DATASHEET

RTI in Aerospace and Defense

OPEN STANDARD CONNECTIVITY FRAMEWORK FOR COMPLEX SYSTEMS

HIGHLIGHTS

Robust TRL 9 safety, security, interoperability and network resilience solution

Rapid technology insertion, maintainability and extensibility capabilities

Ideal for integrating manned, unmanned and machine-to-machine (M2M) systems

Easy-to-deploy, standards-based layered security

COTS RTCA DO-178C DAL A certification evidence

Open standards support, including DDS, FACE, GVA, OMS, SOSA and UCS

RTI Connext DDS provides an open architecture connectivity framework that is fast, scalable, reliable, and secure, both within the network and between land, sea, air, cyber and space-based systems. With its interoperability, portability, loose-coupling and real-time Quality of Service (QoS), Connext DDS is the preeminent software connectivity foundation for mission-critical aerospace and defense systems.

RTI CONNEXT DDS IN CHALLENGING AEROSPACE & DEFENSE APPLICATIONS

RTI Connext® DDS is the commercial leader in real-time software frameworks for aerospace and defense systems. It provides fast, scalable, reliable, and secure connectivity within and between land, sea, air, cyber, and space-based systems. Based on the open Object Management Group® (OMG®) Data Distribution Service™ (DDS) standard, Connext DDS advances the Modular Open Systems Approach (MOSA) and accelerates systems development by rapidly integrating both new and legacy system assets.

RTI Connext DDS prioritizes interoperability as a primary business attribute, which promotes innovation and competition for U.S. military Multi-Domain Operation (MDO) and Joint All-Domain Operations (JADO) programs that can underpin viable Joint All-Domain Command and Control (JADC2) systems. The data-centric architecture of DDS naturally enables the efficient delivery or separation of secure information from multiple sources. This multi-supplier and multi-domain interoperability increases cross-service collaborative efforts and reduces the total lifecycle costs and total cost of operations of networked platforms.

Connect DDS is built upon a resilient, loosely coupled architecture, enabling rapid technology insertion, robust application partitioning and accelerated update of critical technologies with minimal system impact and re-test. Connext DDS also includes a rich set of tools that accelerate module and system-level development, debugging, testing, integration and optimization. These tools give users the power to visualize system modules and application inter-connectivity, as well as the ability to introspect and inject data with fine-grained, real-time QoS.

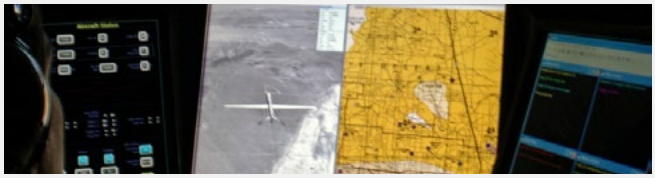
STANDARDS-BASED SECURITY FOR DATA-IN-MOTION

Connext DDS Secure is the first commercial solution to comply with the open OMG DDS standard security specification. Connext DDS Secure security plugins provide authentication, access control, encryption, data tagging and event logging, all without modifying the existing DDS network infrastructure. Connext DDS Secure ensures data confidentiality and integrity while protecting data-in-motion information across multiple security domains from unauthorized access and tampering.

PROVEN IN OVER 1,500 DEPLOYMENTS

General Atomics Aeronautical Systems, Inc.

General Atomics (GA) Advanced Cockpit Ground Control Stations deliver real-time data acquisition, analysis, and response for unmanned aircraft systems. GA selected RTI Connext DDS to simplify application code and speed development. The solution was delivered in less than 14 months, significantly faster than in-house development or alternative software.



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.

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.

Aurora Flight Sciences

Aurora Flight Sciences' ALIAS (Aircrew Labor In-cockpit Automation System) is a minimally invasive robotic copilot. It combines manipulation and machine vision to actuate aircraft controls and perceive aircraft instruments. RTI Connext DDS integrates advanced software and controls into an open, adaptable architecture.

U.S. Navy

The U.S. Navy's Ship Self Defense System (SSDS) is the "last line of defense" coordinating high-speed radar systems, targeting defensive missiles and directing 1,000+ rounds/second at incoming cruise missiles. RTI Connext DDS delivers these critical messages in real-time.

Airbus Group

The Airbus A^3 Vahana was the first certified, electric self-piloted vertical take-off and landing (VTOL) passenger aircraft. RTI Connext DDS was implemented as the airframe connectivity framework, integrating the aircraft's diverse systems with an open standard technology, greatly simplifying platform modularity and design integration.

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.

National Aeronautics and Space Administration (NASA)

NASA's Human-Robotic Systems Program prototypes robots for extraterrestrial surfaces. The project coordinates four NASA centers building different robots to operate in realistic environments including over low-bandwidth, high-delay communications. Connext DDS provides these systems with one common architecture.

COMPLIANCE

DUNS: 797735883
CAGE: 03FH8

NAICS Codes:

- 511210 Software Publishers
- 541511 Custom Computer Programming Services
- 541512 Computer Systems Design Services

ABOUT RTI

Real-Time Innovations (RTI) is the largest software framework provider for smart machines and real-world systems. The company's RTI Connext® product enables intelligent architecture by sharing information in real time, making large applications work together as one.

With over 1,500 deployments, RTI software runs the largest power plants in North America, connects perception to control in vehicles, coordinates combat management on US Navy ships, drives a new generation of medical robotics, controls hyperloop and flying cars, and provides 24/7 medical intelligence for hospital patients and emergency victims.

RTI is the best in the world at connecting intelligent, distributed systems. These systems improve medical care, make our roads safer, improve energy use, and protect our freedom.

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 headquarters in 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.

CORPORATE HEADQUARTERS
232 E. Java Drive, Sunnyvale, CA 94089
Telephone: +1 (408) 990-7400
Fax: +1 (408) 990-7402
info@rti.com

rti.com
rti_software
rtisoftware
company/rti
connextpodcast
rti_software