib** directory to your **Path** environment variable if it is not already included: %NDDSHOME%\lib<architecture>, where <architecture> will match your system architecture.
4. To verify your installation, open a command prompt and enter:


```
rtiwanserver -help
```

You should see a response similar to:

```
Usage: rtiwanserver [options] ...
Options:
-help                Display this information
-address <string>   Server address (default: gethostname() output)
-port <integer>     Server port (default: 3478)
-verbosity <integer> Log verbosity [0-5] (default: 1-exceptions-)
```

5. Install OpenSSL:

- a. Right-click the distribution file and extract the contents in a directory of your choice.
- b. Add the resulting **bin** directory for OpenSSL to your **Path** environment variable. For example, if you install OpenSSL in **c:\rti**, its **bin** will be here:

```
c:\rti\openssl-<version>\<architecture>\release\bin
```

- c. To verify your installation, open a command prompt and enter:

```
openssl version
```

You should see a response similar to:

```
OpenSSL <version>
```

2.3 Additional Documentation

The following documentation on *Secure WAN Transport* is provided with the *Connex DDS* distribution.

- *RTI Core Libraries User's Manual*
`<NDDSHOME>/doc/manuals/connex_dds/RTI_ConnextDDS_CoreLibraries_UsersManual.pdf`
- API Reference HTML documentation:
`<NDDSHOME>/doc/api/connex_dds/secure_wan_transport/index.html`
- Example code:
`<path to examples>/connex_dds/<language>/hello_world_wan`

`<NDDSHOME>` and `<path to examples>` are described in [Section 2](#).