MÄK *High-Performance* **RTI**

Link

Performance by Design

Overview

The MÄK RTI (Run-Time Infrastructure) is the fastest way for High Level Architecture (HLA) compliant simulations to communicate. Efficient and easy to use, the MÄK RTI keeps CPU, bandwidth and memory requirements to an absolute minimum to maximize performance. The MÄK RTI implements the full HLA Interface Specification for HLA 1.3, IEEE 1516-2000, and HLA Evolved and has been verified by DMSO as fully compliant with HLA 1.3 and IEEE 1516-2000.

Battle-tested

The MÄK RTI is a proven and battle-tested solution, and has been used in a wide variety of programs and large exercises throughout the world.

The MÄK RTI has been chosen for large and small federations alike, because of its support for a wide variety of network topologies and architectures (including sender-side filtering for efficient WAN operation), graceful recovery when federates crash, ease of configuration, and range of supported platforms.

Complex Network Configurations

From simple multicast traffic with no rtiexec or RTI Forwarder to complex hierarchical forwarder networks, the MÄK RTI can support a variety of simple or complex network configurations. RTI Forwarders can be used to link different sites over the WAN, or just distribute TCP traffic load over multiple machines. Network packets can be compressed or bundled to optimize for throughput or processor utilization. The RTI also includes features such as smart forwarding and multicast filtering to efficiently filter messages which are not needed by all federates. So no matter how complex your network environment is, the MÄK RTI can be configured to perform optimally for it.

Ease of Use

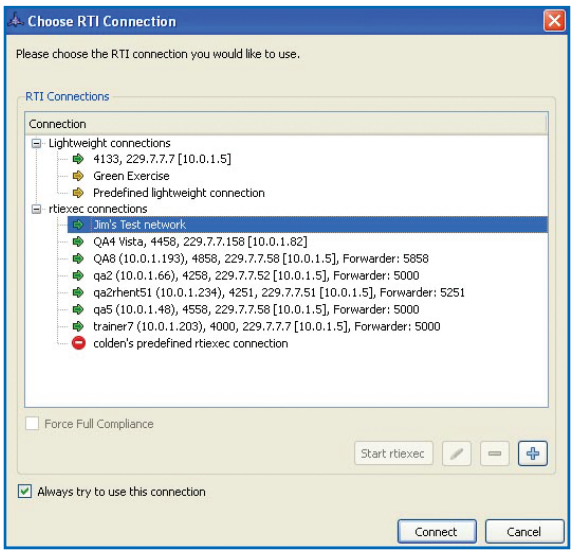
With the MÄK RTI, connecting to an HLA federation is as intuitive as connecting your laptop to a WiFi network. An RTI configuration GUI allows you to switch between Lightweight and Fully Compliant mode, choose from a list of rtiexecs running on your network, and even launch and configure a new rtiexec. No RID file editing is necessary to configure the most commonly used connection options. An RTI icon in the system tray allows you to access preferences, force a federate to resign, run a network latency test, or launch the web-based RTIspy Diagnostic GUI.

Compatibility

While the lack of an RTI network standard means that no two RTIs can interoperate directly*, the MÄK RTI is "link" compatible with other RTIs that meet the appropriate HLA Interface Specifications. Federations can switch between the MÄK RTI and other link-compatible RTIs without recompiling or relinking. And because all our versions of the RTI are built from the same code base, we've retained network compatibility between all HLA versions wherever possible.

FEATURES

- EASY TO USE
- FAST AND EFFICIENT
- FAULT TOLERANT
- LIGHTWEIGHT MODE—NO RTIEXEC REQUIRED
- CONFIGURE CONNECTIONS WITHOUT EDITING RID FILES
- SENDER-SIDE FILTERING FOR EFFICIENT WAN OPERATION
- SUPPORT FOR MODULAR FOMS
- WEB-BASED RTIspy DIAGNOSTIC GUI
- PLUG-IN API FOR USER CUSTOMIZATION
- FULLY HLA COMPLIANT (HLA 1.3, IEEE 1516-2000, AND HLA EVOLVED) AND VERIFIED BY DMSO (HLA 1.3 AND 1516-2000)



MÄK RTI

DOWNLOAD and start using the MÄK RTI for FREE!

The MÄK RTI can be used in federations of up to two federates, free of charge, without even requiring a license key:

www.mak.com/products/rti.php

** MAK's VR-Exchange product can be used to bridge heterogeneous RTIs*

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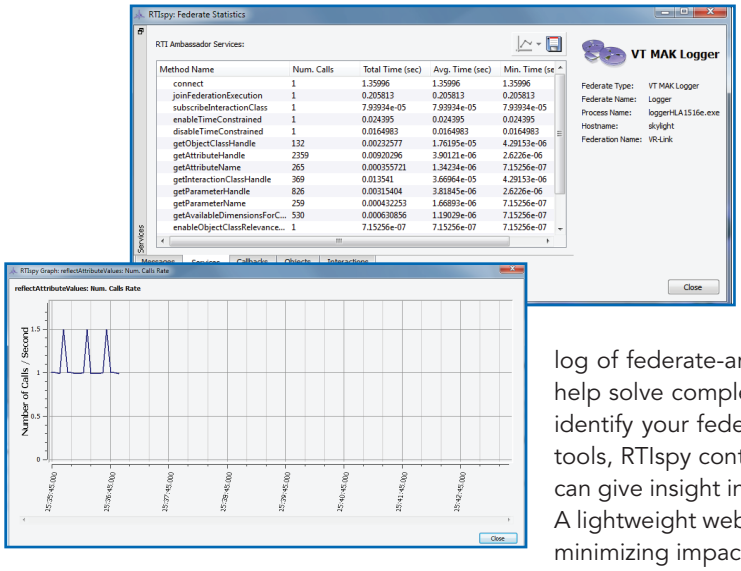
VT MÄK
A company of VT Systems

RTIspy® – A Window into the RTI

Gone are the days when an RTI was considered an opaque black box. RTIspy is a window into the RTI, shedding light on its inner workings. Through a flexible API and web-based diagnostic GUI, you can reach into the RTI and monitor or alter its functionality.

With RTIspy, the power to debug connectivity problems, monitor network messages, and customize behavior is in your hands. Once you've used an RTI that gives you this level of insight, you'll wonder why all RTIs aren't built this way.

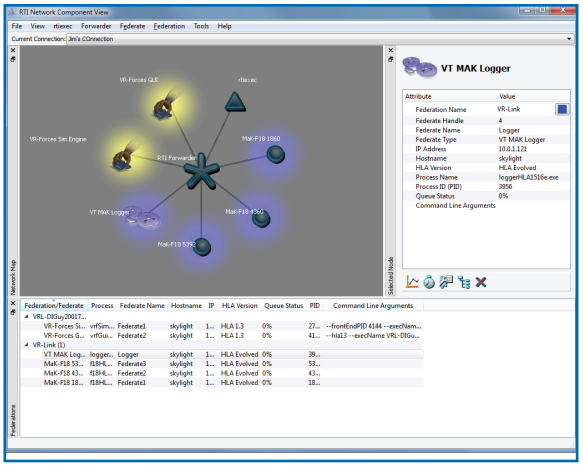


RTIspy Web-based Interface

The RTIspy Diagnostic GUI gathers diagnostic information directly from within the RTI, and makes it accessible through a web page. Simply point your web browser at the URL associated with any Local RTI Component (LRC) or the rtiexec. You can explore a graph of your federation's network topology, scan the objects that each LRC knows about, or the list of interactions it has sent and received. Browse the current state of FOM subscriptions and publications to track down connectivity issues, or trace the log of federate-ambassador-invoked and RTI-ambassador-invoked method calls to help solve complex timing problems. Network and CPU monitoring tools help you identify your federation's performance bottlenecks. Unlike MOM-based diagnostic tools, RTIspy continues to provide data even when HLA connectivity is unsure, and can give insight into implementation-specific details unavailable through the MOM. A lightweight web server runs as a separate process outside of the RTI components, minimizing impact on RTI performance.

RTIspy Plug-in API

The RTIspy API allows you to build plug-ins to alter, extend, and query any aspect of the RTI's functionality. Many programs need a custom RTI, but few want to spend months poring over undocumented source code, or years building their own RTI from scratch. With the RTIspy API, you can tailor a proven RTI to meet the specific needs of your program. Through the API, you can change the RTI's "wire format" by implementing new network messages, tune performance based on your specific requirements, and override default implementations of key services. You can plug in a custom communication mechanism in place of the default network-based scheme, or experiment with new Data Distribution Management (DDM) algorithms.



Licensing Options

The MÄK RTI is licensed per-federate. A single license supports all HLA versions and all the functionality of the RTIspy. An unlicensed mode allows you to run up to two federates, free of charge — download and start using the MÄK RTI for free! Other license modes are available. Please contact your MÄK sales representative for more information.

Need custom options for your RTI, like nonlicense-managed software, dedicated support, or on-demand porting?

Through a MÄK Protection Plan we can offer these and other customized services for your program. Ask your MÄK account manager for details.

Supported Platforms

- Windows® XP/Vista/7
- Linux®
- Custom ports to other platforms are available