RTI in Aerospace and Defense

Accelerating Successful Adoption of Open Architectures

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 the leading supplier of DDS software for successful OA adoption.

Unparalleled Expertise

- Architecting for maintainability and extensibility
- Achieving performance and scalability objectives
- Meeting security, resilience and safety requirements
- Migrating from and integrating with legacy systems
- Supporting FACE, UCS, OMS, SOSA, GVA and more

Leading DDS Implementation

- Highest performance, scalability and reliability
- Richest and most customizable security
- Safety certified with evidence for DO-178C DAL A
- Broadest operating system and language support
- Integrated with UML, LabVIEW, MATLAB and Simulink

Rapid Development and Integration

- Powerful development, debugging and testing tools
- Facilities for run-time logging and monitoring
- Gateway SDK for integrating non-DDS components
- Intelligent routing for efficient Systems of Systems

RTI Connext® DDS in Real-World Applications

RTI's software and architectural expertise has helped hundreds of the world's leading defense agencies, systems integrators and suppliers adopt an OA based on the Object Management Group (OMG) DDS Standard for Real-Time Systems.

"RTI Connext DDS was pivotal in enabling us to implement our Interoperability Data Model for FICAPS [Future Interoperability of Camp Protection Systems]. Its combination of open standards compliance, robustness, performance and most importantly scalability, allowed our program to focus on its functional objectives."

Daniel Klein, Senior Armaments Cooperation Officer, European Defence Agency (EDA)

"We are successfully using RTI Connext DDS for our inter-process and inter-subsystem communications, recording, and in our DO-178C automated test environment... Having the RTI Connext DDS Cert product available allows us to move forward with our certification efforts with system development scheduled in 2016!"

Greg Polhamus, Software Engineering Manager, SRC, Inc.

"RTI's software with Ada integration is helping our developers build complex applications that require real-time data availability and response across large distributed systems. A major advantage of this approach is our ability to support and develop applications in a heterogeneous COTS-based environment requiring simple and straightforward integration of legacy code with newly developed systems."

Thomas Jungefeldt, Senior Systems Engineer Saab Systems, Naval Systems Division

Proven in More Than 1,000 Unique Designs
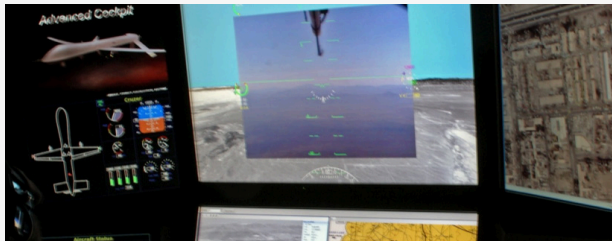
Massive Application Scalability
Zumwalt DDG 1000

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's 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.

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 with no single point 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.

rti

Your systems. Working as one.

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