RTI CUSTOMER SNAPSHOT

PLATH GmbH

RTI ENABLES PLATH TO BRING OPEN-STANDARDS INTEGRATION TO COMMUNICATIONS INTELLIGENCE (COMINT) SYSTEMS

"We were able to build the world's first high-performance SOA application platform for COMINT delivered with open-standards integration capabilities by using RTI Data Distribution Service…It would have been hard to beat RTI's middleware performance and scalability even with a dedicated, internally developed solution."

Martin Ostendorf
Director of Software Development, PLATH GmbH

HIGHLIGHTS

- PLATH GmbH is an internationally recognized specialist in intelligence systems

- Intelligence, Surveillance and Reconnaissance (ISR) systems are becoming more connected, integrated and semi-autonomous resulting in advanced technical challenges.

- PLATH selected RTI Connext DDS because it delivered the highest performance and bandwidth utilization across the distributed environment.

COMPANY OVERVIEW

PLATH GmbH is an internationally recognized specialist in intelligence systems. PLATH is an expert in customized system solutions that address the complete intelligence process—from communication interception, to analysis and evaluation, to situation reporting and electronic countermeasures.

CHALLENGE

Intelligence, Surveillance and Reconnaissance (ISR) systems are becoming far more connected, integrated and even semi-autonomous. In the new world of asymmetric warfare, nations, security agencies and defense forces have to cooperate far more rapidly and effectively than ever before. This is driving a cultural shift for ISR system requirements from "need to know" within the bounds of the user's nation or agency, to "need to securely share" between these agencies and nations. To "securely share" in a computer-system context requires a common communication mechanism.

When designing its next-generation Intelligence Control and Analysis System (ICAS), PLATH recognized that ICAS needed to be tightly integrated with third-party ISR sub-systems defined by their customers. To achieve tight and efficient

integration and communication between PLATH and third-party systems, a common internal and external integration middleware was needed. It was decided that open-standards integration and communication middleware would meet these objectives.

PLATH identified the following key assets needed for the system communication and integration backbone:

- Performance — ISR systems have to efficiently move huge quantities of data around a distributed environment. Efficient use of available communication bandwidth is therefore essential. A prioritization feature within the traffic-management capabilities of the middleware is also needed to ensure that time-critical intelligence is communicated while it is still relevant.

- Open-standards compliance — Nation-to-nation and agency-to-agency communication has to be enabled with minimal integration cost and maximum efficiency. Open standards at the level of the wire, communication middleware and the data definition and securitization are vital to meeting these objectives.

- Support for Service-Oriented Architecture (SOA) application development — In the ISR market, many intelligence

applications are specified using SOA principles. It was important that the selected open-standards middleware enabled PLATH to present its customers with a modular SOA application framework.

- Scalability— PLATH recognizes that, as the move to "securely share" developed in the ISR market, COMINT systems-of-systems would scale exponentially. PLATH identified that the communication and integration middleware has to enable distributed-system scalability to meet these rapidly growing market demands while sustaining the performance objectives.

SOLUTION

PLATH conducted an exhaustive study and assessment of Commercial-off-the-Shelf (COTS) middleware solutions and determined that the Object Management Group (OMG) Data Distribution Service for Real-time Systems (DDS) standard met the ICAS open-standards objectives. DDS has been adopted and even mandated across many international defense programs, most notably net-centric initiatives, such as Net-Centric Enterprise Solutions for Interoperability (NESI). RTI Connext DDS has been tried, tested and deployed in these

net-centric environments, proving the solution's maturity in large-scale system integrations.

PLATH's own application-specific benchmarks demonstrated that RTI Connext DDS delivered the highest performance and best bandwidth utilization. Connext DDS only required a 10-percent bandwidth utilization (worst case) in order to provide its communication services. Just as critical, the solution scaled remarkably well, sustaining performance levels as system complexity grew. Scalability of the communication and integration middleware solution was extremely important. While PLATH's internal system integration requirements were known and thus bounded, PLATH's customers would undoubtedly need to integrate the PLATH system into a wider system-of-systems, thus dictating scalability objectives that PLATH could not predict at design time.

PLATH was able to integrate its SOA application environment with DDS, which was a key requirement in meeting customers' demands for modular and scalable application development across this inherently highly distributed system environment.

BENEFITS

In July 2009, PLATH unveiled the first of a new range of signal monitoring systems, the SMS2040. The system's next-generation architecture lays the foundation for a completely new, modular, high-performance product line, the SMS 2000/5000, upon which ICAS will be built to deliver the next-generation COMINT system. The SMS2040 delivered a dramatic boost in performance over previous-generation products; it also greatly improved scalable performance, which will allow PLATH COMINT monitoring subsystems to be used in a wider range of increasingly demanding intelligence scenarios. "RTI's integration and communication middleware has proven to be robust, easy-to-use and extremely bandwidth-efficient, enabling PLATH to deliver a huge performance increase in its COMINT systems. As we scale up our distributed environment to address increasingly demanding application and systems integration requirements, RTI's solution continues to meet our performance and integration objectives," stated Martin Ostendorf, director of software development at PLATH.

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.

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