CAPABILITY BRIEF

Medical Imaging

DRIVING INNOVATION IN MEDICAL IMAGING THROUGH DATA CENTRICITY

HIGHLIGHTS

A proven, secure, high-performance, medical-grade connectivity framework for reliable, interoperable data exchange throughout complex medical devices.

Capable of transmitting high resolution images and video (40GB/s) throughout the imaging device/platform.

True real-time performance in large complex systems via the flexible Quality of Service (QoS) settings.

Built-in DDS security that aligns with FDA cybersecurity guidance to protect data and patient privacy requirements.

Proven to speed time to market and lower development and maintenance costs

RTI Connext® DDS enables the data-driven medical systems of modern healthcare. It provides the medical-grade connectivity platform for the development of next-generation medical imaging systems. Built on the robust OMG® DDS standard, Connext DDS enables all of the components in a complex imaging system to work as a single integrated solution, by providing high volumes of data reliably, securely and in real time.

DEVELOPING NEXT-GENERATION MEDICAL IMAGING

Medical imaging plays a vital role within the healthcare system and has been at the forefront of technology adoption. It can improve patient outcomes through faster disease detection and more accurate diagnosis. Recent advances in medical imaging have allowed doctors to observe events at the molecular level, examine specific characteristics of a heartbeat and study individual processes within the brain.
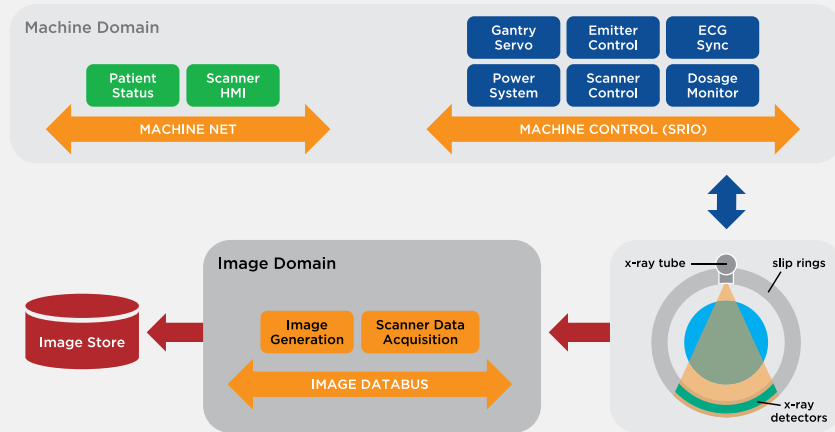
Now, the rapid pace of innovation is requiring developers to incorporate more commercial off the shelf software (COTS) into system designs. Connectivity frameworks require the following capabilities to maintain the current pace of innovation:

1. The ability to process, analyze and act on high-volume medical imaging data with low latency in a redundant, fault-tolerant architecture.

2. The ability to align internal engineering teams (and ecosystems partners) on a single common architecture with well-defined interfaces.

3. Alignment with FDA guidance on patient safety, data protection and patient privacy requirements.

4. Future-proof the architecture by ensuring the underlying connectivity infrastructure can support real-time clinical decision support and automation.

Connext DDS provides the critical infrastructure to allow these advancements to continue. It provides real-time information exchange between complex system components, while meeting stringent patient privacy, safety certification and security requirements. Connext DDS provides the framework to process, analyze and act on high-volume, real-time data with low latency in a redundant, fault-tolerant architecture.

Medical imaging systems built on Connext DDS are resilient, self-forming and self-healing with no single point of failure. Built-in security based on the proven DDS Security standard provides the foundation for confidentiality, authentication, nonrepudiation and access control, keeping these systems safe from security breaches.

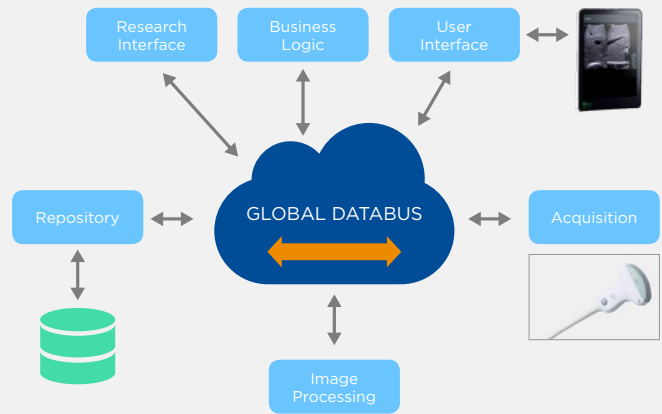*Example of a Medical Imaging Architecture*

CONNEXT DDS IN ACTION

RTI has deep experience in supporting distributed systems within highly-regulated markets. Connext DDS users rely on RTI software to manage the connectivity aspect of their systems, decreasing time to market and lowering costs. For more information, please visit www.rti.com.

Driving innovation through a common connectivity architecture

Connext DDS is the foundation for the BK Ultrasound Global Databus, providing this global ultrasound equipment leader with the flexibility to help develop applications independently, implement plug-and-play interoperability, ensure fine control performance and provide real-time response and action in a distributed system.

DDS readily addresses the challenge of mixing real-time communications with IT infrastructure, an essential requirement for BK Ultrasound systems. Due to the flexibility that DDS offers, features can be developed independently of the need to integrate security into future releases.

BK Medical System Architecture with Connext DDS

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 1,500 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.

Download a free 30-day trial of the latest, fully-functional Connext DDS software today: https://www.rti.com/downloads.

Your systems.
Working as one.

rti.com
rti_software
rtisoftware
company/rti
connextpodcast
rti_software