

RTI Limited Bandwidth Endpoint Discovery Plugin

Release Notes

Version 7.0.0



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Release Notes

1 Supported Platforms

See the column for LBED (*Limited Bandwidth Endpoint Discovery*) in the table of [Supported Platforms for Compiler-Dependent Products, in the RTI Connex Core Libraries Release Notes](#).

2 Requirements when Using Microsoft Visual Studio

You must have the appropriate Visual Studio® Redistributable Package installed on the machine where you are *running* an application linked with dynamic libraries. For details, see the [RTI Connex Core Libraries Platform Notes](#).

3 Compatibility

The LBED plugin is an optional product for use with *RTI® Connex®* with the same version number.

The plugin is not fully tested and supported in combination with *RTI DDS Spy (rtiddspy)*, *RTI Recording Service*, *RTI Shapes Demo*, *RTI Persistence Service*, or *RTI Database Integration Service*.

For backward compatibility information between 7.0.0 and previous releases, see the *Migration Guide* on the RTI Community Portal (<https://community.rti.com/documentation>).

4 What's New in 7.0.0

4.1 DDS-XML format for Limited Bandwidth Endpoint Discovery Plugin

The *Limited Bandwidth Endpoint Discovery* (LBED) plug-in uses an XML file to statically specify the QoS (and other information, such as the *Topic* or type being used) of the endpoints that should be "discovered." However, in previous versions, this XML (the way to specify the configuration, the labels, the schema, etc.) did not follow the OMG's [DDS Consolidated XML Syntax](#) (DDS-XML), unlike other RTI elements such as `USER_QOS_PROFILES.xml`, `XML-`

Based Application Creation, or *RTI System Designer*. This created in the RTI ecosystem the coexistence of two different ways to define DDS systems using XML: the standardized one used by most tools and the one that only LBED uses.

Since it is possible to represent the LBED configuration using DDS-XML, this release has updated the LBED plugin to follow the DDS-XML standard. This way, if you already have a DDS-XML description of your system, it can be used directly for LBED, without needing to translate it to another schema. If you don't have the DDS-XML description of your system, now you can create it using *RTI System Designer*: the resultant XML file will be compatible with LBED.

The usage of the DDS-XML standard gives the plug-in more flexibility in specifying QoS for your endpoints: QoS libraries and profiles (including the built-in ones) can be used. Also, it is possible to take advantage of the inheritance between profiles.

While improving the LBED XML configuration, other changes were made to improve ease of use and LBED functionality:

- In previous versions of the plugin, a separate XML file was required for specifying the LBED information of the endpoints that needed to be discovered. Now, the usage of an external XML file is optional and it is possible to specify the LBED information in the same XML file in which you specify the QoS policies of your entities (e.g., **USER_QOS_PROFILES.xml**). In this way, **USER_QOS_PROFILES.xml** could act as an “XML database of DDS Entities”, containing information of a local application's entities (like their QoS profiles or *XML-Based Application Creation* definitions) as well as the information that the plug-in requires of other applications' entities that need to be discovered.
- In addition to the LBED properties, in the new version of the plugin there is an alternative way of enabling the LBED plugin for a *DomainParticipant* that requires fewer changes in the configuration: setting the Builtin Discovery Plugins mask with the DPSE (**D**ynamic **P**articipant discovery, **S**tatic **E**ndpoint discovery) value.
- When LBED is used, you need to manually define an RTPS object ID for each endpoint in the application. Now, if you use *XML-Based Application Creation* in your applications, you don't need to specify the RTPS object ID; the new version of LBED is able to automatically determine the corresponding RTPS Object ID of each endpoint.
- In previous versions of the plug-in, the `TRANSPORT_MULTICAST` and `TRANSPORT_UNICAST` QoS policies only supported the UDPv4 transport. Now, both QoS policies support all *Connex* builtin transport plugins:
 - Multicast supports UDPv4 and UDPv6.
 - Unicast supports UDPv4, UDPv6, and SHMEM. It also supports the *RTI Real-Time WAN Transport* (UDPv4_WAN).

4.2 RTI Limited Bandwidth Endpoint Discovery Plugin now Included with Purchase of Some Bundles

- RTI has improved the debuggability of the LBED plugin with more meaningful log messages and the usage of Activity Contexts.

To learn more about how the new LBED plug-in works and its features, see [RTI Limited Bandwidth Endpoint Discovery Plugin User's Manual](#). The new "Getting Started" chapter guides you step by step to modify a generated *Connex*t project to use the *Limited Bandwidth Endpoint Discovery* plugin.

4.2 RTI Limited Bandwidth Endpoint Discovery Plugin now Included with Purchase of Some Bundles

In release 7.0.0, the new and improved *RTI Limited Bandwidth Endpoint Discovery Plugin* (LBED) (see [4.1 DDS-XML format for Limited Bandwidth Endpoint Discovery Plugin on page 1](#)) is now included with the purchase of some bundles, including *Connex*tProfessional. It is still installed separately. See the [RTI Limited Bandwidth Endpoint Discovery Plugin Installation Guide](#).

If you need to use the LBED plugin in production, it is available in *Connex*t 6.1.1 LTS or earlier with *RTI Limited Bandwidth Plugins* (an add-on product). The LBED enhancements in release 7.0.0 (see [4.1 DDS-XML format for Limited Bandwidth Endpoint Discovery Plugin on page 1](#)) will be available in a future official product release.

5 Limitations

See the "Limitations" section in the "Using LBED" chapter of the [RTI Limited Bandwidth Endpoint Discovery Plugin User's Manual](#).

6 Known Issues

Note: For an updated list of critical known issues, see the Critical Issues List on the RTI Customer Portal at <https://support.rti.com>.

See also the "Known Issues" section in the "Using LBED" chapter of the [RTI Limited Bandwidth Endpoint Discovery Plugin User's Manual](#).

6.1 Some QoS not Supported

The following *DataWriter* and *DataReader* QoSs are known not to be supported in the plugin's implementation; this will be addressed in a future release:

- AvailabilityQosPolicy
- TypeConsistencyEnforcementQosPolicy
- DataRepresentationQosPolicy
- DataTagQosPolicy

- EntityNameQosPolicy
- DataReaderProtocolQosPolicy::expects_inline_qos

See the "Using LBED" chapter of the [RTI Limited Bandwidth Endpoint Discovery Plugin User's Manual](#) for a list of "Supported QoS."

6.2 Some Features not Supported

- Security
- Custom content filters
- Writer-side content filtering

6.3 Some Information not Propagated in Static Endpoint Discovery

LBED does not populate the following remote endpoints' information when registering them (i.e., they won't be available in the Publication/Subscription BuiltinTopicData):

- TypeCode
- LocatorFilterQosPolicy

7 Available Documentation

The following documentation is provided with *Limited Bandwidth Endpoint Discovery Plugin*:

- Installation Guide:
`<NDDSHOME>/doc/manuals/addon_products/limited_bandwidth_endpoint_disc/RTI_LimitedBandwidth_EndpointDiscoveryPlugin_InstallationGuide.pdf`
- User's Manual:
`<NDDSHOME>/doc/manuals/addon_products/limited_bandwidth_endpoint_disc/RTI_LimitedBandwidth_EndpointDiscoveryPlugin_UsersManual.pdf`
- Example code:
`<path to examples>/connext_dds/c++11/limited_bandwidth_plugins/lbediscovery`

`<NDDSHOME>` refers to the installation directory for *Connext*.

`<path to examples>` is `/home/<your user name>/rti_workspace/version/examples` for Linux® and `<your Windows documents folder>\rti_workspace\version\examples` for Windows®.

See "Paths Mentioned in Documentation" in the [RTI Limited Bandwidth Endpoint Discovery Plugin User's Manual](#).