RTI® FACE™ TSS Reference Implementation

Built on DDS for Loose Coupling and Safety Certifiability

The Future Airborne Capability Environment (FACE™) technical and business standards promote software reuse across disparate airborne platforms, both manned and unmanned. Within the FACE architecture, the Transport Services Segment (TSS) provides the APIs and capabilities that portable components use to exchange data. The RTI FACE 2.1 TSS Reference Implementation provides an off-the-shelf TSS solution that accelerates component development and integration.

Highlights

- Based on FACE Technical Standard, Edition 2.1
- Included IDL compiler generates type-specific C++ interfaces from the Platform Data Model
- Includes portable source-code for run-time components
- Runs on a wide variety of operating systems and CPUs
- Customizable to meet system-specific requirements
- Expeditious path to DO-178C Level A certification

The RTI FACE 2.1 TSS Reference Implementation makes it easy for FACE component developers and systems integrators to take advantage of the Data Distribution Service (DDS) standard. The RTI TSS implementation provides a thin software layer that maps the FACE Transport Services (TS) Application Programming Interface (API) to the DDS API supported by RTI Connext® DDS products.

RTI provides the TSS Reference Implementation at no charge to customers with a license to Connext DDS. In addition, RTI offers the following services to expedite your development and integration.

FACE TSS Support Package
Provides your team direct access to the expertise necessary to effectively leverage the RTI reference implementation and seamlessly integrate it into your new or existing infrastructure.

FACE TSS Design Services
Provides customization, feature acceleration and additional conformance testing required to meet your system-specific TSS requirements.
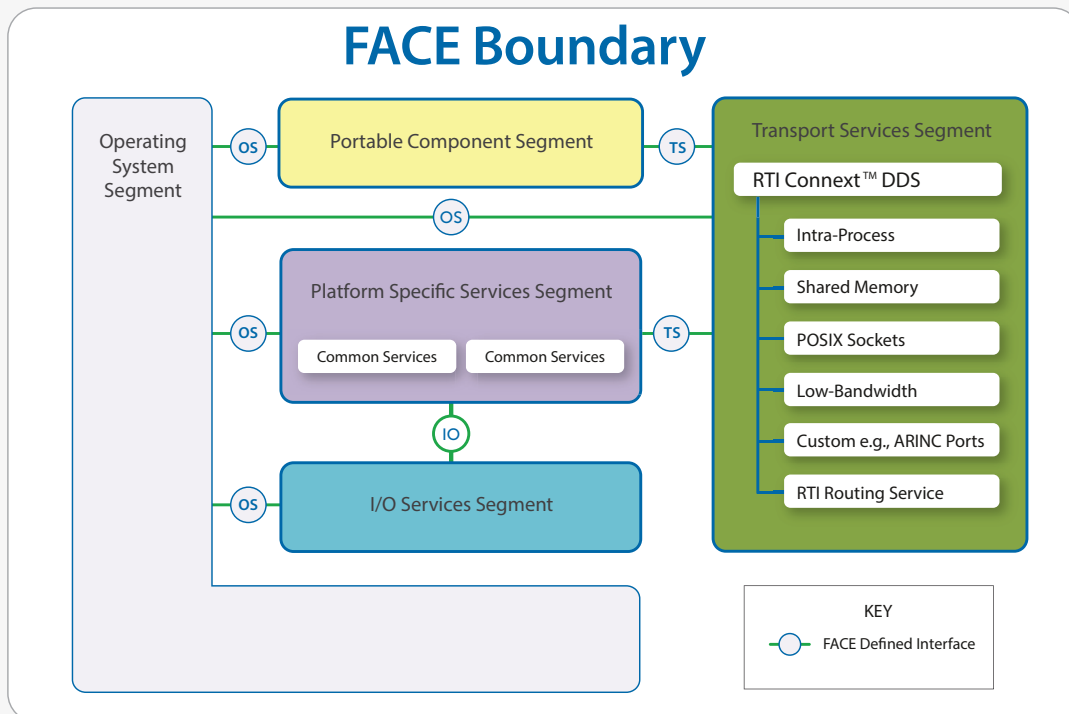
Leverage the Power of Connext DDS

The RTI TSS Reference Implementation provides loose coupling between portable components. This minimizes integration, maintenance and upgrade costs. FACE connections are mapped to DDS publish/subscribe topics. Components communicate by simply publishing the data they produce and subscribing to the data they consume. They require no knowledge of other components. DDS automatically handles discovery and message routing.

The reference implementation runs over any Connext DDS product. It supports the FACE Safety Base Profile when used with Connext DDS Micro and Connext DDS Cert. With a few minor changes to the included source code, it can also support the Security Profile. Since Connext DDS Cert is certifiable to DO-178C Design Assurance Level (DAL) A, the RTI TSS provides a fast and low-risk solution for safety-critical systems.

All Connext DDS products deliver the power of the DDS standard to FACE developers and integrators.

- Decentralized architecture with peer-to-peer communication for low latency and no single point of failure (no brokers or servers required)

- Efficient and scalable real-time data distribution, including over multicast

- Optimized intra-process, inter-process, inter-partition and inter-node communication

- Physical communication mechanism(s) configurable at integration time (e.g., shared memory or network sockets)

- Comprehensive control over Quality of Service (QoS), including reliability, deadlines, fault tolerance, access to historical data and resource utilization

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 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, California.

rti

Your systems. Working as one.

CORPORATE HEADQUARTERS
232 E. Java Drive
Sunnyvale, CA 94089
Tel: +1 (408) 990-7400
Fax: +1 (408) 990-7402
info@rti.com