RTI Recorder

Recording Solution for High-Throughput Data, Events and Messages

APPLICATIONS

- Post-mortem analysis and debugging
- Data source for simulation and testing
- Archiving for regulatory compliance

FEATURES

- Efficient, non-intrusive capture
- Records data, metadata and system information
- Portable data format with all information necessary for analysis and playback
- Run-time control via interactive shell and built-in topics
- Scalable and suitable for fault-tolerant applications

RTI Recorder is the first off-the-shelf solution for non-intrusive recording of high-rate data, messages and events.

Time-critical and data-critical applications – such as mission-critical combat systems, financial trading applications and transportation management systems – can rapidly generate large volumes of data. Prior to RTI Recorder, recording the high-rate data that is characteristic of such real-time systems could be extremely challenging. Now, with minimal configuration, RTI Recorder can reliably record large amounts of real-time data from a heterogeneous networked system without having prior knowledge of the data-types or topics in the system.

Efficient Non-Intrusive Data Capture

Useful during project development and in deployed systems, RTI Recorder provides an efficient data capture mechanism with minimal system impact. RTI Recorder can be used when recorded data is needed for future analysis and for system debugging, when there is a need to record run-time activity for later review, or when there is a need to record data to simulate components of the system that are not readily available during system development.

Seamless Integration with RTI Data Distribution Service

RTI Recorder is distributed as stand-alone service and works seamlessly with the dynamic architecture of RTI Data Distribution Service. It can record data from any heterogeneous networked system that is using RTI Data Distribution Service[1]. It participates as a subscriber in a publish-subscribe system, requiring minimal configuration and no prior knowledge of the data types or topics in the system. RTI Recorder can record data from all publishers and topics in a system and automatically detects new entities as they are created or join.

Records Data and Metadata

By default, RTI Recorder always records discovery data and metadata, including source and received time-stamps and publisher's Quality of Service (QoS) settings. For other data, XML configuration files provide the capability to selectively control what data is recorded and how it is recorded. Depending on settings in the configuration file, it can record data from multiple domains and can be configured to record all published topics, only a subset of topics, or only certain fields within selected topics.

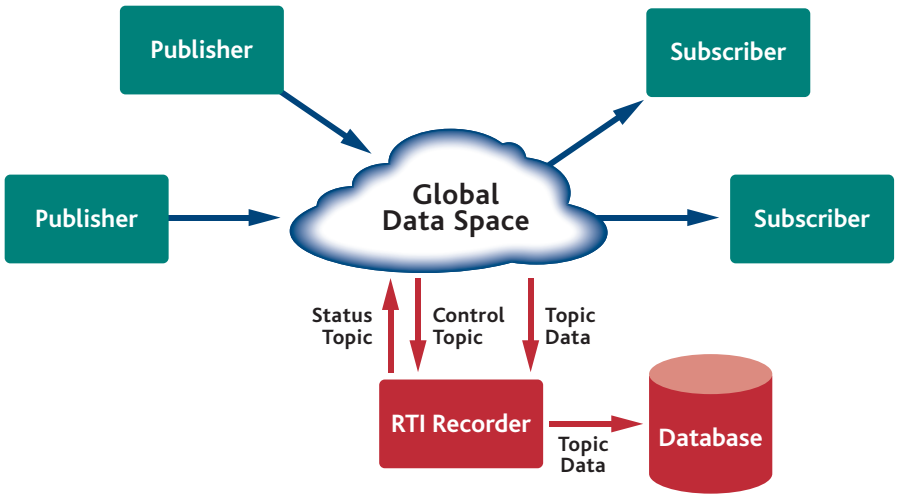
QoS properties, such as reliability, control how data is recorded. While RTI Recorder can automatically determine whether to record data using best-effort or strict reliability QoS, it is also possible to explicitly control the capture method. In addition, serialized or de-serialized data samples can be stored.

Users can control the number of files in which data is stored, the maximum size of the data files, and the RTI Data Distribution Service partitions from which to record data. RTI Recorder can record data from multiple RTI Data Distribution Service domains, with a sample size of up to 1 GiB[2]. To avoid the pitfalls associated with large data files, RTI Recorder can store data in multiple files, with up to 2 TiB[3] of data stored in a single file.

Portable Data Format

RTI Recorder is designed to store all the information needed for live playback of a sub-selected data set. Recorded data is stored in a platform independent format that can be used on any of the supported operating systems. Data is searchable, scriptable, and can be exported to enterprise databases or to standard file formats for use in readily available analysis software.

[1] Currently supported are versions 4.1d and 4.1e of RTI Data Distribution Service
[2] 1 gibibytes (GiB) = 1.074 gigabytes (GB) = 2^{30} bytes
[3] 2 tebibytes (TiB) = 2.199 terabytes (TB) = 2^{41} bytes



Interactive Shell

Distributed with RTI Recorder is an interactive shell that can be used for remote management with support for control commands such as start, stop, configure and shutdown. Applications can also remotely manage RTI Recorder via built-in topics that support these commands. The interactive shell supports SQL queries to view recorded data. Also supported is the ability to write scripts to manipulate data and export into CSV format which is easily recognizable by standard spreadsheet software.

Scalable and Suitable for Fault-Tolerant Applications

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

Specifications

Supported Operating Systems

- Red Hat Linux
- Red Hat Enterprise Linux
- Solaris
- Windows 2000/2003/XP Pro
- YellowDog Linux

Supported Architectures

- PowerPC
- UltraSPARC
- X86

Note: RTI continually adds support for new operating systems and architectures. Also, not all combinations of operating systems and architectures are available. Please contact RTI for additional availability and supported combinations.

EXAMPLE USES

Financial Trading

- Recording market data, analytic results and trade decisions so that algorithm and real-time performance can be analyzed and optimized
- Playback for testing software and algorithm updates
- Demonstrating best execution per regulatory requirements such as Reg NMS and MiFID

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

About RTI

Real-Time Innovations (RTI) works in partnership with its customers to develop and integrate the world's most demanding real-time applications. RTI takes the risk out of distributed application development and system integration by providing deep expertise in real-time communications coupled with the highest performance messaging middleware. The company's software and services have been leveraged in a broad range of industries including defense, intelligence, simulation, industrial control, transportation, finance, medical and communications. Founded in 1991, RTI is privately held and headquartered in Sunnyvale, California. For more information, please visit www.rti.com.

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