RTI CORBA Compatibility Kit

Release Notes

Version 6.0.1
Trademarks
RTI, Real-Time Innovations, Connext, NDDS, the RTI logo, 1RTI and the phrase, “Your Systems. Working as one,” are registered trademarks, trademarks or service marks of Real-Time Innovations, Inc. All other trademarks belong to their respective owners.

Copy and Use Restrictions
No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form (including electronic, mechanical, photocopy, and facsimile) without the prior written permission of Real-Time Innovations, Inc. The software described in this document is furnished under and subject to the RTI software license agreement. The software may be used or copied only under the terms of the license agreement.

This is an independent publication and is neither affiliated with, nor authorized, sponsored, or approved by, Microsoft Corporation.

The security features of this product include software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/).

Technical Support
Real-Time Innovations, Inc.
232 E. Java Drive
Sunnyvale, CA 94089
Phone: (408) 990-7444
Email: support@rti.com
Website: https://support.rti.com/
Contents

1 Supported Platforms .................................................................................................................. 1
2 Compatibility with CORBA ........................................................................................................... 3
3 Additional Instructions for LynxOS 5.0 and OCI ACE 5.6a - TAO 1.6a ........................................ 4
4 Additional Instructions for gcc 4.8 ............................................................................................ 5
5 What’s New in 6.0.1
   5.1 New platforms ...................................................................................................................... 6
   5.2 Removed platforms ................................................................................................................ 6
6 Previous Releases
   6.1 What’s New in 6.0.0 ............................................................................................................... 7
   6.2 What’s Fixed in 6.0.0 ............................................................................................................. 8
      6.2.1 Deserialization error in unions without default discriminator when using JacORB 3.x ..... 8
      6.2.2 Linking errors for generated example using ACE-TAO ..................................................... 8
7 Known Issues
   7.1 Unsupported IDL Types ........................................................................................................... 10
   7.2 Extensible Types Not Supported .......................................................................................... 10
1 Supported Platforms

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

**Table 1.1 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>LynxOS® 5.0</td>
<td>PPC 7400</td>
<td>gcc 3.4.3</td>
<td>ppc7400Lynx5.0.0gcc3.4.3</td>
</tr>
</tbody>
</table>

**Table 1.2 ACE 6.0a - TAO 2.0a**

<table>
<thead>
<tr>
<th>Operating System</th>
<th>CPU</th>
<th>Compiler</th>
<th>RTI Architecture Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CentOS™ 7.0</td>
<td>x86</td>
<td>gcc 4.8.2</td>
<td>i686Linux3gcc4.8.2</td>
</tr>
<tr>
<td>Red Hat® Enterprise Linux® 7.0, 7.3, 7.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ubuntu® 14.04 LTS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 1.3 ACE 6.4.1 + TAO 2.4.1**

<table>
<thead>
<tr>
<th>Operating System</th>
<th>CPU</th>
<th>Compiler</th>
<th>RTI Architecture Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CentOS 6.0, 6.2-6.4</td>
<td>x64</td>
<td>gcc 4.4.5</td>
<td>x64Linux2.6gcc4.4.5</td>
</tr>
<tr>
<td>Red Hat Enterprise Linux® 6.0 - 6.5, 6.7, 6.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CentOS 7.0</td>
<td>x64</td>
<td>gcc 4.8.2</td>
<td>x64Linux3gcc4.8.2</td>
</tr>
<tr>
<td>Red Hat Enterprise Linux® 7.0, 7.3, 7.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ubuntu 14.04 LTS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 1.4 Java (JacORB 3.3)

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linux</td>
<td>All Linux platforms on x86/x64 CPUs listed in the RTI Connext DDS Core Libraries Release Notes for the same version number, except Wind River® Linux 7.</td>
</tr>
<tr>
<td>Solaris™</td>
<td>All Solaris platforms listed in the RTI Connext DDS Core Libraries Release Notes for the same version number. Note: Solaris platforms are only available by request.</td>
</tr>
<tr>
<td>Windows®</td>
<td>All Windows platforms listed in the RTI Connext DDS Core Libraries Release Notes for the same version number.</td>
</tr>
</tbody>
</table>

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.
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:

- ACE 5.6a - TAO 1.6a for C++ for the platforms in Table 1.1 ACE 5.6a - TAO 1.6a.
- ACE 6.0a - TAO 2.0a for C++ for the platforms in Table 1.2 ACE 6.0a - TAO 2.0a.
- ACE 6.4.1 - TAO 2.4.1 for C++ for the platforms in Table 1.3 ACE 6.4.1 + TAO 2.4.1.
- JacORB 3.3 for Java for the platforms in Table 1.4 Java (JacORB 3.3) on page 2.

Download the CORBA Compatibility Kit and OCI’s distribution of TAO or JacORB distributions from the RTI Support Portal, accessible from https://support.rti.com/. See the RTI Corba Compatibility Kit Installation Guide for instructions.

For backward compatibility information between 6.0.1 and previous releases, see the Migration Guide on the RTI Community Portal (https://community.rti.com/documentation).
3 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 \texttt{libnsl} library for version 5.0.0. This change is needed because according to LinuxWorks, the Name Service library (\texttt{libnsl}) is not supported in Lynx 5.0.0. Including \texttt{libnsl} will cause a link error when building for CORBA.
4 Additional Instructions for gcc 4.8

The 'as-needed' behavior in gcc 4.8 differs from earlier versions. You may need to add the following to platform_macros.GNU:

```
LDFLAGS += -Wl,--no-as-needed
```
5 What’s New in 6.0.1

5.1 New platforms

This release adds support for these platforms:

- Red Hat Enterprise Linux 8 (x64) for JacORB 3.3.
- Windows 10 (x86, x64) with Visual Studio® 2019
- Windows Server 2016 (x86, x64) with Visual Studio 2019

5.2 Removed platforms

These platforms are no longer supported:

- Windows 7
- Windows Server 2008 R2
6 Previous Releases

6.1 What’s New in 6.0.0

This release adds support for the following platforms:

Table 6.1 ACE 6.0a - TAO 2.0a

<table>
<thead>
<tr>
<th>Operating System</th>
<th>CPU</th>
<th>Compiler</th>
<th>RTI Architecture Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CentOS™ 7.0</td>
<td>x86</td>
<td>gcc 4.8.2</td>
<td>i686Linux3gcc4.8.2</td>
</tr>
<tr>
<td>Red Hat® Enterprise Linux® 7.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ubuntu® 14.04 LTS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6.2 ACE 6.4.1 - TAO 2.4.1

<table>
<thead>
<tr>
<th>Operating System</th>
<th>CPU</th>
<th>Compiler</th>
<th>RTI Architecture Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CentOS 7.0</td>
<td>x64</td>
<td>gcc 4.8.2</td>
<td>x64Linux3gcc4.8.2</td>
</tr>
<tr>
<td>Red Hat Enterprise Linux® 7.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ubuntu 14.04 LTS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CentOS 6.0, 5.2-6.4</td>
<td>x64</td>
<td>gcc 4.4.5</td>
<td>x64Linux2.6gcc4.4.5</td>
</tr>
<tr>
<td>Red Hat Enterprise Linux 6.0-6.5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Platforms that used to be supported with JacORB 2.2.4 are now supported with JacORB 3.3 instead.

In addition, support has been added for these platforms when using JacORB 3.3:
### 6.2 What's Fixed in 6.0.0

#### 6.2.1 Deserialization error in unions without default discriminator when using JacORB 3.x

Although JacORB 3.x was not officially supported in previous releases, if you had tried to use it with a union type without a default discriminator (see type below), the DataReader would have printed deserialization errors and the samples would not have been provided to the application.

Unions with a boolean discriminator and case values for TRUE and FALSE were not affected. Unions with an enum discriminator with a case value for each possible enum value were not affected.

```c
union CharUnion switch (char) {
  case 'B':
    octet octet_mem;
  case 'S':
    short short_mem;
  /* There is no default discriminator */
};

struct StructWithUnion {
  CharUnion member_1;
};
```

This problem has been resolved.

[RTI Issue ID CODEGEN-827]

#### 6.2.2 Linking errors for generated example using ACE-TAO

The compilation of the generated example (using the -example flag) for the Corba Compatibility Kit and ACE-TAO may have failed with linking errors if you did not use the command-line option -orb when generating the example code.

For example, the example generated with this command line failed to compile:
6.2.2 Linking errors for generated example using ACE-TAO

The example generated with this command line did compile:

```
./scripts/rtiddsgen -corba MyTypeC.h -example ppc7400Lynx5.0.0gcc3.4.3 MyType.idl
```

This problem has been fixed. Now the first example will compile.

[RTI Issue ID CODEGEN-834]
7 Known Issues

7.1 Unsupported IDL Types

When using riiddsgen 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.

7.2 Extensible Types Not Supported

CORBA Compatibility Kit support for the "Extensible and Dynamic Topic Types for DDS" (DDS-XTypes) specification from the Object Management Group (OMG) is very limited. For details, see the "Supported IDL Types" chapter in the RTI Connext DDS Core Libraries User's Manual (see the section "Support for Extensible Types").