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Press release

RTI Connext Accelerates the Shift to Software-Defined Naval Systems

Real-time data infrastructure enables faster integration of sensors, autonomous platforms and AI-enabled capabilities across complex naval systems

SUNNYVALE (USA) / London, 3 September 2026 - As naval threats and technologies evolve at unprecedented speed, defense organizations can no longer rely on development cycles that take years to deliver new capabilities. The RTI Connext® solution from Real-Time Innovations (RTI), a provider of infrastructure software for the 'Smart World', enables a 'software-first' approach to naval modernisation and provides the necessary real-time data infrastructure. This allows sensors, command and control systems, actuators, autonomous platforms and AI-enabled applications to be integrated rapidly.

Built on the open Data Distribution Service™ (DDS) standard, Connext provides a common data foundation across distributed naval systems, enabling new technologies and capabilities to be integrated without redesigning the underlying communications architecture. This allows system developers and integrators to modernize existing platforms incrementally while accelerating the integration and deployment of new mission capabilities.

Unlike traditional point-to-point communications, DDS uses a data-centric publish-subscribe approach. Applications make data available on the network while other components subscribe to the exact information they require. By decoupling individual systems and eliminating the need for individually programmed interfaces, this approach simplifies integration across complex system-of-systems architectures. New sensors, applications and platforms can be added without redesigning the entire communications architecture, while Quality of Service (QoS) policies allow requirements such as reliability and latency to be defined based on the needs of the system. This provides a flexible foundation for interoperability and the continuous evolution of software-defined naval systems.

Real-Time Data for Connected Missions

Across maritime environments, Connext provides end-to-end real-time communication between sensors, command and control systems, and effectors. Data from different subsystems is made available through a common, distributed data layer and can be accessed by the applications requiring it.

RTI addresses applications spanning surface warfare, integrated combat and defense systems, undersea warfare, and unmanned and autonomous maritime systems. In undersea applications, for example, Connext enables reliable, low-latency communication between sensors, submarine systems, and unmanned undersea vehicles. For autonomous platforms, sensor data can be combined in real time and made available for data fusion and AI-enabled decision-making.

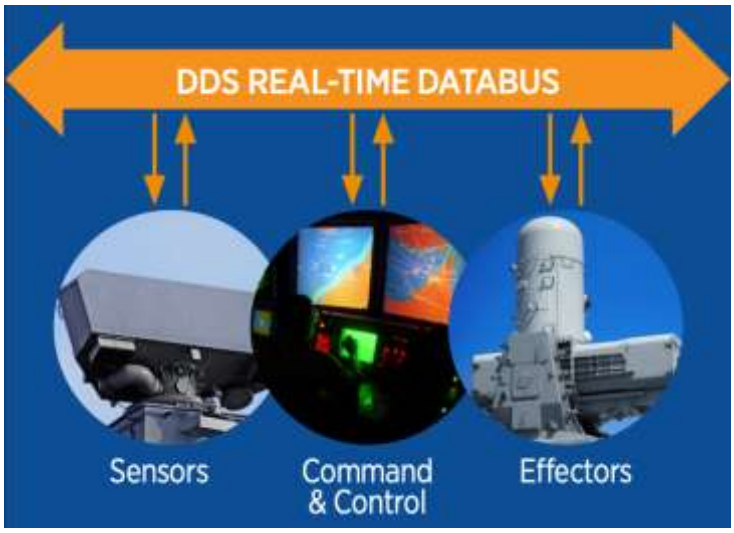
Software-First for Faster Development

In addition to system performance, development speed is becoming an increasingly important factor. Traditional development cycles spanning several years are no longer sufficient to keep pace with rapid technological advances. Defense organizations therefore need a software-first approach that focuses on speed, agility, and adaptability.

RTI Connext supports this approach through modular software architectures, real-time simulation and a common data-centric communications infrastructure that simplifies the integration of different systems. Edge-to-cloud connectivity and parallel testing environments further support the faster development and deployment of new capabilities.

Software updates also allow functionality to evolve without requiring hardware to be requalified for every functional change, helping programs introduce new capabilities while continuing to build on existing platforms and investments.

Image (Source: RTI): RTI Connext is based on the open standard ‘Data Distribution Service™’ (DDS) and provides a common data foundation for distributed naval systems.



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About Real-Time Innovations / RTI (www.rti.com):
Real-Time Innovations (RTI) is the data streaming company for intelligent distributed systems. RTI Connext® software is the critical nervous system for over 2,000 designs across Aerospace and Defense, MedTech, Automotive, and Robotics. Connext is the only real-time data streaming platform that can both control demanding physical systems and integrate them with cloud applications. RTI helps organizations develop, deploy, and scale intelligence and physical AI from edge to cloud, faster. RTI Runs a Smarter World™.

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