

OpenSpliceDDS RnR datasheet

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Innovation shapes the vision.

Hard work brings it to life.

Determination turns it into success."

— ZettaScale Technology

About ZettaScale

ZettaScale's mission is to bring to every connected human and machine the unconstrained freedom to communicate, compute and store — anywhere, at any scale, efficiently and securely. We strive for excellence as engineers and humans -- we firmly believe that we can't separate "the engineer" from "the human". As such we embrace and promote the Seven Knightly Virtues of Courage, Justice, Mercy, Generosity, Faith, Nobility and Hope.



Contents

Overview	1
Record and Replay	1
Key Features.....	2
Additional Capabilities	2
Benefits	3
Availability.....	3
Support/Maintenance	3
References and For More Information	3



OpenSpliceDDS is part of the ZettaScale DDS offering - it is a fully featured DDS implementation targeted for enterprise platforms and devices. It is fully interoperable with Cyclone DDS, Vortex Link and Vortex Insight products. The OpenSpliceDDS product offering is made of the Core offering and a set of commercially available add-ons and extra features. The OpenSpliceDDS Core is a full implementation of the Object Management Group (OMG) Data Distribution Service for Real-time Systems (henceforth DDS) rev1.4 standard (DCPS profiles) and the OMG-DDSI-RTPS v2.3 interoperable wire-protocol.

Overview

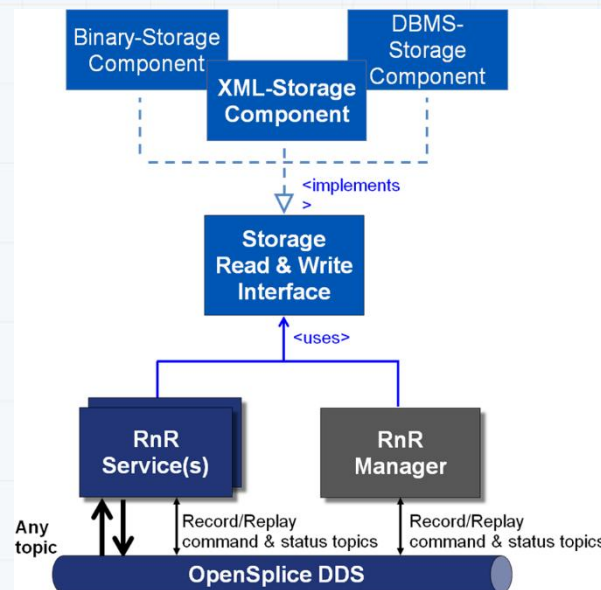
Record and Replay

OpenSpliceDDS RnR (Record and Replay) is a DDS service that provides record and/or replay capabilities of DDS-Data. OpenSpliceDDS RnR has two distinctive components: (1) one or more pluggable OpenSpliceDDS RnR service that performs the actual record and/or replay of data, and (2) a dedicated OpenSpliceDDS RnR Manager tool providing control over the RnR services. This allows recorded datasets import, analyzing, changing, and/or merging these & optionally exporting them to a target-system for replay purposes.

As a DDS service, the Record and Replay Service (RnR Service, or just RnR) benefits from the inherent 'decoupling in time and space' that the DDS architecture offers, with respect to automatic discovery of the service's dynamic interest in subscribing or publishing data as well as the transparent routing of information to/from the service. The RnR Service operates in conjunction with storages, which can be configured statically in a configuration file or dynamically through interaction with the service.

To interact with the service, a command-topic and various status-topics are available. This allow you to either control the service from your own application code or use the OpenspliceDDS Tooling to it . Generic Tools such as OpenspliceDDS Tuner or Tester can be used. A more specific tool has also been added to ease the process .

Being fully data centric, you can instantiate as many Record and Replay services as you need in your DDS domain to specialise them handling certain datasets and making their deployments non-intrusive.



Key Features

RnR service

- Supports a binary-storage option for the RnR service, as an alternative to the xml-based storage format
- Fast importing and exporting of storages from the RnR service
- Dynamic recording and/or replay of DDS data by single or multiple RnR services
- Powerful triggering of start/stop events & filtering of data
- Distributed control over recording & replay of DDS-data and its rates by topic-based API
 - o control of what/when/how/where to record and/or replay
 - o including wildcard selections, filtering and replay-speed control
 - o including fine-grained statistics on services, scenario's and data-stores
- Allowing control by both (supervisory) applications as well as the related RnR Manager tool
- Extends existing/standardized DDSI discovery with unicast-locators for use with TCP/IP

Additional Capabilities

You can use the Record and Replay Service to:

- Control and monitor the service using regular DDS topics.
- Use expressions with wildcards to select partitions and topics of interest, for record and/or replay.
- Store data in XML records for easy post-analysis and data-mining.
- Store data in CDR records for a smaller footprint and high throughput.



- Create scenarios, grouping multiple commands into a logical set.
- Use replay filters to replay only the data recorded in a specific time-range.
- Use conditions to delay the execution of a command.
- Subscribe to statistics on the data that is replayed and/or recorded.
- Dynamically change the speed at which data is replayed.
- Modify the QoS settings of recorded data on-the-fly during replay
- Modify the partition of recorded data on-the-fly during replay

Benefits

- Effortless recording and replaying of any data in a DDS-system
- High-performance and non-intrusive record & replay capability to aid validation, analysis, and testing of OpenSpliceDDS based systems
- High-performance operation with a low footprint

Availability

- Works with OpenSpliceDDS V7.x
- Languages: IDL (topic-based control/monitoring) Platforms:
- RnR Manager tool: any java-enabled platform
- RnR service: Linux/Windows with embedded platforms to follow

Support/Maintenance

ZettaScale provides world class support, delivering a timely, reliable service to ensure every customer's business success. We offer a wide range of Support and Maintenance Programs for OpenSpliceDDS which can be tailored to customer's best fit requirements.

OpenSpliceDDS RnR module is supported by the Standard and Silver annual support programs.

References and For More Information

For further information regarding OpenSpliceDDS, please e-mail: contact@zettascale.tech or visit: www.zettascale.tech



OpenSpliceDDS

DATA-CENTRIC MIDDLEWARE FOR MISSION-CRITICAL SYSTEMS



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