RTI CORBA Compatibility Kit

Release Notes

Version 5.2.0
Release Notes

## 1 Supported Platforms

*RTI® CORBA Compatibility Kit* is supported on the following architectures:

- **ACE 6.0.1 - TAO 2.0.1**

<table>
<thead>
<tr>
<th>Operating System</th>
<th>CPU</th>
<th>Compiler</th>
<th>RTI Architecture Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fedora® 12 (kernel 2.6.32)</td>
<td>x64</td>
<td>gcc 4.4.4</td>
<td>x64Linux2.6gcc4.4.4</td>
</tr>
<tr>
<td>Fedora 12 (kernel 2.6.32) with gcc 4.5.1</td>
<td>x64</td>
<td>gcc 4.5.1, glibc 2.9</td>
<td>x64Linux2.6gcc4.5.1</td>
</tr>
<tr>
<td>Fedora 12 (kernel 2.6.32) with gcc 4.5.1</td>
<td>Cell BE™</td>
<td>gcc 4.5.1, glibc 2.9</td>
<td>cell64Linux2.6gcc4.5.1</td>
</tr>
<tr>
<td>SELinux (kernel v2.6.32)</td>
<td>PPC 4xxFP</td>
<td>gcc 4.5.1, glibc 2.9</td>
<td>ppc4xxFPLinux2.6gcc4.5.1</td>
</tr>
</tbody>
</table>

- **ACE 5.6a - TAO 1.6a**

<table>
<thead>
<tr>
<th>Operating System</th>
<th>CPU</th>
<th>Compiler</th>
<th>RTI Architecture Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Hat® Enterprise Linux 5.1, 5.2, 5.4, 5.5</td>
<td>x86</td>
<td>gcc 4.1.2</td>
<td>i86Linux2.6gcc4.1.2</td>
</tr>
<tr>
<td>Red Hat Enterprise Linux 5.2 with Real-Time Extensions</td>
<td>x86</td>
<td>gcc 4.1.2</td>
<td>i86Linux2.6gcc4.1.2</td>
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<tr>
<td>LynxOS® LynxOS 5.0</td>
<td>PPC 7400</td>
<td>gcc 3.4.3</td>
<td>ppc7400Lynx5.0.gcc3.4.3</td>
</tr>
</tbody>
</table>
2 Compatibility with CORBA

When used with the `-corba` option, `rtiddsgen` generates type-specific code that is compatible with the OMG CORBA-IDL mapping. As a result, the generated code will be compatible with a large set of CORBA distributions. RTI tests compatibility against the OCI CORBA source-code distribution for C++, JacORB for Java, and ACE+TAO from the Distributed Object Computing (DOC) Group for Distributed Real-time and Embedded (DRE).

This version of CORBA Compatibility Kit is intended for RTI Connext DDS with the same version number and:

- The DOC Group’s distribution of ACE 6.0.1 - TAO 2.0.1 for C++ for the architectures listed in Section 1. (http://download.dre.vanderbilt.edu/)
- OCI’s distribution of ACE 5.6a - TAO 1.6a for C++ for the architectures listed in Section 1. (http://www.theaceorb.com/downloads/index.html)
- JacORB 2.2.4 for Java for architectures listed in Section 1. (http://www.jacorb.org/download.html)

Please see the RTI Connext™ DDS Core Libraries Platform Notes for more information on these supported architectures, including their required system libraries, compiler flags, etc.

<table>
<thead>
<tr>
<th>Operating System</th>
<th>CPU</th>
<th>Compiler</th>
<th>RTI Architecture Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CentOS 5.4, 5.5</td>
<td>x86</td>
<td>gcc 4.1.2</td>
<td>i86Linux2.6gcc4.1.2</td>
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<td>x64</td>
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<td>x64Linux2.6gcc4.1.2</td>
</tr>
<tr>
<td>CentOS 6.0, 6.2 - 6.4</td>
<td>x86</td>
<td>gcc 4.4.5</td>
<td>i86Linux2.6gcc4.4.5</td>
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<tr>
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<td>x64</td>
<td>gcc 4.4.5</td>
<td>x64Linux2.6gcc4.4.5</td>
</tr>
<tr>
<td>Red Hat Enterprise Linux 5.0</td>
<td>x86</td>
<td>gcc 4.1.1</td>
<td>i86Linux2.6gcc4.1.1</td>
</tr>
<tr>
<td></td>
<td>x64</td>
<td>gcc 4.1.1</td>
<td>x64Linux2.6gcc4.1.1</td>
</tr>
<tr>
<td>Red Hat Enterprise Linux 5.1, 5.2, 5.4, 5.5</td>
<td>x86</td>
<td>gcc 4.1.2</td>
<td>i86Linux2.6gcc4.1.2</td>
</tr>
<tr>
<td></td>
<td>x64</td>
<td>gcc 4.1.2</td>
<td>x64Linux2.6gcc4.1.2</td>
</tr>
<tr>
<td>Red Hat Enterprise Linux 6.0 - 6.5</td>
<td>x86</td>
<td>gcc 4.4.5</td>
<td>i86Linux2.6gcc4.4.5</td>
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<td>x64</td>
<td>gcc 4.4.5</td>
<td>x64Linux2.6gcc4.4.5</td>
</tr>
<tr>
<td>Red Hat Enterprise Linux 7</td>
<td>x86</td>
<td>gcc 4.8.2</td>
<td>i86Linux3gcc4.8.2</td>
</tr>
<tr>
<td></td>
<td>x64</td>
<td>gcc 4.8.2</td>
<td>x64Linux3gcc4.8.2</td>
</tr>
<tr>
<td>SUSE® Linux Enterprise Server 11 SP2 (3.x kernel)</td>
<td>x86</td>
<td>gcc 4.3.4</td>
<td>i86Linux3gcc4.3.4</td>
</tr>
<tr>
<td>SUSE Linux Enterprise Server 11 SP2. SP3 (2.6 kernel)</td>
<td>x64</td>
<td>gcc 4.3.4</td>
<td>x64Linux2.6gcc4.3.4</td>
</tr>
<tr>
<td>Ubuntu 14</td>
<td>x86</td>
<td>gcc 4.8.2</td>
<td>i86Linux3gcc4.8.2</td>
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<tr>
<td></td>
<td>x64</td>
<td>gcc 4.8.2</td>
<td>x64Linux3gcc4.8.2</td>
</tr>
<tr>
<td>Solaris™</td>
<td>All Solaris architectures listed in the RTI Connext DDS Core Libraries Release Notes</td>
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</tr>
<tr>
<td>Windows®</td>
<td>All Windows architectures listed in the RTI Connext DDS Core Libraries Release Notes</td>
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</tr>
</tbody>
</table>
3 What’s New in 5.2.0

- Added support for Windows 8/8.1, Windows Server 2012 R2, Red Hat Enterprise Linux 6.5 and 7, Ubuntu 14, and SUSE 11 SP3 (x64)
- Removed support for AIX, Windows Vista, and Windows XP platforms

4 What’s Fixed in 5.2.0

4.1 Visual Studio Compiler Crashed when Using Generated C++ Code for CORBA

The generated C++ code for CORBA made the Visual Studio compiler crash. This issue has been resolved. Please note that Visual Studio and Windows are not officially supported for CORBA ACE/TAO.

[RTI Issue ID CODEGEN-670]

5 Additional Instructions for LynxOS 5.0 and OCI ACE 5.6a - TAO 1.6a

If you are building for Lynx target version 5.0.0 and using the OCI ACE 5.6a - TAO 1.6a package, you will need to make the following change:

In `ACE_wrappers/include/makeinclude/platform_lynxos.GNU` (line #110), replace:

```
LIBS     += -lnetinet -lnsl
```

with:

```
ifeq (5.0.0,$(VERSION))
  LIBS     += -lnetinet
else
  LIBS     += -lnetinet -lnsl
endif
```

The above modification omits the `libnsl` library for version 5.0.0. This change is needed because according to LinuxWorks, the Name Service library (`libnsl`) is not supported in Lynx 5.0.0. Including `libnsl` will cause a link error when building for CORBA.

6 Known Issues

6.1 Unsupported IDL Types

When using `rtiddsgen` with the `-corba` option, some IDL types are not supported. For more information about supported IDL types, see the Data Types and Data Samples chapter in the RTI Connext DDS Core Libraries User’s Manual.

6.2 Extensible Types Not Supported

`RTI CORBA Compatibility Kit` does not support the "Extensible and Dynamic Topic Types for DDS" (DDS-XTypes) specification from the Object Management Group (OMG).
Specifically, **RTI CORBA Compatibility Kit** does not support the following features:

- Optional members
- Mutable types
- Extensible types. You may still mark a type as Extensible using the Extensibility annotation. However, both the `DataWriter` and `DataReader` must have the same type definition to interoperate. For example:

```
DataWriter:
struct BaseType {
    long m1;
};

DataReader:
struct DerivedType {
    long m1;
    long m2;
};
```

When using **RTI CORBA Compatibility Kit**, the `DataWriter` and `DataReader` above will match. However, the `DataReader` will fail to deserialize the samples from the `DataWriter`.

[RTI Issue ID CORE-6247]

### 6.3 LNK2005 Error When Using an ACE-TAO Class that Inherits from a Template Base Class (Windows Only)

If you create a Windows DLL that uses an ACE-TAO class, and that class inherits from a template base class, you may see a LNK2005 error complaining about one or more multiple defined symbols.

This is a known issue when using Microsoft Visual Studio. Please see [http://support.microsoft.com/default.aspx?scid=kb;en-us;309801](http://support.microsoft.com/default.aspx?scid=kb;en-us;309801) for more information.

As a possible workaround, you can explicitly import the template base class in the IDL file using the `@copy-c-declaration` directive. For example, if you see the following error:

```
TAO.lib(TAO.dll): error LNK2005: "public: class TAO_Unbounded_Sequence<unsigned short> & __thiscall TAO_Unbounded_Sequence<unsigned short>::operator=(class TAO_Unbounded_Sequence<unsigned short> const &)
(??4?$TAO_Unbounded_Sequence@G@@QA>>EAAV0@ABV0@@Z) already defined in SendData.obj TAO.lib(TAO.dll) : error LNK2005: "public: unsigned short const * __thiscall TAO_Unbounded_Sequence<unsigned short>::get_buffer(void)const
(?get_buffer@?$TAO_Unbounded_Sequence@G@@QBE@XZ) already defined in SendDataPlugin.obj TAO.lib(TAO.dll) : error LNK2005: "public: unsigned short * __thiscall TAO_Unbounded_Sequence<unsigned short>::get_buffer(bool)
(?get_buffer@?$TAO_Unbounded_Sequence@G@@QEP@N) already defined in SendDataPlugin.obj
```

You can add the following line at the beginning of your IDL file:

```
//@copy-c-declaration template class __declspec(dllimport) TAO_Unbounded_Sequence<unsigned short>;
```