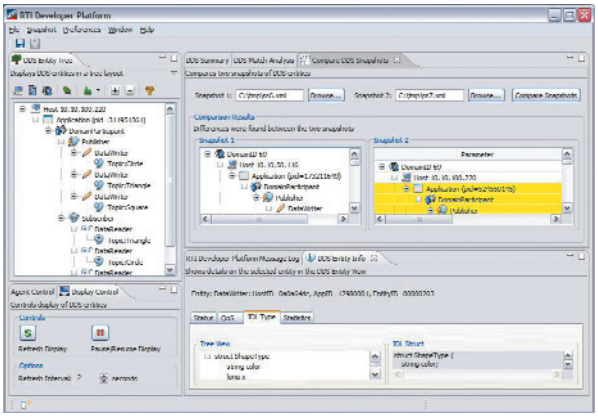
RTI Developer Platform

RTI Data Distribution Service Development Tools

BENEFITS

- **Real-time node view of DDS User Data**
- **High-level system view of DDS Meta Data**
- **Low-level network view of packet information**
- **Custom dashboards of DDS system data**



RTI Developer Platform is a set of tools that provides powerful insight into and comprehensive analysis of your distributed data network.

RTI Data Distribution Service network middleware is a layer of software that runs above your operating system's network stack and uses the industry-standard UDP/IP protocol to provide fast, efficient data distribution. The RTI Developer Platform is specifically designed to work with RTI Data Distribution Service. RTI Developer Platform tools provide powerful insight and comprehensive analysis of your distributed data network. They will simplify your distributed system development and make it much easier to integrate and debug your distributed real-time system.

The RTI Data Distribution Service Middleware

Low-cost processors, commercial off-the-shelf real-time operating systems, and ubiquitous Internet Protocols (TCP/IP, UDP/IP, HTTP and others) are making distributed systems practical and affordable. However, network programming still presents a daunting task, especially for developers of real-time applications with time-sensitive communications requirements.

The answer more and more developers are turning to: commercial-off-the-shelf (COTS) middleware like RTI Data Distribution Service.

RTI Data Distribution Service eliminates network programming and simplifies your distributed system development. RTI Data Distribution Service provides a set of easy-to-learn publish-subscribe services designed specifically for real-time applications. Applications simply declare that they are publishing or subscribing to a topic. RTI Data Distribution Service sets up the communication channel and distributes the data when the publisher has a new issue to send. Applications don't need to keep track of publisher and subscriber network addresses.

RTI Data Distribution Service presents a robust programming environment that supports best-effort and reliable communications, including reliable multicast. The publish-subscribe model lets you control quality of service parameters, data flow, and set up transparent hot swap for redundant publications.

Additional features that simplify development and ensure long product lifetimes include automatic discovery of network objects, automatic data conversion, client-server functions, and an open, extensible wire-protocol with backwards compatibility.

RTI Developer Platform

Integrated debug and monitoring tools designed exclusively for RTI Data Distribution Service provide the insight and analysis to speed development and deployment.

RTI Data Distribution Service tools provide informative views into your distributed system. They include:

RTI Analyzer — a system level debugging tool that finds RTI Data Distribution Service objects in a running system, organizes them, and shows you their communication parameters

RTI Scope — a node level debugging tool that monitors variables and graphs the output for fast analysis

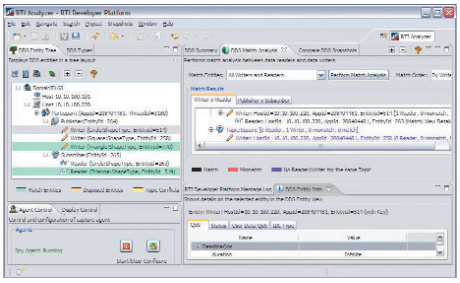
RTI Protocol Analyzer — a network level analysis tool that captures packets, shows packet contents, and analyzes bandwidth use

Enterprise RTView for RTI Data Distribution Service — a monitoring and display solution to create web-enabled information systems or "dashboards"

RTI Analyzer

RTI Analyzer finds the RTI Data Distribution Service objects (like publications, subscriptions, and topics) on each node. You can control how the objects are displayed to accommodate different debug scenarios. For example, you may want the objects grouped by application if you are debugging the application itself. Or you may want to organize

the objects by their roles (publications and subscriptions) to debug communication channels between objects. These views can be saved for future use. RTI Analyzer exposes the properties that control each object's behavior.

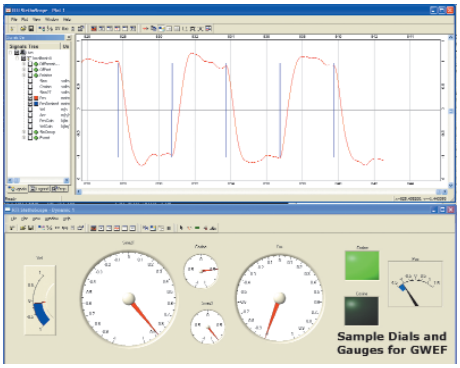


RTI Analyzer – system-level debugger

Another powerful feature is that RTI Analyzer can show you which objects are talking, or more importantly, not talking, to each other. RTI Analyzer will let you quickly determine whether objects are properly connected and if not, what the problem might be.

RTI Scope

High-performance, distributed solutions require a view into the middleware to find problems and get the best performance out of the communications channel. Scope gives you a view into the RTI Data Distribution Service middleware without stopping or slowing operation. This makes it easy to find problems and see how changes can improve system performance.



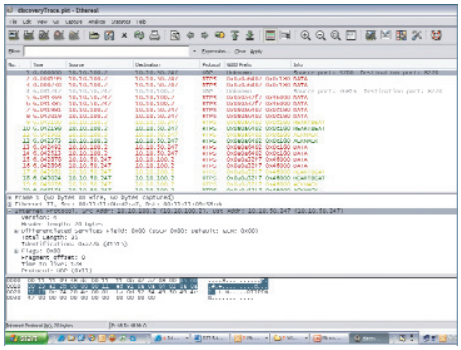
RTI Scope – node-level debugger

Scope also gives you access to all DDS topics and user data within an RTI network. For example, you can watch a set of variables, see peak values, and quickly find any anomalies.

Scope's data collection is minimally intrusive. You have full control over when samples are taken, what data is sampled, how much data is stored, and what data to display.

RTI Protocol Analyzer

Often, you just need to see what's happening on the wire. This tool uses the popular Wireshark™ (formerly Ethereal®) network protocol analyzer to look at all the packets in an RTI network and capture the ones you want. For example, you can see all the RTI Data Distribution Service traffic for a given time period, or watch the interaction RTI Data Distribution Service and web services traffic. The graphical display shows packet as they arrive, dissects packet contents, and graphs the output for easy analysis.



RTI Protocol Analyzer – network-level analysis

Enterprise RTView

Build your own application interface—or dashboard—using Enterprise RTView™ for RTI Data Distribution Service. Enterprise RTView from SL Corporation™ is a light-weight monitoring and display solution that can be integrated quickly with multiple sources of data to create a web-enabled information system. Since no programming is required, deployment is easy and provides a rapid return on investment.

RTI offers a version of Enterprise RTView specifically designed to work with applications using RTI Data Distribution Service. With Enterprise RTView, RTI Data Distribution Service users can display role-based dashboard views that are easily customized and can be deployed in a web browser or enterprise portal, and can provide a gateway to real-time enterprise information, enabling executives and business managers to monitor business operation data.

Enterprise RTView – graphical dashboard-builder

For More Information

Are you building distributed real-time systems? If so, you will need more than a real-time OS and embedded system tools. To learn more about the RTI Data Distribution Service middleware and tools, visit our web site at www.rti.com.

About RTI

Real-Time Innovations (RTI) provides the highest performance messaging and software integration solutions for real-time applications, data and devices. Founded in 1991, RTI's software and services have been leveraged in a broad range of industries including defense, intelligence, simulation, industrial control, transportation, finance and communications.

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