CAPABILITY BRIEF

Special Operations Forces

ACCELERATING INTEGRATION OF COMPLEX SYSTEMS
USING OPEN ARCHITECTURE TECHNOLOGIES

Open Architectures (OA) improve system affordability by reducing integration, maintenance and upgrade costs, while promoting reuse and competition. With its interoperability, portability, loose coupling and real-time Quality of Service (QoS), the Data Distribution Service (DDS) standard is the preeminent foundation for mission-critical OA systems. RTI is a leading supplier of DDS software for SOF OA systems.

HIGHLIGHTS

Unparalleled open architecture network connectivity expertise

Rapid technology insertion, maintainability and extensibility capabilities

Success in achieving mission performance and scalability objectives

Robust safety, security, interoperability and resilience solutions

Open standards support including FACE, UCS, SOSA, OMS and GVA/NGVA

US Special Operations Forces (SOF) are tasked with rapidly organizing and executing joint operations, including active, reserve, special operations, psychological operations, and civil affairs forces of the US Army, Navy and Air Force. These units work closely with allied and coalition forces to respond to global crisis situations.

These challenging SOF missions requires the capability to:

1. Develop, acquire, and consolidate unique special operations forces, material, and equipment from a diverse pool of assets to successfully perform unique missions
2. Rapidly integrate and interoperate mission assets to meet SOF timeframes
3. Prepare Warfighters for missions through high-fidelity Modeling, Simulation and Training (MS&T) using realistic Live, Virtual, and Constructive (LVC) integrated environments

Real-Time Innovations (RTI) is the commercial leader in complex systems connectivity. RTI technology and expertise are proven through more than 1,200 Aerospace and Defense (A&D) applications to safely and securely integrate critical systems using open networking standards.

RTI Connext® DDS supports open architecture systems by providing fast, scalable, reliable and secure connectivity within and between land, sea, air and space-based systems. Based on the Object Management Group (OMG®) Data Distribution Standard (DDS™), Connext DDS supports safety certification with commercial-off-the-shelf (COTS) software. This certification evidence supports RTCA DO-178C and EUROCAE ED-12C DAL A, resulting in faster time to airborne safety certification.

Connext DDS integrates with A&D industry standards, including the Open Group Future Airborne Capability Environment (FACE™), and has developed the only certified conformant FACE Transport Service Segment (TSS) solution to enable rapid insertion of new FACE avionics applications.

Connext DDS also meets the stringent requirements of Modeling, Simulation and Training (MS&T) applications by providing interoperability between distributed simulation components, regardless of where they are located. This capability enables the rapid integration of a wide range of simulation, training, deployed and hardware-in-the-loop assets with vastly reduced timeframes.

PROVEN IN MORE THAN 1,200 UNIQUE DESIGNS

Massive Application Scalability

Zumwalt DDG 1000

RTI Connext DDS software coordinates and manages complex, diverse onboard hardware and software systems. These include hundreds of computers, thousands of applications and more than 10 million publish-subscribe pairs.

Ground-Air Cooperative Control

General Atomics Aeronautical Systems, Inc.

General Atomics' Advanced Cockpit Ground Control Stations deliver enhanced situational awareness for unmanned aircraft systems, such as the Predator® and Reaper®. RTI's software accelerated the development process and the solution was delivered in less than 14 months, significantly faster than with alternative software or in-house development.

Large Scale Asset Tracking

U.S. Army Blue Force Tracker

The U.S. Army's Joint Battle Command-Platform (JBC-P) system tracks the positions of friendly and hostile forces on the battlefield, requiring hundreds of thousands of tracked updates per second. A redesign using RTI Connext DDS resulted in a fully redundant system able to handle an order of magnitude more tracks, with an order of magnitude fewer CPU cores.

System of Systems Integration

General Dynamics Littoral Combat Ship (LCS)

RTI's software connects disparate systems, interoperates across multiple programming languages and operating systems, and handles disadvantaged links and legacy interfaces for the US Navy LCS.

Easy Technology Upgrade

Boeing AWACS Airborne Surveillance Command & Control

The Boeing AWACS upgrade design is more open and supportable. DDS provides a foundation for lowering ongoing maintenance and upgrade costs.

Critical Real-Time Communication

US Navy

The Ship Self Defense System (SSDS) is the "last line of defense" coordinating high-speed, radars, targeting defensive missiles and directing 1000+ rounds/second at incoming cruise missiles. RTI Connext DDS delivers these critical messages in real-time.

Non-Stop Reliability

Raytheon Ship-Wide Area Network (SWAN)

The SWAN on the US Navy LPD-17 runs machinery, damage control, steering, magnetic signature, mission control, navigation and communications. RTI Connext DDS supports redundant networks, data and sensors without servers.

Guaranteeing No Single Point of Failure

Airbus

RTI Connext DDS enables the rapid development and integration of mission-critical sub-systems into Airbus' Ground Control Station (GCS), meeting the dual objectives of delivering high performance while guaranteeing no single points of failure.

ABOUT RTI

Real-Time Innovations (RTI) is the Industrial Internet of Things (IIoT) connectivity company. The RTI Connext® Databus is a software framework that shares information in real time, making applications work together as one, integrated system. It connects across field, fog and cloud. Its reliability, security, performance and scalability are proven in the most demanding industrial systems. Deployed systems include medical devices and imaging; wind, hydro and solar power; autonomous planes, trains and cars; traffic control; Oil and Gas; robotics, ships, and defense.

RTI lives at the intersection of functional artificial intelligence and pervasive networking℠.

RTI is the largest vendor of products based on the Object Management Group (OMG) Data Distribution Service™ (DDS) standard. RTI is privately held and headquartered in Sunnyvale, Calif.

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.

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