RTI Architecture Study

MEET YOUR DISTRIBUTED APPLICATION'S DESIGN OBJECTIVES

HIGHLIGHTS

Meet performance and scalability requirements

Reduce project risk

Ensure total system integration

Fully utilize Connext product capabilities

Save costly rework at the end of the development cycle

Customized assessment of your application's requirements, design and architecture

Advise on tuning your application for performance and scalability

Our RTI Professional Services team is made up of the best and the brightest in the area of critical systems development. RTI will train your team, match your system requirements to a data distribution design, and provide project development support in order to mitigate your project risk, increase productivity and ensure quality in your final deliverable — often on a shortened schedule.

CUSTOMIZED DESIGN FOR YOUR DISTRIBUTED APPLICATION

Mitigate project risk by optimizing your distributed system design to meet your performance and scalability goals.

With an RTI Architecture Study, RTI's expert Professional Services team evaluates your requirements and networking infrastructure. RTI then provides you with a written report summarizing design options, recommending implementation strategies, identifying risk areas and proposing mitigation options.

MITIGATING RISKS

When designing real-time distributed systems, many requirements must be taken into account. These include:

- Throughput and latency
- Discovery performance
- Scalability — number of nodes and communicating applications
- Fault tolerance
- Connectivity options

These requirements must be considered in the selection of middleware as well as in a system's overall architecture. If the middleware and architecture fail to deliver the required performance and scalability, the result could be catastrophic in terms of delivery time and re-engineering cost. Unfortunately, the risk is particularly acute because performance and scalability problems are usually not detected until near the end of the development cycle, after system integration.

The RTI Architecture Study mitigates your project risk by helping you make the right middleware and design decisions up front. Additionally, the study provides valuable analysis to help you optimize and tune your application.

RTI'S EXPERTISE IN OPERATIONAL SYSTEMS

For over ten years, RTI has been the world leader in delivering ultra high-performance, scalable communications software for building and integrating real-time operational systems.

Architecture studies are led by members of the RTI Professional Services group, a team that has decades of experience in the design and implementation of distributed real-time applications. Areas of expertise range from military and aerospace to transportation, communications and industrial automation.

RTI is uniquely experienced in the optimization and tuning of large scale, high-performance distributed real-time systems. This includes extensive knowledge of networking hardware, operating systems, protocol stacks and middleware—as well as their interactions. This enables RTI to understand the ramifications of architectural decisions, configuration options and Quality of Service (QoS) parameters on latency, throughput and scalability.

HOW IT WORKS

A typical architecture study starts at your work site, with an RTI expert working with you and your team to identify your application's requirements and use cases. The RTI expert then works with you to design an appropriate architecture to best meet the objectives and requirements of your distributed application. Typically, this initial review also includes an in-depth discussion about application design, system optimization, performance tuning, scalability, and training on various DDS properties and core design tenets. The initial review is followed up with a comprehensive report of the topics covered and specific recommendations.

EXAMPLE TOPICS

Each RTI Architecture Study document is tailored for the particular needs of the customer. Example contents of an Architecture Study include:

- Requirements, System Overview and Core Concept Review

- Design Patterns — applicable design patterns

- Domain Discovery and Tuning (domain binding, topology, discovery, threading and identification)

- Reliable Data Model

- Topic Design

- Communication Design Patterns (e.g., heartbeating, checkpointing)

- Operating System Tuning for Optimal Performance (e.g., LynxOS, VxWorks, Integrity)

- System Optimization, Framework Selection (operating system, network hardware and middleware configuration)

- Prototype Open Architecture Implementation

- Gap Analysis, proposed solutions for unmet requirements

CONTACT US

To find out more, please email solutions@rti.com, or call us at +1-408-990-7400.

ABOUT RTI

Real-Time Innovations (RTI) is the Industrial Internet of Things (IIoT) connectivity company. The RTI Connext® 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 lives at the intersection of functional artificial intelligence and pervasive networking℠.

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 Connext DDS software today: https://www.rti.com/downloads.

**Your systems.
Working as one.**

CORPORATE HEADQUARTERS

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