Wi-Tronix

VEHICLE TRACKING, DATA DOWNLOAD AND INTEGRATION

"RTI's middleware combines flexibility and reliability, supporting our need to exchange data with mobile assets as they travel across North America."

Mike Heilmann
Executive Vice President, Wi-Tronix

HIGHLIGHTS

- Wi-Tronix is a leading provider of remote monitoring, predictive analytics and advanced video analytics for transportation industry assets.

- Managing such assets improves management and oversight, and saves millions of dollars in higher utilization.

- RTI Connext DDS met the requirements with its connectivity framework and its proven ability to manage data from remote, mobile data sources while working across wireless networks.

CUSTOMER OVERVIEW

Wi-Tronix provides products and services to wirelessly monitor high-value mobile assets such as trailer trucks, locomotives, industrial equipment and marine vessels. Wi-Tronix customers realize significant savings through mproved fleet utilization and more efficient operation of their mobile assets. Wi-Tracker utilizes Commercial Off-The-Shelf (COTS) embedded components, hardened for specialized industrial environments, to integrate with mobile assets and collect location, utilization, and other data. Wi-DownloadER Fleet-wide Data/Event Recorder Download Platform complements Wi-Tracker by providing a single, fleet-wide data/event recorder download platform for wireless remote data download for a mobile asset fleet.

APPLICATION

In an industry where tracking and managing large and expensive assets can improve management and oversight and save millions of dollars in higher utilization, Wi-Tronix provides solutions that make sure those assets are used efficiently. Tracking mobile assets such as trailer trucks, locomotives, industrial equipment, and barges enables enterprises to detect problems and reroute equipment based on local conditions, providing for shorter transit time and better scheduling. These solutions also enable a company to track average speed, gas mileage, engine operation, and other characteristics that contribute to both safety and asset performance.

CHALLENGES

Wi-Tronix required a data distribution solution for its Wi-Tracker and Wi-DownloadER wireless asset monitoring and download products in order to provide a comprehensive approach to remote asset management. Together, these products enable a customer of Wi-Tronix to electronically monitor the location of an asset, physical characteristics of the asset, fuel history and efficiency, vehicle operating characteristics, and asset utilization. Because assets are both mobile and frequently geographically dispersed, they communicate via wireless interfaces with the central control facility.

The volume of data and the requirement for real-time analysis and response, with the control signals sent across significant distances make this a challenging application. In addition, because customers can have dozens or even hundreds of mobile assets, data transmissions from many sources have to be received and aggregated across the distributed system. These characteristics make any potential solution complex and subject to poor performance and reliability.

SOLUTION

Wi-Tronix looked at several commercial solutions, including both commercial distributed networking alternatives and potential in-house custom code. Of the alternatives, the company determined that RTI Connext DDS provided the best technical solution for its requirements. Connext DDS is a standards-based middleware product that enables the real-time exchange of data between nodes of a distributed system that consists of both data producers and data consumers. Using a publish-subscribe model for data availability, it provides a means to quickly and reliably move and share data in a distributed computing environment. RTI Connext DDS complies with the Object Management Group (OMG) Data Distribution Service for Real-Time Systems (DDS) specification for data distribution across largescale networks.

RTI had experience aggregating and coordinating data from remote and mobile data sources, and working across wireless networks. These factors, along with performance and reliability tests, helped the company confirm its choice, according to Mike Heilmann, executive vice president at Wi-Tronix.

Without a commercial middleware solution for real-time data distribution, Wi-Tronix would have had to develop and maintain its own code to ensure data flowed between

nodes within the required time constraints. In addition to the lengthy development schedule this alternative would likely have entailed, getting the reliability and performance out of a custom solution would have been expensive and time-consuming.

BENEFITS

RTI provided Wi-Tronix with a distributed data middleware solution that enabled Wi-Tronix to offer its customers new features and reliability in mobile asset management across a network spanning thousands of miles. The use of RTI Connext DDS as a platform enabled the company to focus its efforts on data collection and system integration, rather than building and maintaining a comprehensive data distribution mechanism.

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.
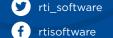
Your systems. Working as one.

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