RTI – Addressing the Challenges of Building Critical Systems. RTI is the world leader in delivering fast, scalable communications software. Based on a decentralized software data bus, RTI allows real-time applications to communicate with each other and with enterprise and legacy applications. RTI's solutions feature a unique combination of high performance and broad standards support. RTI provides integrators of demanding applications with an alternative to custom middleware that is off-the-shelf and employs an open architecture. You'll find RTI in all kinds of real-world applications. Some sample applications include defense, industrial control, simulation, unmanned vehicles, and transportation, healthcare and finance systems.

RTI in Aerospace and Defense

Since 1991, Real-Time Innovations, Inc. (RTI), has been a strategic supplier of software technology to the majority of the world’s leading defense agencies and systems integrators, as well as their subcontractors. RTI's standards-compliant software technology is designed to meet the stringent performance and integration demands required for defense agency programs.

Open-Standards Leadership

A key factor in controlling the costs of development, integration and testing for large programs is honoring and leveraging open standards. Large defense programs, which are comprised of systems of systems, reap significant benefits from software portability, reuse and interoperability. The larger the program, the greater the potential for cost savings. This is true not only at the initial development stage, but also — and more importantly — throughout the life of a program as it is upgraded.

Defense Initiatives Supported by RTI

- **OACE**  Open Architecture Computing Environment
- **GVA**  Generic Vehicle Architecture
- **FORCE**  FORCEnet
- **VSI**  Vehicle Systems Integration
- **DISR**  DoD IT Standards Registry
- **UCS**  UAS Control Segment
- **NESI**  Net-Centric Enterprise Solutions for Interoperability
Our defense customers say it best.
RTI has supported the successful design and development of more than 400 defense systems, meeting both the complex functional objectives and the stringent performance demands of the strategic programs these systems support. RTI customers work with the industry’s best and brightest minds to ensure programs are delivered on time and within budget.

Scalability

BASE TEN Systems Electronics GmbH
Modular, Scalable Ground Control Stations for Unmanned Ground Vehicles

“RTI Data Distribution Service is at the core of our capability to rapidly develop a modular and highly scalable real-time application environment.”

Josef Schröttle
Head of Design & Development

Lockheed Martin
Aegis Open Architecture Weapon System

“Aegis Open Architecture will modernize the Navy’s surface force and enable rapid insertion of future technology upgrades. RTI’s Data Distribution Service supports this mission through its open-standards design and ability to insulate each subsystem from changes in adjacent subsystems.”

Orlando Carvalho
Vice President and General Manager, Surface-Sea Based Missile Defense Systems Business

Northrop Grumman
Common Link Integration Processing (CLIP)

“Working with RTI has been both effective and productive. We were able to design and build a system that meets the demanding goals of the CLIP Program while also adhering to NESI requirements.”

Jim Miller
Program Manager for the CLIP Program

Performance

Advanced Fusion Technologies
Open-Systems Interface Converter

“The integration of OSIC with RTI Data Distribution Service enables multiple applications to receive consistent, synchronized data in real time, greatly improving overall system integration.”

Dave McKean
Chief Technology Officer

CASSIDIAN (EADS)
UAV Ground Control Station

“RTI’s implementation of the DDS standard is the best-performing and most robust solution we have tested.”

César Castro Gómez
Head of UAS Ground Segment
Naval Sea Command
Dahlgren Division

High-Performance Distributed Computing Project

“Using RTI, the communications link performance was better
than that measured in the fleet system.”

Advanced Computing
Test Bed Demonstration

Plath GmbH

Signals Intelligence/Communications Intelligence
(SIGINT/COMINT) System

“Our SMS2040 required a fully scalable publish-subscribe
messaging middleware environment to provide a modular
integration backbone for real-time data management and
distribution. The COTS-based RTI Data Distribution Service
offered the ideal solution as the most mature, easy-to-use and
best-performing real-time middleware product available.”

Martin Ostendorf
Director, Software Development

Lockheed Martin

Advanced Platform Control System

“RTI provides a scalable real-time COTS middleware that
is easy to integrate and has proven to be very reliable in
the field.”

Sea SLICE Lead Software Engineer

Reliability

Autonomous Vehicle Systems
UGV Distributed Sensor Integration

“We selected RTI because of their proven track record
in synchronized, distributed communications and their
understanding of the critical design requirements of
autonomous vehicles.”

Dan Komaromi
Vice President, Sensor Development

Raytheon Integrated Defense Systems
Total Ship Computing Environment Infrastructure

“The incorporation of RTI Data Distribution Service into
TSCEI is a great example of how DDG 1000 is executing
the Navy’s Open Architecture strategy. From a technical
perspective, DDG 1000 uses a modular architecture that is
based on open standards. The RTI Data Distribution Service
fits well with that architecture, providing data ubiquity and
real-time distribution.”

Bob Martin
Raytheon DDG 1000 System Software
Development Director

Saab Systems
Naval Systems Division

“RTI middleware with Ada integration is helping our developers
build complex applications that require real-time data
availability and response across large distributed systems.
A major advantage of this approach is our ability to support
and develop applications in a heterogeneous COTS-based
environment requiring simple and straightforward integration
of legacy code with newly developed systems.”

Thomas Jungefeldt
Senior Systems Engineer

Ultra Electronics
Modular Sonar System

“Our extensive testing showed that RTI Data Distribution
Service is the most robust and field-proven implementation
of the DDS standard available.”

Sean Bell
Chief Software Engineer
Innovation and Cost-Control with Mitigated Obsolescence
By using open standards to drive integration solutions, defense agencies are able to ensure that systems integrators focus their innovation efforts on program objectives. Adoption of Service Oriented Architecture (SOA) principles helps defense agencies manage their application requirements. By adopting SOA-compliant open standards for system integration, defense agencies can maintain an open and competitive system requisition capability. In addition, by directly managing the integration mechanism through open standards, defense agencies mitigate the impact of system obsolescence.

Supporting Defense Agencies
RTI technology and expertise play a key role in many mission-critical defense systems. RTI enables defense agencies to realize critical objectives such as:

• Accelerated development of increasingly complex programs
• Interoperability between competitively sourced systems
• Legacy system integration
• Reduced cost of ownership
• Adoption of SOA across mission-critical systems

Enabling Systems Integrators
Through the development and delivery of open-standards Commercial off-the-Shelf (COTS) integration solutions, RTI supports systems integrators with leading technology that enables them to create systems with these essential characteristics and more:

• Extremely scalable
• Modularized
• Net-centric
• Very high performance
• Highly available

Programs for Government Research
Please visit www.rti.com for more examples of RTI in aerospace & defense applications. Also on our website are details about our active government research programs, including SBIR projects, government research and IRAD software grants, and more.

About RTI
RTI is the world leader in delivering fast, scalable, communications software that address the challenges of building and integrating real-time operational systems. RTI Connext solutions meet the needs of enterprise-wide integration — from the operational edge to the enterprise data center. The RTI standards-based software infrastructure improves the efficiency of operational systems while facilitating better decisions, actions and outcomes for the business enterprise.

For over ten years, RTI has delivered industry-leading products and solutions for customers in markets ranging from Aerospace & Defense, Process Automation, Financial Services, Energy, Automotive, Health Sciences and Transportation Management.

Founded in 1991, RTI is privately held and headquartered in Sunnyvale, California.