If you are developing software for complex distributed systems and your applications run in high-assurance systems or resource-limited devices, Connext™ Micro is your standards-based solution. It provides a small-footprint communications infrastructure to help applications meet stringent size, weight and power (SWaP) requirements well beyond the reach of traditional messaging middleware. It also serves as the foundation for safety- or security-certifiable components in critical systems that are not well-served with commercial off-the-shelf (COTS) software.

Now, RTI Connext Micro training can help equip your team with the skills to rapidly take advantage of all the features and capabilities of this compact, safety-certifiable middleware for avionics and resource-constrained environments.

Training Highlights

- Concepts and benefits of the data-centric model for publish-subscribe distributed systems
- Process for building Connext Micro code for any platform, including mobile platforms such as Android
- Configuration of Connext Micro builds
- Development of plugins and plugin interfaces
- Essentials for building certifiable systems that include Connext Micro code

RTI Connext Micro

Connext Micro is an innovative, comprehensive software communications infrastructure for resource-limited devices – those with minimal memory, Flash, CPU power or no operating system. It can also be safety and security certified.

It is based on the Object Management Group (OMG) Data Distribution Service (DDS) standard that delivers low-latency, high-throughput, scalability and Quality of Service (QoS) capabilities for complex real-time distributed systems.

Training Course

In this two-day course, participants will learn the benefits of taking the DDS real-time publish-subscribe paradigm to safety-critical avionics platforms with constrained resources. They will be able to begin effectively using RTI Connext Micro as part of their distributed systems.

Participant Requirements

This course was designed for all software architects and developers. It will be useful whether or not they have prior DDS experience. Source code and hands-on examples use C, so some C programming experience will be helpful.
Learning Objectives
After completing this two-day course, participants will be able to:

- Successfully complete selected hands-on exercises using the Connext Micro API
- Explain the potential of a data-centric model for publish-subscribe distributed systems
- Build Connext Micro source code for any platform, including non-mainstream platforms
- Configure the Connext Micro build process and plug in component implementations for your environments
- Build certifiable systems that include Connext Micro code

Course Outline

Overview
Introduction to Connext DDS: the value of DDS
Fundamentals of Connext DDS: principles of DDS, provisions of the DDS specification, and how Connext Micro relates to the specification
Application Development: DDS programming model, the importance of data, and how to achieve desired behavior through Quality of Service (QoS) and Discovery information
Features and API of Connext Micro: capabilities Connext Micro brings to system architecture and the APIs it provides
Building Connext Micro: how to set up a tool chain for your environment, use cmake and build libraries from the supplied source code
Connext Micro Architecture: Connext Micro modules and how they work with one another

Porting Connext Micro: how to port Connext Micro to other hardware, operating system, or C compiler platforms
Writing Connext Micro Plugins: benefits of replacing the implementation of certain Connext Micro components and the interface required for a plugin
Interoperability between Connext Micro and Connext DDS: constraints to consider when using Connext Micro with Connext DDS, Connext Tools, and other DDS implementations
Cross-Platform Development for Android: how the Connext Micro build environment supports cross-platform development and the process of developing a Connext Micro application for Android
Conclusion

Instructor
The course instructor will be an expert engineer and member of the RTI Professional Services team. The instructor will have practical, hands-on field experience working with clients who incorporated Connext Micro into their complex distributed systems.

RTI Professional Services
Your success with developing complex distributed systems is the primary objective of the RTI Professional Services team. Our engineering experts help you mitigate project risk, increase productivity, and delivery quality on a shorter schedule.

Contact us today at solutions@rti.com to request this course or discuss other design, development, training or support needs.

About RTI
RTI is the world leader in delivering fast, scalable, communications software that addresses the challenges of building and integrating real-time operational systems. RTI Connext solutions meet the needs of enterprise-wide integration — from the operational edge to the enterprise data center. The RTI standards-based software infrastructure improves the efficiency of operational systems while facilitating better decisions, actions and outcomes for the business enterprise.

For over ten years, RTI has delivered industry-leading products and solutions for customers in markets ranging from Aerospace & Defense, Process Automation, Financial Services, Energy, Automotive, Health Sciences and Transportation Management.

Founded in 1991, RTI is privately held and headquartered in Sunnyvale, California.