HIGHLIGHTS

Data recording for analysis and debugging
Data replay for simulation and testing
Archiving for regulatory compliance
Efficient, non-intrusive data capture
Records data, metadata and system information
Integrated with Administration Console for easy configuration and operation

OVERVIEW

RTI Recording Service, a component of RTI Connext® DDS Professional, is the first off-the-shelf solution for non-intrusive recording, analysis and replay of real-time data, messages and events at high data-rates and high fidelity.

REAL-TIME DATA REPLAY

RTI Recording Service enables real-time, configurable replay of recorded data. The replay function provides fidelity to within 10 milliseconds of the recorded data rate. It also provides options for accelerated and decelerated replay, and replay using different Quality of Service (QoS) settings than used in the original recorded application. Replay is non-intrusive to the system, simply appearing as another publisher to DDS, transparent to subscribers.

EFFICIENT DATA ANALYSIS INTEGRATION

RTI Recording Service stores data in a platform independent format that can be used on any of the supported operating systems. Data is immediately available, searchable and scriptable through SQL, and can be exported to enterprise
databases or to standard data formats — such as JSON in SQLite — for use in readily available analysis software.

SEAMLESS INTEGRATION WITH RTI CONNEXT

Out of the box, RTI Recording Service provides seamless integration with RTI Connext DDS; it will automatically record and replay all the topics encountered in the system. RTI Recording Service is distributed as a stand-alone service and works seamlessly with the dynamic architecture of Connext DDS. It can record data from, or replay data to, any heterogeneous networked system that is using RTI Connext.

COMPLETE CONFIGURABILITY

RTI Recording Service is completely configurable, providing the capability to selectively control what data to interact with and how to interact with it. Depending on settings in the configuration file, the service can interact with data from multiple domains and can be configured to record or replay all published topics, only a subset of topics, or only certain fields within selected topics.

QoS properties, such as reliability, control how data is sent and received by Connext DDS applications. By default RTI Recording Service automatically determines the settings needed to create a communication channel with a DDS publisher or subscriber, and it is also possible to explicitly control the QoS properties. In addition, serialized or de-serialized data samples can be used — trading off convenience for raw performance.

Users can control the number of files in which data is stored, the maximum size of the data files, and the partitions used. RTI Recording Service can handle any sample size — from 16 bytes up to 1 Gigabyte. To avoid the pitfalls associated with large data files, RTI Recording Service can use multiple files, with more than 2 Terabytes of data stored in a single file.

GRAPHICAL CONTROLS FOR RECORDING AND REPLAYING

RTI Administration Console provides a graphical front end for recording and replay functions. In addition to standard recorder operations (start, stop, pause, etc.) the user can monitor and visualize data during recording and replay.

SCALABLE AND SUITABLE FOR FAULT-TOLERANT APPLICATIONS

Multiple instances of RTI Recording Service can be run concurrently to enable recording or replay of extraordinarily high data volumes and to support redundant recording or replay of critical data. Fine grain control is provided over which data is recorded or replayed by each instance.

EXAMPLE USES

Distributed Testing and Simulation

Recording and Replay of live and simulated distributed tests allow you to establish a fixed baseline and repeat tests with high fidelity, even when the system or testing lab is not available.

Seamless integration with third-party technologies, such as Relational Data Management Systems (RDBMS) and Complex Event Processing (CEP), reduces the risk and cost of your QA effort.

Intelligence, Surveillance and Reconnaissance

Recording data for post-mission analysis, particularly when network connectivity is not available during a mission, is unreliable, or does not have sufficient bandwidth to stream available data in real-time.

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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.


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