



DATASHEET

RTI Connex 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, Connex 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 Connex Drive delivers a standard-based framework that manages complex data distribution for real-time connectivity across platforms for autonomous systems. Connex 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.

Connex 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. Connex Drive also includes a software framework and native SDK for developing and integrating autonomous drive applications and building in automotive-grade security.

CONNEX DRIVE FEATURES

Connex 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. Connex Drive supports shared memory, LAN, WAN and Internet transports.

Broad support for embedded systems and platforms

Connex 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.

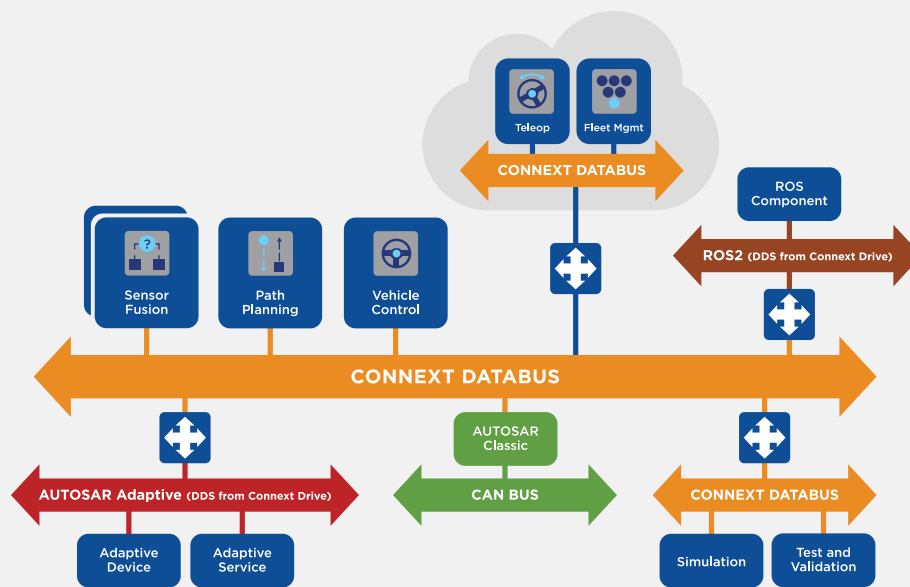
Updated DDS Security

Connex 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, Connex 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 Connex Drive, visit: rti.com/drive.



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

ABOUT RTI

Real-Time Innovations (RTI) is the Industrial Internet of Things (IIoT) connectivity company. The RTI Connex[®] 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 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 Connex DDS software today: <https://www.rti.com/downloads>.

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2 • rti.com