**RTI Connext DDS Micro**

**FIRST SOFTWARE FRAMEWORK DESIGNED FOR RESOURCE-CONSTRAINED AUTONOMOUS SYSTEMS**

**HIGHLIGHTS**

- Supports resource-constrained devices
- User-configurable feature set through build options
- Scalability from embedded 16-bit microcontrollers to multi-core 64-bit CPUs
- Bundled source code
- Runs on bare metal devices and a wide variety of OS, including Linux, Windows, FreeRTOS, VxWorks, QNX, and ThreadX
- Supports the OMG® DDS Security™ specification and interoperates with other implementations of DDS Security

**OVERVIEW**

Embedded systems and devices are in cars, production-line environments and medical equipment - and they increasingly connect to a network or even the internet. In building intelligent distributed systems, system developers are faced with the challenges of increasing software complexity and the data volumes produced by these systems and devices. Smart machines must act upon this data in real time for enhanced automation, analytics and business intelligence.

Connext Micro provides a small-footprint modular framework and connectivity solution for resource-limited devices that have minimal memory, flash or CPU power, or even no operating system at all.

By abstracting out low-level networking and communication details and providing a flexible integration framework, Connext Micro minimizes the amount of device or application specific code that needs to be created.

Built on the Connext databus - a data-centric framework for distributing and managing real-time data in distributed autonomous systems - Connext Micro provides a high-level and standards-compliant alternative to in-house development. Building with Connext Micro significantly reduces development costs as well as system communications risks.

**COMPREHENSIVE CONNECTIVITY SOLUTION**

**Peer-to-peer communication**

Connext Micro uses an innovative, completely decentralized architecture. Applications directly exchange data in a true peer-to-peer manner - no servers, message brokers or daemon processes act as bottlenecks or single points of failure. As a result, Connext Micro delivers the consistent low-latency, high throughput and scalability required for big data in motion.

**Plug-and-play communication**

Devices and applications are automatically discovered and connected at run-time. No system administration or directory service is required, allowing use in autonomous, dynamic and ad hoc intelligent systems.

**Real-Time Quality of Service (QoS)**

Applications have comprehensive control over and visibility
Connext Micro enables developer flexibility with a modular and user-configurable architecture.

### OPTIMIZED FOR SMALL-FOOTPRINT APPLICATIONS

**Low memory requirement**
Connext Micro libraries provide an interface to the Connext databus, embeddable directly into applications and devices. The library size is optimized for small footprint, applications and memory allocation is kept to a minimum.

**Highly portable**
Bundled source code enables developers to port Connext Micro to new operating systems, compilers or processor architectures. It has no built-in dependency on operating system services. Applications can be implemented on platforms with minimal operating system capabilities or no operating system at all. Processor support ranges from 16-bit microcontrollers with 32-bit integer support to multicore ARM, Intel and PowerPC CPUs. Leading enterprise operating systems, including Linux and Windows, are supported as well to ease application development and testing.

### COMPLEMENTARY PRODUCTS

Connext Micro is fully interoperable with Connext® DDS Secure, the trusted connectivity framework for developing and integrating secure autonomous systems, from edge to cloud.

### ABOUT RTI

Real-Time Innovations (RTI) is the largest software framework company for autonomous systems. RTI Connext® is the world’s leading architecture for developing intelligent distributed systems. Uniquely, Connext shares data directly, connecting AI algorithms to real-time networks of devices to build autonomous systems.

RTI is the best in the world at ensuring our customers’ success in deploying production systems. With over 1,700 designs, RTI software runs over 250 autonomous vehicle programs, controls the largest power plants in North America, coordinates combat management on U.S. Navy ships, drives a new generation of medical robotics, enables flying cars, and provides 24/7 intelligence for hospital and emergency medicine. RTI runs a smarter world.

RTI is the leading vendor of products compliant with the Object Management Group® (OMG®) Data Distribution Service™ (DDS) standard. RTI is privately held and headquartered in Sunnyvale, California with regional offices in Colorado, Spain and Singapore.


**Datapath**

Datapath is a multi-topic optimized publish subscribe system that provides reliable delivery of application data. It is designed to be simple and efficient, allowing developers to easily integrate it into their systems. Datapath is ideal for applications that require real-time communication, such as industrial automation, robotics, and autonomous vehicles.