MAK RTI 5.0.1 Release Notes

This release note contains release-specific information for MAK RTI 5.0.1.

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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-specs.

For hardware requirements, visit https://www.mak.com/mak-one/support/help and click the Hardware Requirements link.

> To use MAK RTI for VC++ 14, 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. 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.

MAK RTI HLA 4 binary file names conform to the SISO-REF-075 standard, which includes a compiler marker to specify the compiler version. This prevents HLA applications from loading binary files from non-compatible compilers. The MAK RTI HLA 4 libraries are built using the Video Studio 2017 compiler and use the vc141 compiler marker.

Disk Space Requirements

A full installation of MAK RTI requires approximately 2.5 GB of disk space.

License Manager

MAK RTI 5.0.1 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).

Installation of the license manager is covered in the *MAK ONE Installation Guide*, available online at https://mak.com/mak-one-installation-guide. You can also contact your MAK distributor or use the Support Portal at https://www.mak.com/mak-one/support/portal if you need assistance.

RTI Compatibility

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.) To participate in the same federation execution, all applications must use the same RTI implementation. Although a federation can easily switch from one RTI implementation to another between runs, all participants must agree on which RTI to use, much as they must also agree on which FOM to use.

HLA 4 introduces a new Federate Protocol (FP) API, which is a wire protocol that serializes HLA service calls, callbacks, and exceptions into network messages. An FP federate establishes a session with the RTI using a TCP connection and then uses it to exchange messages with that RTI to invoke service calls and callbacks. The messages are exchanged in a standardized format and are compatible between different RTI vendors, allowing FP federates to easily switch from one RTI implementation to another. However, despite the introduction of this wire standard, all participants in a federation must still agree on an RTI to use, for the reasons described above.

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 5.0.1 has the following new features and updates.

- Updated the HLA 4 API and XML files to the official specification published by the IEEE.
- MAK has developed an open source Federate Protocol application written in Python. For more information, see the blog post announcement: https://www.mak.com/learn/blog?view=article&id=493.
- All MAK ONE log and dmp files are now saved in a central location. The default is *C:/MAK/logs*, which you can change by using the MAK_LOG_DIR environment variable to specify a different path.
- Added Wireshark dissector files for MAK RTI messages for advanced debugging and troubleshooting.

Fixed Bugs

Table 1. Fixed Bugs

Key	Summary	Release Notes	Fix versions
RTI-618	Running without full compliance crashes during join when setting switches	Fixed an issue where the federate would crash when joining without forceful compliance.	RTI 5.0.1
RTI-636	Asynchronous processing doesn't check for null packets	Adding warning and debug diagnostic when failing to clone for message queue.	RTI 5.1, RTI 5.0.1
RTI-637	RTI exec crash when trying to process reconnect	Added some checks and improvements to prevent crashes that could occur when reconnect is enabled.	RTI 5.1, RTI 5.0.1
RTI-682	Check that the use directed interactions matches the FOM	Added processing of directed interaction to object classes in FOM and a check that directed interaction is specified for object class when publishing/subscribing/sending directed interactions. Added sending/receiving directed interactions to HLA 4 simple example.	RTI 5.0.1
RTI-685	Make the automatic resign directive federate specific versus federation wide.	Added resign directive to federate object in federation execution and apply federate changes to the directive to the individual objects instead of execution as a whole.	RTI 5.0.1
RTI-729	Java – simpletime1516 crash	Fixed invoke of reflect update for HLA 1516 when region handle set is null.	RTI 5.0.1
RTI-730	Assistant FOM data is sometimes empty for HLA 4 federates	Fixed to ensure that FOM data is present for HLA 4 federates.	RTI 5.0.1
RTI-736	Refactor time & lbts methods in RTI messages	Refactored to push common time and lbts handling into base DtRtiMsg class.	RTI 5.0.1
RTI-738	RTIspy objects list displays class handle instead of name for VrfExtendedAttributes	When gathering class handle/names, fixed iteration of classes to use lastClass instead of numClass.	RTI 5.0.1
RTI-744	Incorrect label of federation shadow log file field in diagnostic tab of rid config dialog	Corrected the label of the Federation Shadow Log File Name field in the Diagnostic output page of the RTI Settings Configuration dialog box.	RTI 5.0.1

Table 1. Fixed Bugs (continued)

Key	Summary	Release Notes	Fix versions
RTI-745	When using --forwarderToConnectTo, the rtiForwarder does not use the Assistant to get connection settings	Removed the forced disable of assistant query, and used additional forwarder values from assistant only if not set on the command line.	RTI 5.0.1
RTI-751	Standard (with logging) prefigured RID settings should enable dump FOM and dump RID	Enabled dumpRid, dumpFom, and miniDumpNoPrompt to RTI Settings "standard (with logging)".	RTI 5.0.1
RTI-753	Refactor DDM region-attribute association classes to remove non-const member access	Replaced use of non-const reference to internal member variable with modifier methods on the member variable.	RTI 5.1, RTI 5.0.1
RTI-754	Prefences dialog box should open with previously selected page still selected (start with connections first time)	When opened from the Federation View menu, the RTI Assistant Preferences now focuses on the page you were using most recently. If this is the first time you opened the preferences, the Connections page is selected.	RTI 5.0.1
RTI-761	Diagnostics sent to Assistant notification history are fragmented on separate lines	Fixed fragmentation of output in the Assistant notification history by changing output operations to use printf format instead of stream operators, i.e., "<<". for fatal and warning diagnostics that output variables and multiple lines.	RTI 5.0.1

Feature List

Table 2. Feature List

Key	Summary	Release Notes	Fix versions
RTI-643	Dump and log file naming scheme should be updated	All MAK ONE log and dmp files are now saved in a central location. The default is C:/MAK/logs, which you can change by using the MAK_LOG_DIR environment variable to specify a different path.	RTI 5.0.1
RTI-658	Create Base Python Federate Protocol Application	MAK has developed an open source Federate Protocol application written in Python. For more information, see the blog post announcement: https://www.mak.com/learn/blog?view=article&id=493	RTI 5.0.1
RTI-748	Update HLA 4 headers to newly published version (8/21/2025)	Updated the HLA 4 API and XML files to the official specification published by the IEEE.	RTI 5.0.1
RTI-758	Add Wireshark dissector Lua file to RTI release package	Added Wireshark dissector files for MAK RTI messages for advanced debugging and troubleshooting.	RTI 5.0.1

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, access the MAK ONE Product Support Knowledge Base: https://www.mak.com/knowledge.

If the problem you are experiencing is not addressed in the knowledge base, please contact your MAK distributor or use the Support Portal at https://www.mak.com/mak-one/support/portal.