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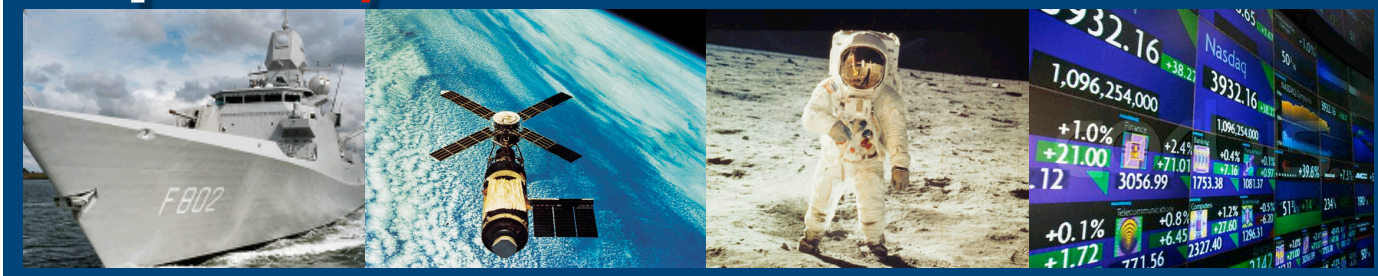
OpenSplice DDS

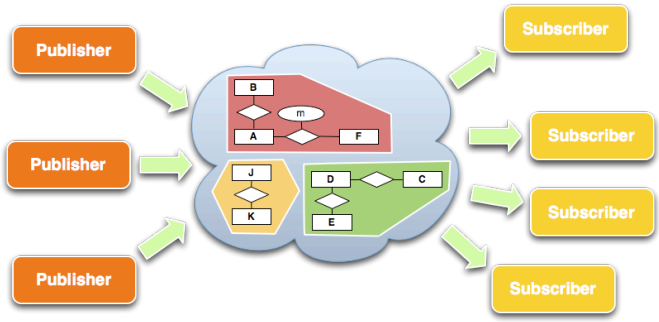
Financial Services



Enabling Skyrocketing Message Rates in Complex Financial Trading Applications

Open*Splice* **DDS** is an extreme-performance, low latency, real-time, and highly scalable data-centric publish/subscribe middleware that enables next-generation financial applications to cope with ever increasing message volumes while reducing trading decision latency.

Financial trading applications are being challenged by an exponential growth in message rates, accompanied by a continuous quest to reduce trading latencies.



The exceptional growth in message volumes stems from the increased relevance of new and emerging markets, as well as the increased trend in exploiting direct connections to market exchanges, rather than data aggregators, such as Bloomberg, Reuters, Telerate, Bridge, and Thomson. Likewise, trading firms are constantly focused on trading latency minimization since for many financial applications a millisecond saving is worth millions of dollars.

To support these requirements, the middleware infrastructures enabling next-generation financial applications, must handle millions of messages per second, minimize delivery latencies and jitter, and maintain the overall stability and reliability. To improve scalability, and support new operational requirements, many financial applications must rely on middleware platforms that support advanced qualities-of-service (QoS) properties, such as, traffic prioritization, traffic shaping, hardware and software filtering, content-aware delivery, and persistence.

OpenSplice DDS

OpenSplice DDS is an extreme performance data-centric publish/subscribe middleware that optimally satisfies the requirements of next-generation financial trading applications. OpenSplice DDS is able to:

- Distribute millions of market data updates per second while retaining low latency and jitter, and ensuring stability even under overload conditions, and
- Support sophisticated QoS, such as, traffic prioritization, traffic shaping, hardware and software filtering, content-based subscriptions, queries, filters, as well as providing a data persistence with minimal performance overhead.

OpenSplice DDS has many proven production deployments that demonstrate its exceptional strengths in supporting complex business- and mission-critical systems in a range of application domains, such as financial-services, defense, aerospace, transportation, and telecommunications.

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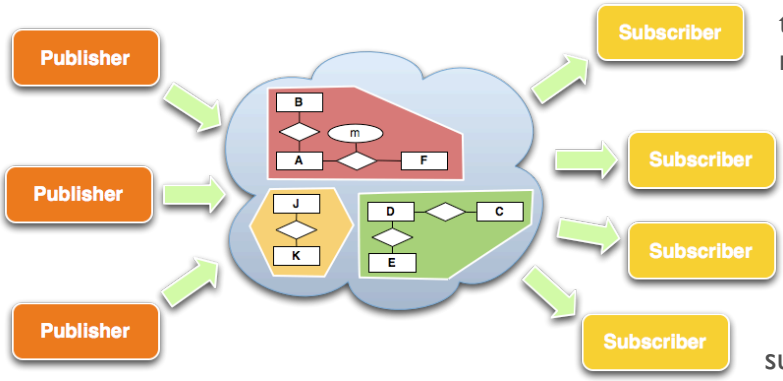
Setting Higher Standards for Publish/Subscribe Technologies

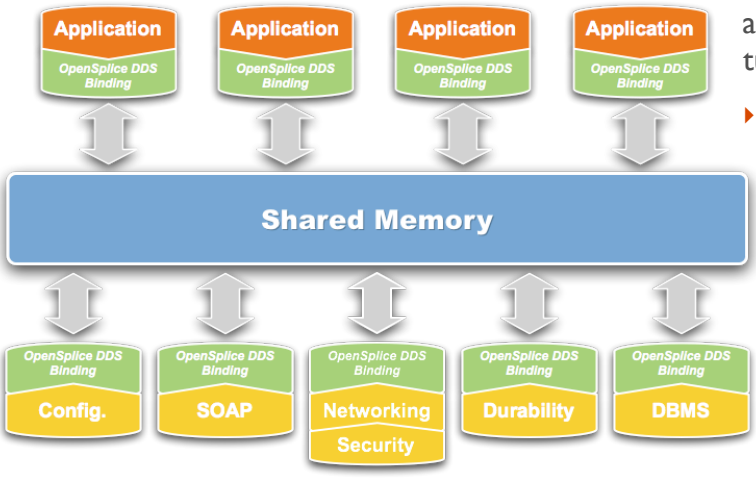
With its extraordinary support for complex QoS and data-centricity, OpenSplice DDS provides the future of Publish/Subscribe technologies today.

Real-Time Data-Centric Publish/Subscribe



OpenSplice DDS perfectly blends and extends the most useful features found in real-time messaging middleware and relational databases. From real-time messaging middleware, OpenSplice DDS inherits the efficiency in distributing data, the predictability, and the throughput. From relational databases, it inherits the ability to define relational data models and operate on them via SQL92 expressions to specify content-based subscriptions, join, projection, filters, and queries. These capabilities are provided via a fully distributed architecture that ensures performance, predictability and scalability, and are enhanced with a rich set of QoS properties that allow traffic prioritization, traffic shaping, hardware and software filtering, and persistence.

Architectural Highlights



OpenSplice DDS achieves efficiency, scalability, and determinism via a shared-memory architecture that

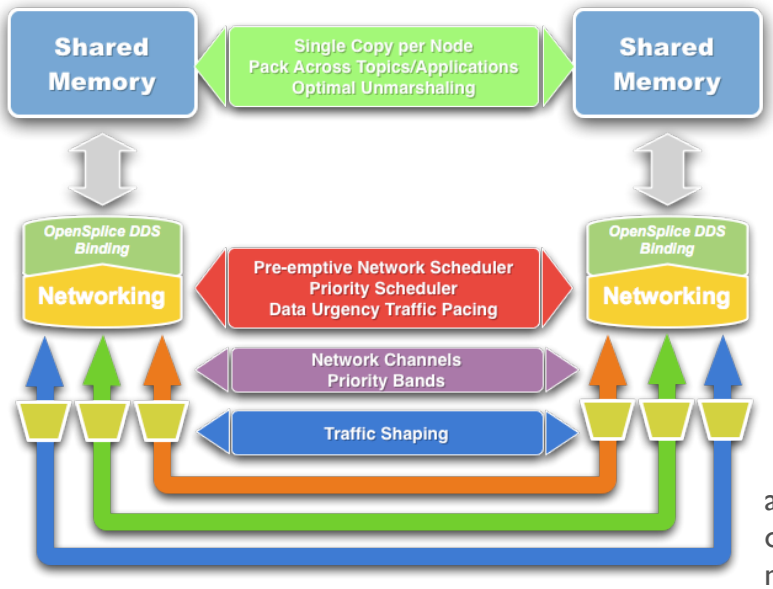
- Fosters efficient information sharing and communication between applications running on the same host, and
- Enables node-to-node, as opposed to application-to-application, communication and discovery, thereby achieving fine-grained control over networking resources, scalability and discovery, and communication performance.

OpenSplice DDS is built as a highly modular collection of pluggable services that provide a rich set of features, such as advanced networking, security, database integration with any ODBC 3.0-compliant DBMS, and web services integration.

Designed for Performance, Predictability and Scalability

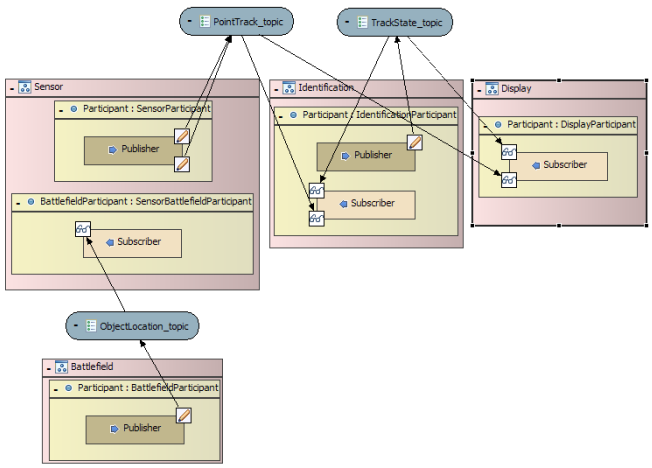
OpenSplice DDS can handle millions of messages per second, while ensuring high determinism and very low latencies. Its advanced support for network traffic engineering ensures that the system remains stable and predictable even in temporary overload conditions.

Advanced Networking Technology



The OpenSplice DDS networking service is one of its most distinguishing features. The networking service fetches the data from the shared memory segment and ships it to interested parties, thereby making optimal use of resources whilst enforcing the required QoS levels. By employing a shared memory architecture, the networking service can optimize network utilization by bundling information across topics and applications. The networking service also supports any user-defined number of partitions and of network channels. Partitions are mapped to IP multicast addresses to segregate different traffic flows, while network channels are dedicated to handle traffic for specified priority range's. Network channels help enforce messages priority even on non-priority-preserving transports, such as the TCP/IP or UDP/IP. Another important feature provided by the OpenSplice DDS's networking service is traffic shaping. For every channel it is possible to define the traffic profile, and ensure that the network utilization never exceeds a user-specified value. In summary, the OpenSplice DDS's networking service allows users to (1) fine-tune the use of network resources by means of partitions and channels, (2) prioritize data for every single node to ensure that the more important data always preempts less important data, and (3) bundle data across topics and applications to ensure optimal throughput and reduce CPU utilization.

Unparalleled Productivity



OpenSplice DDS is available on all major operating systems (OS) including AIX, Linux, Solaris, Windows, Integrity and VxWorks. Language bindings are available for C/C++, C#, Java and XML. Its rich support for platforms and language bindings enables software developers to select the most appropriate development language and target OS for use in various parts of their systems. The OpenSplice DDS Power Tools further enhance productivity by a factor of 10x, via an Eclipse-based information, application, and deployment, model-driven engineering tools, as well as tools for runtime monitoring and system tuning.

Who is using OpenSplice DDS?

Financial Services

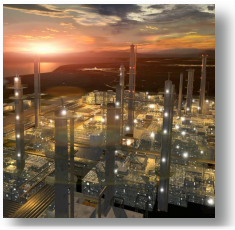
OpenSplice DDS is the technology of choice for next generation Trading Systems. It currently powers some of the most innovative Automated Trading Systems, providing capabilities well beyond those of traditional ultra-low-latency technologies.

Defense & Aerospace

Some of the most advanced, next-generation, defense and aerospace systems are currently powered by OpenSplice DDS. For instance, the TACTICOS Combat Management System (CMS), one of the most successful CMS available on the market, uses OpenSplice DDS to achieve its renowned performance, scalability and availability.

Scada

OpenSplice DDS has been applied with great success to wide variety of SCADA applications ranging from industrial control to telemetry.



Transportation

OpenSplice DDS powers some of the most challenging transportation programs, such as next generation European Air Traffic Control System, and several Metro Systems throughout Europe.

Technical Specification

Operating Systems

- AIX
- Linux
- Solaris
- Windows 2000, XP
- INTEGRITY
- VxWorks

Language Support

- C/C++
- C#
- Java
- Real-Time Specification for Java

OMG DDS Compliance

OpenSplice DDS is compliant with the full OMG DDS v1.2 specification, including the Data Centric Publish/Subscribe(DCPD) and the Data Local Reconstruction Layer (DLRL) profiles.

About PrismTech

Founded in 1992 with offices in the USA and Europe, PrismTech is a privately held software products company. PrismTech serves international Fortune 500 customers in the telecommunications, data communications, defense and aerospace, transportation and financial sectors.

PrismTech is an acknowledged leader in middleware and software productivity tools, with solutions ranging from embedded real-time systems to wide-scale integration, supporting applications from operations support systems through to software-defined radio.

OpenSplice | DDS

More information on OpenSplice DDS is available at:

http://www.prismtech.com/opensplice-dds/

For an evaluation version, training, or consulting, contact:

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