Connected Healthcare & Medical Systems (IIoT)

PROVIDING THE FOUNDATION FOR CONNECTED HEALTHCARE IN THE IIoT

HIGHLIGHTS

A secure, high-performance, medical-grade connectivity framework

Data-centric connectivity for full visibility into data in motion and data at rest throughout the healthcare system.

Plug-and-play interoperability between systems and medical devices.

Scalability to millions of nodes with standards-compliant technology that reduces risk.

Built-in DDS security that aligns with FDA cybersecurity guidance

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

The future of the healthcare industry is connected. RTI has the field-proven connectivity solutions to design and run successful connected healthcare and medical systems. RTI Connext DDS is a medical-grade connectivity framework that allows all of the components within a connected healthcare system to work as a single integrated solution, sharing data reliably, securely and in real time.

ENABLING THE DIGITAL TRANSFORMATION OF HEALTHCARE

Hospitals today use thousands of intelligent machines to improve patient care. The latest equipment has sensors, software, pervasive networking and mobile components – yet often can't exchange data with the machine on the other side of the bed. The goal is to create an interoperable system of physical healthcare devices embedded with electronics, software, sensors and network connectivity that will work seamlessly throughout the hospital and beyond. This objective requires the secure and real-time collection and exchange of data ranging from sensor feeds to Artificial Intelligence (AI). The capabilities required to develop these connected healthcare platforms include:
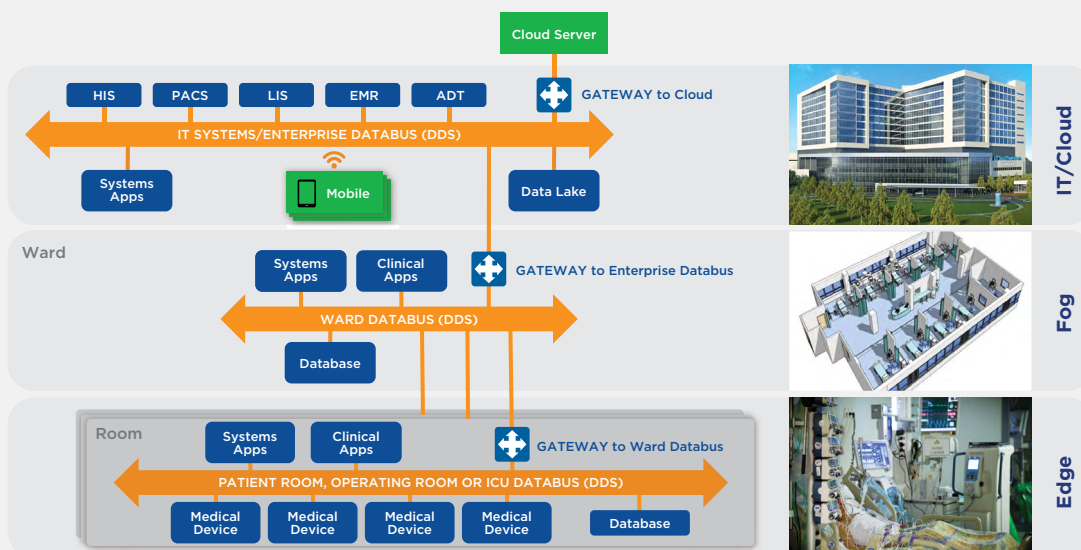
1. The ability to process, analyze and act on high-volume, near patient, real-time data with low latency in a redundant, fault-tolerant architecture.

2. Plug-and-play interoperability that works seamlessly and securely between systems and medical devices.

3. Scalability to millions of nodes for large, complex systems standards-compliant technology that reduces risk.

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

THE IIoT IN HEALTHCARE

RTI brings its expertise in the Industrial Internet of Things (IIoT) to connected healthcare. Its Connext DDS software connects proprietary machines, software and mobile devices, allowing them to work as one integrated system. It also enables information flow for real-time decisions, from the operating room to telemedicine. Connext DDS uses IIoT design principles to code secure, interoperable systems that can exchange data in near real time with no single point of failure, while operating within all regulatory compliance.

Connext DDS was designed specifically for the complexity of distributed IIoT environments. Its central databus architecture connects publish-subscribe data from proprietary machines, software and mobile devices, thereby enabling real-time information flow throughout the healthcare enterprise and providing a foundation for AI and Clinical Decision Support (CDS).

Example of a Connected Healthcare/Medical (IIoT) System

CONNEXT DDS IN ACTION

Connext DDS users rely on RTI software to manage the connectivity aspect of their systems, decreasing time to market and lowering costs. Here are some of their use cases. For more information, please visit www.rti.com.

DOCBOX

Lowering the cost of care through interoperability

DocBox is developing an innovative clinical process management solution for hospitals to help clinicians improve clinical workflow and processes, eliminate medical mistakes and free up much of the time spent on administrative duties. It reduces administration time so that nurses can spend more time on providing patient care. Connext DDS is used to provide secure, interoperable device connectivity, allowing proof-of-concept consolidation of device alarms, equipment monitoring and status. Additionally, it allows decision support to utilize data from a variety of medical devices.

GE Healthcare

Defining the future of patient monitoring

GE Healthcare is working with RTI on a data-centric approach for the hospital of the future, in order to make medical equipment work as one unified system, sharing data in real time, securely and reliably. This approach will combine with AI and advanced Clinical Decision Support (CDS) to improve patient outcomes, reduce errors and lower costs. It will help doctors and nurses ensure 24x7 quality monitoring, detect unexpected conditions and deliver critical care on time.

"GE Healthcare is leveraging the RTI Connext DDS-based architecture to connect medical devices, cloud-based analytics and mobile and wearable instruments."

Matt Grubis
Chief Engineer for Mobile Digital
Health Solutions, GE Healthcare

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.

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