



# ***MÄK RTI 1.3.6-ngc Release Notes***

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This document provides the following release-specific information for MÄK RTI 1.3.6-ngc:

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## Overview

MÄK RTI 1.3.6-ngc is an implementation of a subset of the HLA Interface Specification, version 1.3.

## Licensing Requirements

Although the MÄK RTI is provided to customers without charge, it requires a license. This license is not necessarily included with the license we provide for products you purchase from us. You can generate a license for the MÄK RTI on our web site at: [http://www.mak.com/rti\\_license.htm](http://www.mak.com/rti_license.htm).

MÄK RTI 1.3.6-ngc includes the new RTI Spy GUI and plug-in API. These features are licensed separately. For information about licensing the RTI Spy, contact [info@mak.com](mailto:info@mak.com).

## Supported Systems

Table 1 lists the platforms supported by the MÄK RTI 1.3.6-ngc. Please contact MÄK if you need it for another platform. Application code must be built with the indicated compilers in order to link to the MÄK RTI libraries.

Table 1: Platforms supported

| Platform                                      | Compiler                                                                                                                                                                    |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SGI IRIX6.5                                   | MipsPro7.2.1 C++ compiler (available from SGI)                                                                                                                              |
| Sun Sparcstation with Solaris2.7 or later     | SPARCompiler C++ version 5.2 (available from Sun)                                                                                                                           |
| PC with Red Hat Linux 6.0 (Linux 2.2.16-3)    | GNU C++ (g++) distributed with Red Hat distribution. The command: <code>g++ -v</code> returns:<br><code>gcc version egcs-2.91.66 19990314/Linux (egcs-1.1.2 release)</code> |
| PC with Windows NT 4.0, Windows 95/98/2000/XP | Microsoft Visual C++ 6.0.                                                                                                                                                   |

MÄK RTI 1.3.6-ngc is built against VR-Link 3.7.1-ngc.

## ***Backwards Compatibility***

In this release, the underlying protocols and wire formats for internal RTI communications have changed. Therefore, the MAK RTI 1.3.6-ngc libraries are not run-time compatible with previous versions. All federates should use the same version when operating within the same federation (or using the same rtiexec). However, the MAK RTI 1.3.6-ngc is link compatible with previous versions, so a federate does not need to be recompiled to use this version.

## ***Network Compatibility***

The MÄK RTI is not network compatible with the DMSO RTI. (In general, no two RTI implementations are network compatible, due to differences in the low-level network mechanisms that they use (which include, but are not limited to packet layout.)) Applications that want to interoperate in the same federation execution must all use the same RTI implementation. A federation can easily switch from one RTI implementation to another between runs, but during each run, all participants must agree on which RTI to use, much as they must also agree on which FOM to use.

## ***Compatibility with the DMSO RTI***

With the exception of one additional function (`RtReadFileDescriptor()`, described in MÄK RTI documentation), the MÄK RTI 1.3.6-ngc has the exact same API as the DMSO RTI 1.3 NG v1, v2, v3.0, v3.2, and v4.0. Unless you are using this optional function, an application built against the DMSO RTI NG does not need to be recompiled in order to be used with the MÄK RTI 1.3.6-ngc, or vice versa.

MÄK RTI 1.3.6-ngc uses the same FED file format as the DMSO RTI, but a different RID file format. (RID file formats depend on the RTI-implementation.)

## ***New Features***

The principal new feature in MÄK RTI 1.3.6-ngc is the introduction of the MÄK RTI Spy plug-in API. The MÄK RTI Spy is a flexible plug-in API for the MÄK RTI and has an accompanying LRC GUI. The RTI Spy allows you to reach into the RTI and monitor or alter its functionality. It gives you the power to debug connectivity problems, monitor network messages, and customize behaviors. The RTI Spy package also includes a GUI version of the `rtiexec`.

The RTI Spy GUI is a MÄK RTI plug-in built with the RTI Spy API. It allows you to view the RTI-related information for each Local RTI Component (LRC). In the LRC viewer you can:

- View the objects that the LRC knows about
- View the interactions it has sent and received
- View the current state of all FOM subscriptions and publications
- View network configuration
- View RID parameters
- View a log of the federate-ambassador-invoked and RTI-ambassador-invoked method calls.

The MÄK RTI Spy is documented in *MÄK RTI Reference Manual*.

## ***Documentation Updates***

*MÄK RTI Reference Manual* has been updated for this release. The updated manual is provided as a PDF file in the `./doc` directory. It includes full documentation of the RTI Spy as well as updates to general use of the MÄK RTI. Class documentation for the RTI Spy is provided in HTML format. The starting page for class documentation is `./doc/rtispyclassdoc.htm`.

## ***Fixed Bugs***

This release fixes the following problems in previous releases:

- ♦ A late joining federate would not discover an existing object instance unless the late joiner subscribed to the object's actual class (that is, registered class). Existing object instances are now discovered by late joiners when the object's actual class or a super class is subscribed.
- ♦ The RTI would throw an unexpected `ValueCountExceeded` during tick processing in certain conditions. The federate would have to subscribe to a subset of a classes attributes and receive updates with some attributes in the subscribed set and some not in the subscribed set. The exceptions caused by these subset subscriptions were eliminated.
- ♦ When using the `rtiexec`, two federates that have the same type (or name) that join simultaneously could both receive the same federate handle. The join and join response messages to the `rtiexec` have been changed to uniquely identify the federate during the join protocol. However, this change to the internal message protocol breaks network computability with previous RTI versions.
- ♦ `Rtidump` no longer prints garbage values for attribute values on little-endian machines.

## ***Known Problems***

This release has the following known problems:

- ♦ The RTI can sometimes fail to throw an "ObjectAlreadyRegistered" exception if a federate tries to register an object with a name that is already being used by another object. The federate can register an object using a name that belongs to another object that is unknown to the local RTI component (LRC). The LRC only maintains the names of objects that are registered or discovered by the federate. While we plan to fix this problem, a good preventive measure is to always subscribe and tick the RTI before registering objects.
- ♦ If you are using the Linux version of the MÄK RTI Spy with versions of MÄK products earlier than the most recent releases, the MÄK products may crash. If this happens, contact MÄK technical support and we will provide you with a fix for your application.

