RTI Connext Drive

THE FIRST COMPLETE AUTOMOTIVE-GRADE CONNECTIVITY SOLUTION FOR AUTONOMOUS VEHICLE DEVELOPMENT

HIGHLIGHTS

Software framework and native Software Development Kit (SDK) to develop and run autonomous vehicles

Integrate with ROS2, AUTOSAR Classic/OSEK and AUTOSAR Adaptive for flexibility through the production cycle

Optional safety certification pathway that meets the requirements of ISO 26262 ASIL-D

Broad support for embedded systems and third-party software and hardware

Gateway toolkit and adapters for integrating non-DDS components

From research to production, Connext Drive offers OEMs and suppliers the connectivity they need to operate in diverse real-time environments, interoperate with other platforms within the vehicle, connect to off-vehicle systems and build in automotive-grade security.

BRIDGING ALL AUTOMOTIVE ECOSYSTEMS

RTI Connext Drive delivers a standard-based framework that manages complex data distribution for real-time connectivity across platforms for autonomous systems. Connext Drive is built on Data Distribution Service™ (DDS), the proven connectivity standard used by AUTOSAR Adaptive and ROS2 for autonomous vehicles. This standards-based approach delivers enhanced performance and massive scalability, while lowering risk.

Connext Drive is the first – and only – software that can integrate DDS, ROS 2, AUTOSAR Classic and AUTOSAR Adaptive. This allows automotive companies to work with the standard or standards that best meet their needs at different points in the development cycle. Connext Drive also includes a software framework and native SDK for developing and integrating autonomous drive applications and building in automotive-grade security.

CONNEXT DRIVE FEATURES

Connext Drive is the first standards-based connectivity framework to handle the complex integration and data distribution challenges of sensor fusion applications in autonomous systems. This is made possible by the following features:

Efficient High-Bandwidth Data Distribution
Communicate rapidly with throughput of over millions of messages per second using a data-centric databus, which allows data to flow when and where it's needed: securely, at scale and with ultra-low latency.

Enhanced Performance
With support for the latest Object Management Group® (OMG®) DDS Extensible Types standard, applications benefit from network bandwidth savings, enabling flexibility for multiple Quality of Service (QoS) strategies. An optimized Dynamic Data implementation delivers improved serialization performance.

Full Redundancy

Any sensor, data source, algorithm, compute platform or even network can be easily duplicated to provide higher reliability. The data-centric design allows the system to resolve this redundancy naturally. Connext Drive supports shared memory, LAN, WAN and Internet transports.

Broad support for embedded systems and platforms

Connext Drive is integrated with technology from many of the leading automotive technology providers. This interoperability provides automotive customers with the ability to use the software and platforms of choice.

Safety Certification Pathway

This feature option meets the stringent requirements of ISO 26262 ASIL-D, reducing risk, time and project costs.
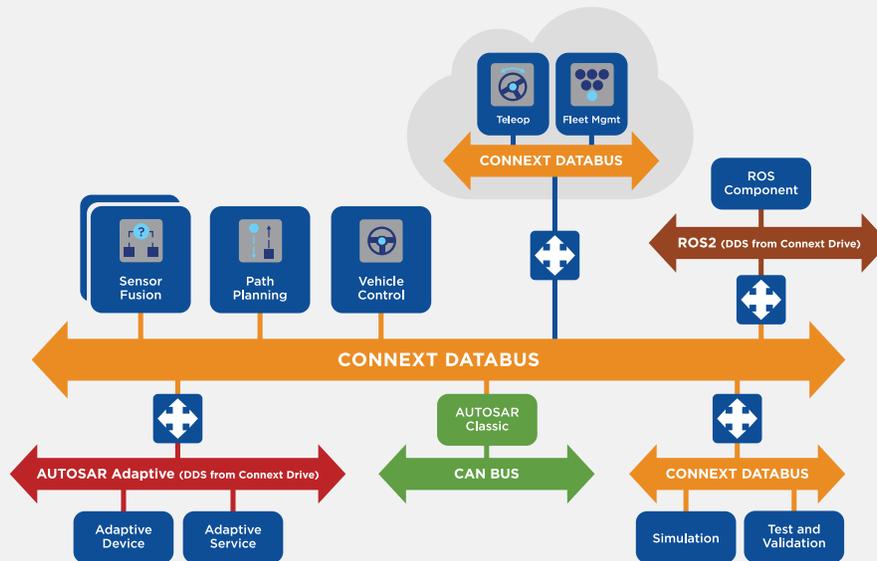
Updated DDS Security

Connext Drive is compliant with the latest OMG DDS Security specification v1.1 and supports the latest OpenSSL v1.1.1. The latest updates to the RTI Security Plugins also support loading keys from an SSL engine to more easily integrate best practice key storage.

Integration with Standardized Frameworks and Platforms

Through its standard-based architecture, Connext Drive eases integration between OEMs and suppliers, from research through production. It provides Interoperability across programming languages, operating systems and CPU families, plus a Gateway Toolkit and adapters for integrating non-DDS components.

To learn more about Connext Drive, visit: rti.com/drive.

A sample autonomous vehicle system architecture using Connext Drive and a layered databus architecture to integrate multiple components and platforms. Connext Drive is the first and only framework to be used in all the common automotive ecosystems.

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

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