MAK RTI 4.6.1 Release Notes

This release note contains the following release-specific information for MAK RTI 4.6.1.

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Systems Supported and System Requirements

For information about platform and system support, see the Product Specifications & Dependencies page on the MAK website at: https://www.mak.com/mak-one/support/help/specs.

For hardware requirements, see https://www.mak.com/mak-one/support/help/hardware-recommendations.

To use MAK RTI for VC14, compile with VS2015 Update 2 or later.

The MAK RTI supports Java on all platforms. We build using Java 8, but use Java 6 compliance levels. The MAK RTI is built using the Oracle JDK, but should work with all JDKs. The version of the JVM that you are using must match the bit level of the RTI that you are running (32 or 64).

Compiler Compatibility on Windows

MAK provides versions of product releases that have been compiled with different versions of Microsoft Visual C++. MAK ONE products built with VC 14 and later are binary compatible and will work together. Products compiled with VC 12 and earlier can experience instability when used in conjunction with products built with different compiler versions. When you run MAK ONE products together on the same computer, for example, the Logger and VR-Vantage, we strongly recommend that you run versions compiled with the same compiler or binary compatible compilers.

Disk Space Requirements

A full installation of MAK RTI requires approximately 1.2 GB of disk space.

License Manager

MAK RTI 4.6.1 uses FLEXlm 11.17.1. You must install the license management software to run MAK RTI.

The MAK License Manager files are not part of the MAK RTI installer. You can download them from the MAK ONE Product Downloads page (https://www.mak.com/mak-one-downloads) or:

- Windows: Windows License Manager Installer (64-bit)
- Linux: Linux License Manager Installer (64-bit)

Installation of the license manager is covered in the *MAK ONE Installation Guide*, available online at https://mak.com/mak-one-installation-guide. Support is also available at https://www.mak.com/mak-one/support/portal.

Third Party Library Dependencies

MAK RTI 4.6.1 has the following dependencies:

- Qt 5.5.1
- Qwt 6.1.3
- FreeGlut 2.4.0
- Boost - 1.56 on all platforms except VC 14, which uses 1.63
- ZLIB 1.2.3 - http://www.zlib.net
- ICONV 1.8 - http://www.gnu.org/software/libiconv
- LIBXML2 2.6.22 - http://www.xmlsoft.org

Backward Compatibility

The MAK RTI 4.6.1 libraries are not run-time compatible with previous versions. (In other words, you cannot have a federation execution in which some federates use MAK RTI 4.6.1 and some use a previous version of the MAK RTI.) However, except as noted below, the MAK RTI 4.6.1 is link compatible with previous versions, so a federate does not need to be recompiled to use this version. We recommend that all federates use the same version of the RTI when operating within the same federation (or using the same rtiexec).

HLA Evolved federates compiled with MAK RTI 4.0.4 or later are not link compatible with HLA Evolved federates compiled with MAK RTI 4.0 through 4.0.3.

Network Compatibility

The MAK RTI is not network compatible with other RTIs. (In general, no two RTI implementations are network compatible, due to differences in the low-level network mechanisms that they use.) 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 Other RTIs

For details about MAK RTI's compatibility, please see Section 1.2, "Compatibility with Other RTI Implementations", in the *MAK RTI Reference Manual*.

New Features and Updates

MAK RTI 4.6.1 has the following new features and updates.

- Added a new High Entity Count RID setting to the preconfigured RID settings available in the MAK RTI Assistant.
- Added a separate configuration for TCP/UDP packet bundling. TCP bundles can be larger than UDP, which is restricted by UDP frame size.

Fixed Bugs

Problems identified in previous releases have been fixed.

- RTI-434. Added checks to prevent the RTI from occasionally getting into a bad state and throwing erroneous FOM merging errors.
- RTI-482. Encoding helpers now correctly calculate padding bytes needed.
- RTI-498. Fixed processing of LSD when using the Assistant RID settings to apply LSD to RID parameters after processing Assistant RID settings.
- RTI-507: Updated the Java encoding helpers to address some encoding issues and prevent crashes.
- RTI-509. Fixed handling of request ownership to clean up pending requests and ensure that pending requests are not duplicated.
- RTI-521. FOM Module Sorting was not working. Added a step to parse and store FOM metadata to then use the information to sort FOM Modules. Also added steps to sort FOM Modules before calculating their CRC values and sending the Create or Join messages.
- RTI-523. FOM sorting was not working correctly when creating multiple federations with a single RTI Ambassador. Fixed this by adding extra testing and handling for duplicate FOM IDs and file names.
- RTI-528. Fixed issue where FOM Modules that contained scaffolding base classes failed to merge properly when the base class is already defined in the federation.
- RTI-530. Multiple LRC instances on same machine could cause delays in packet sending using Asyc mode. This could cause a noticeable "jitter" effect in simulation objects. This is now fixed by removing the names of the events so they are forced to be local.
- RTI-541. There was a cmake dependency, which prevented users from running the examples included with the MAK RTI. This is fixed by adding a build option to suppress the cmake regeneration.
- RTI-542. Fixed an issue with the Linux installation package where it did not include the HLA 1.3 RTI-NG libraries. This prevented users from running anything with the HLA 1.3 protocol.

- RTI-543. When printing out FOM modules after a merge fails, there are now white spaces and lines between each module to make the results easier to read. Previously, the diagnostic output had no lines or spaces.

Known Problems

Problems can arise with any product. MAK has a knowledge base of the problems that we know about, which is always changing as new problems are identified and new solutions are found. To learn how to address known problems with MAK RTI and other MAK ONE products, click the Knowledge Base link on the Self Help Resources page: https://www.mak.com/mak-one/support/help.

If the problem you are experiencing is not addressed in the knowledge base, contact support for assistance: https://www.mak.com/mak-one/support/portal.