DATASHEET

RTI Routing Service

HIGHLIGHTS

Eases integration and scaling of large, complex, real-time systems, enabling performance and simplification through the layered databus model

Enables seamless communications across different subsystem locations or external interfaces

Can be deployed without changing existing applications; can be integrated without modifying source code

Allows disparate systems to communicate seamlessly by transforming and filtering data

Define custom behaviors using pluggable components provided by the Routing Service SDK

RTI Routing Service for Connext enables seamless communication between different DDS™ domains. It acts as a bridge, allowing data to flow between various DDS networks without the need for modifying existing applications. This service simplifies the integration of distributed systems, enhancing the flexibility and scalability of the architecture by supporting a layered databus model.

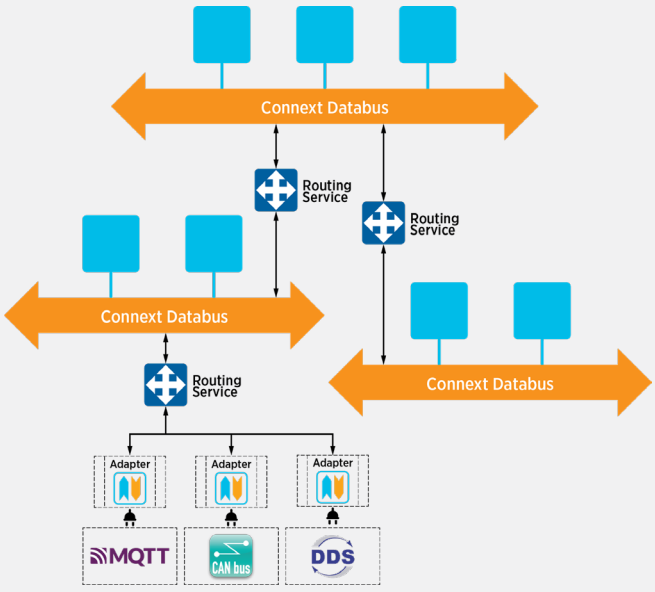

Figure 1. Utilize Routing Service to create a system that can communicate flexibly and efficiently across various DDS domains

Key features of Routing Service include:

- **Large-Scale Integration:** Ensures efficient data flow across wide-area networks (WANs) and systems-of-systems, allowing for modular system design.
- **Data Transformation:** Supports dynamic data transformation, including changes to topic names, type definitions and Quality of Service (QoS) parameters to facilitate seamless integration of different generations of topic definitions.
- **Interoperability:** Enables connections between different DDS topic definitions or Connext versions for smooth operation as systems evolve.
- **Security:** Supports RTI Security Plugins, ensuring secure communication and data exchange between domains.

RTI Routing Service SDK is a tool that facilitates the development of custom integrations between Connext and various other technologies and standards. It leverages the Routing Service to quickly build and deploy bridges for data integration. The SDK includes features for transformation between different data types and offers pluggable adapters for a variety of protocols and standards.

Some key features of Routing Service SDK include:

- **Extensibility:** Provides a powerful framework for developing custom plugins and extensions to integrate additional functionality and adapt Routing Service to specific use cases.
- **Custom Transformation Plugins:** Allows specialized data transformation logic to be tailored to an application's unique data models and requirements.
- **Advanced Routing Logic:** Enables the development of sophisticated routing logic and optimized data flow patterns.

USE CASES:

Multi-Domain Integration

In scenarios where diverse systems or networks need to interact, RTI Routing Service acts as a bridge, allowing seamless communication between these different domains. This integration is crucial for organizations that operate multiple, possibly independent, real-time systems that need to exchange data efficiently. RTI Routing Service facilitates communication between different DDS domains, where each domain may represent a distinct system or network with its own set of participants and data models.

Data Aggregation

RTI Routing Service can aggregate data from multiple sources and distribute it to relevant destinations, enabling use cases such as centralized data analysis. This feature is valuable when there is a need to consolidate data from multiple distributed sources. For example, in a complex industrial setting with sensors and devices spread across different locations, RTI Routing Service can aggregate the data generated by these devices and distribute it to relevant destinations.

Protocol Adaptation

RTI Routing Service can transform data between different protocols and formats, allowing systems with varying data representations to communicate effectively. In heterogeneous environments where various systems may use different communication protocols or data models, RTI Routing Service acts as a mediator. It translates the data from one format to another, facilitating seamless communication between systems that might otherwise struggle to understand each other's data models. This adaptability is crucial in scenarios where interoperability is essential.

Secure Traversal of Wide-Area Networks

When an organization's infrastructure spans multiple locations or sites and there is a need for secure communication between these distributed elements, RTI Routing Service can help. By creating multiple databus layers over a WAN, Routing Service ensures that data is transmitted securely. The integration of RTI Security Plugins adds an extra layer of protection, addressing the security concerns associated with data transmission over vast geographical areas.

BENEFITS

- **Simplified Integration:** RTI Routing Service eliminates the need to modify existing applications, reducing integration effort and complexity by prioritizing interoperability.
- **Flexibility:** RTI Routing Service provides a flexible and configurable way to define data routing and transformation rules.
- **Time Savings:** RTI Routing Service helps reduce coding overhead, accelerate development and shorten time-to-market.

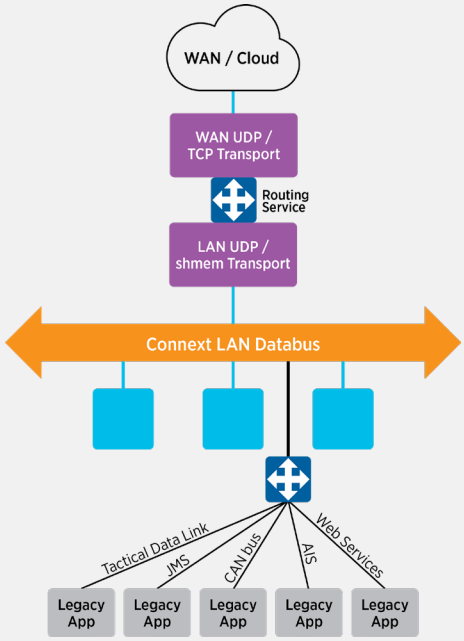

Figure 2. Use Routing Service as a WAN/Cloud gateway as well as a bridge between DDS systems and legacy applications using different protocol and data models

ABOUT RTI

Real-Time Innovations (RTI) is the infrastructure software company for smart-world systems. Across industries, RTI Connext® is the leading software framework for intelligent distributed systems. RTI runs a smarter world.

RTI is the market leader in products compliant with the Data Distribution Service (DDS™) standard. RTI is privately held and headquartered in Silicon Valley with regional offices in Colorado, Spain, and Singapore.

Your systems. Working as one.

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