DATASHEET

RTI in Healthcare

ENABLING THE FUTURE FOR CONNECTED HEALTHCARE

RTI Connext® is a software communication framework that enables connected medical devices and systems to work as a single integrated solution – reliably, securely and in real-time. Software teams can focus on application development and the integration of new technologies, instead of infrastructure. Intelligent architectures help teams achieve faster product lifecycles and design flexible applications across platforms.

HIGHLIGHTS

Real-time software connectivity framework for reliable and secure data communications between intelligent medical devices, networks and systems

Built-in cybersecurity infrastructure to enable security by design and address regulatory guidelines and industry expectations

Data-centric connectivity to enable modular, reliable and secure device architectures

Seamless and secure integration of new technologies, data sources and intelligent systems

Enables scalable digital ecosystems across thousands of devices

FASTER PRODUCT LIFECYCLES REQUIRE INTELLIGENT ARCHITECTURES

With the rapid pace of digital transformation in healthcare now underway, clinicians are demanding more intelligent, integrated and data-driven solutions. This requires increasingly smart and connected devices to process high-speed data and leverage interoperable applications and systems across components, platforms and networks. New frameworks are needed to simplify and accelerate software development and data communication across disparate systems and architectures.

ACCELERATE NEXT-GENERATION HEALTHCARE SYSTEMS WITH INTEROPERABLE AND REAL-TIME DATA CONNECTIVITY

Connext, based on the Data Distribution Service (DDS™) standard, delivers a proven software communication framework to address the wide range of demanding, real-time data connectivity and compute requirements in healthcare. Connext provides the capability for connected medical devices and platforms to leverage interoperable systems, sensor/device data, and intelligent technologies that power next-generation clinical applications and digital surgery. With Connext, product teams are able to design and integrate applications regardless of architecture, operating system or network. Connext helps teams:

- Achieve low-latency requirements for real-time data communications
- Leverage secure and modular data connectivity infrastructure across devices, networks and platforms
- Design for reliability by eliminating single-point-of-failure communications
- Achieve reliable and scalable device connectivity, even across remote, low-bandwidth and intermittent networks

Connext enables software teams to design and evolve applications that seamlessly manage reliable and secure data flow across heterogeneous devices, networks and data sources in real-time. By enabling modular and "future-proof" applications, Connext accelerates and simplifies the development of upgradeable and interoperable device ecosystems.

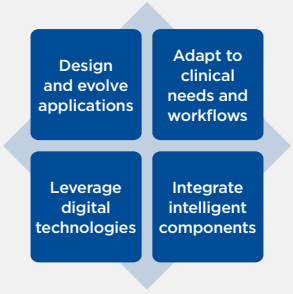

Figure 1: The objectives of design flexibility in connected healthcare

CONNECTED HEALTHCARE

Today's digital operating rooms and critical care environments run on real-time data, intelligence and interoperable devices and technologies. Connext was designed specifically for secure and safety-critical data-sharing for devices across complex and distributed systems. For connected medical devices, Connext can, therefore, be tailored to the heterogeneous data communication needs of a variety of intelligent clinical applications and technologies, such as:

Patient Monitoring

Patient Monitoring systems require data connectivity and processing from hundreds to thousands of devices across bedside devices, clinical viewing applications, central stations, and mobile applications. Connext is designed specifically to enable secure, scalable, and reliable data sharing across the dynamic environment of ICUs and ambulatory care.

Medical Robotics

To fully leverage innovative enabling technologies, evolving system architectures and user needs, robotically-assisted systems must be designed to operate reliably with real-time constraints and integrate with other intelligent devices in the operating room. Connext enables adaptable architectures while addressing simultaneous communication requirements for reliability, cybersecurity and real-time performance.

Medical Imaging

Next-generation imaging and radiation therapy systems promise to leverage the power of data-driven technologies (AI, machine learning, data analytics) and increasingly interoperable systems to deliver comprehensive care solutions. Connext enables Medical Imaging systems to address demanding and simultaneous connectivity requirements including low-latency, reliable, interoperable and secure communications.

RELIABILITY AND CYBERSECURITY BY DESIGN

Connext enables device manufacturers to meet regulatory cybersecurity guidelines and industry expectations for cybersecurity by enabling secure-by-design communications and architectures. Connect enables fine-grained authentication and encryption of data-in-motion, mitigating the risk of compromised endpoints and perimeters.

Connext provides an innovative communication framework that is data-centric, inherently modular and transport-independent, thereby enabling secure architectures based on zero-trust principles that scale to thousands of devices across networks.

CONNEXT IS USED BY LEADING HEALTHCARE COMPANIES

RTI has deep experience in supporting distributed systems across highly-regulated industries.

Our customers rely on Connext to satisfy demanding and evolving data requirements while also decreasing time to market — delivering tomorrow's next-generation healthcare solutions today.

"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

LEADING HEALTHCARE COMPANIES USING RTI CONNEXT:

Medtronic · DOCBOX · MEVION medical systems · GE Healthcare · PHYSIO CONTROL · MOON SURGICAL · MD PnP Getting Connected for Patient Safety

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 1,800 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 software today: www.rti.com/downloads

Your systems. Working as one.

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