



World Leader in
Small-Footprint DDS
Applications



CoreDX DDS—Small Footprint Publish Subscribe

CoreDX DDS™ is an
Open-Standard High
Performance Publish
Subscribe Middleware
Component

CoreDX DDS™ is the leading small footprint implementation of the Data Distribution Standard (DDS) that is sponsored by the Object Management Group (OMG). DDS was designed specifically to meet the performance and Quality of Service requirements of real-time, embedded, time-critical, and mission-critical applications.

CoreDX DDS™ offers a compliant implementation of the DDS Standard in a Small-Footprint product (measured in Kilobytes, not Megabytes) that is fully capable of exploiting multicore processing hardware.

The OMG DDS Open Standard specifies a Data-Centric Publish-Subscribe infrastructure and a wire protocol for Interoperability. The standards include a robust set of configurable Quality of Service policies for precise control over data communications.

CoreDX DDS™ supports BEST_EFFORT and RELIABLE communications, so it can easily be employed in wireless and other unreliable network environments. The small-footprint of CoreDX DDS™ makes it the best choice for Size Weight, and Power (SWaP) constrained applications. The multicore architecture of CoreDX DDS™ lets you exploit the processing and power benefits of modern CPU cores.

CoreDX DDS Supports Open Architecture

Integrate the CoreDX DDS™ infrastructure into your system and realize the benefits of Open Architecture: modularity, extensibility, interoperability, and scalability.

- Publishers are loosely coupled to Subscribers
- Publishers and Subscribers can be added to and removed from the system dynamically with automatic discovery
- Data Types can be pre-defined or created and discovered dynamically at run-time.
- Data is independent of the middleware implementation
- Applications are insulated from the details of the communication medium
- Developers are relieved of the burden of developing and maintaining complex communications software

Twin Oaks offers
Free CoreDX DDS™
IR&D Licenses
to qualified research
projects and
institutions.

Ordering Instructions

Get started by visiting our website and downloading the 30-day Full Featured CoreDX DDS™ Evaluation software. During the download process, you can indicate that you are interested in the University or IR&D License Program.

Start here: [Download 30-Day evaluation](#)

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CoreDX DDS Features

Interoperable Transport:

- Proven multi-vendor interoperability with the Real Time Publish Subscribe (RTPS) wire protocol

Small Footprint:

- Complete C library < 500KB

No Operating System Services Required:

- CoreDX does not install any operating system services or daemons
- Eases installation, deployment and maintenance
- Eliminates a single-point-of-failure concern

Dynamic Discovery:

- Dynamic discovery of local and remote Topics, Readers and Writers
- Multi-Vendor Interoperable
- Peer-to-Peer or centralized

Powerful Data Tools

- Filtering—content based and time based
- User Defined data types (including keys)
- Robust DDS IDL compiler for basic and constructed IDL types
- Supports Dynamic Data Types

Event Notification:

- Symmetric notification via Conditions / WaitSets
- Asymmetric notification via Listeners (callbacks)

Product Support:

- Phone / web / in-person
- Training and Professional Services available
- Flexible Licensing

Compliant with DDS v1.2 and RTPS v2.1.

Made in the U.S.A

CoreDX DDS Quality of Service Support

| | |
|--|--|
| USER_DATA, GROUP_DATA, TOPIC_DATA | Supports user defined QoS data |
| DURABILITY: VOLATILE, TRANSIENT_LOCAL | Supports late-joining Readers |
| DEADLINE | Specifies a required data update interval |
| DESTINATION_ORDER | Controls ordering of data presented to Reader |
| ENTITY_FACTORY | Controls the 'auto-enable' function for created Entities |
| HISTORY | Configures amount of data preserved in infrastructure |
| LATENCY_BUDGET | Performance tuning parameter |
| LIVELINESS | Controls mechanism used to determine Entity liveliness |
| OWNERSHIP | Shared and exclusive data instance ownership |
| PARTITION | Establishes data partitions to segregate entities and data |
| READER/WRITER_DATA_LIFECYCLE | Disposition of data instances |
| RELIABILITY: RELIABLE, BEST_EFFORT | Tailors reliability of the data transport |
| RESOURCE_LIMITS | Configures limits for data resources in infrastructure |
| TIME_BASED_FILTER | Specifies maximum desired data update frequency |
| Content Filtered Topics | Tens of thousands of filter instances / second |

CoreDX Specifications

| Operating Systems: | Hardware Platforms: | Development Languages: | Transports: | |
|--|--|--|---|---|
| <ul style="list-style-type: none">• Linux 2.6• LynxOS• Windows | <ul style="list-style-type: none">• Solaris 10• QNX• VxWorks | <ul style="list-style-type: none">• X86, 32bit, 64bit• UltraSPARC• ARM7, ARM9• MIPS• PowerPC | <ul style="list-style-type: none">• C• C++• C# *• Java | <ul style="list-style-type: none">• RTPS• Multicast / Unicast• Serial |

* planned

Customizations for additional platforms and transports are possible, contact us for information.

About Twin Oaks Computing

Twin Oaks Computing, Inc. provides state-of-the-art engineering in support of high-performance communications, including device drivers, communication protocols, inter-process communications, network services, and secure environments. Our unique company culture allows us to be agile and provide superior responsiveness to our customers, and our extensive domain experience is essential to our customers' ability to perform their missions. We are committed to being a premier source of quality high-performance communications technologies for use in DoD and commercial applications.

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