

CoreDX DDS Communicates on DSP

Over recent years we have seen a shift in DSP application. While early DSPs were used for specialized, independent purposes, today's DSPs are part of larger, connected components. Today DSPs need to communicate and interoperate with GPPs, FPGAs, and other DSPs. Software must manage these highly interconnected communications and interoperability issues, while still delivering optimal performance and reliability. It's not surprising that as more processing is pushed to DSPs; developers want the functionality and convenience of a middleware like DDS.

CoreDX DDS Helps DSP and GPP Developers: DSPs boast real time multitasking kernels, providing a robust platform for more advanced and sophisticated DSP applications. Some high end DSPs provide support for non-DSP apps like TCP/IP or file system management and even embedded Linux OS. CoreDX DDS works with or without these high end features, providing the benefits of DDS to all DSP developers.

CoreDX DDS Helps Embedded Developers: CoreDX DDS provides many features difficult to implement by hand, and not found in other IPC libraries. CoreDX DDS requires minimal operating system services, offering high performance and scalability with a low line of code count and small footprint. With options like data filtering and storage, data presentation, and event notification, CoreDX DDS allows programmers to focus on their applications and the code they love to write, instead of communication details.

CoreDX DDS helps Software Architects: With CoreDX DDS, software systems can be extended and modified, even after deployment, with little or no change required to application software.

Program Managers like CoreDX DDS because it helps them mitigate their schedule and budget risk. CoreDX DDS is cost effective, reducing engineering and maintenance labor costs over the lifecycle of the project. CoreDX DDS allows existing technical resources to focus on meeting project requirements and milestones.

CoreDX DDS is an easy-to-use, cross-platform, cross-language Inter-Process Communication (IPC) library providing robust, flexible, and dynamic data communications. CoreDX DDS is the leading small-footprint DDS Middleware available, and supports the widest range of devices from FPGAs and DSPs to enterprise and high available servers.

Based on Open Standards for guaranteed interoperability and long term viability, CoreDX DDS is the preferred IPC for a wide variety of distributed software programs: from mobile games and consumer electronic devices to surgical equipment, health care applications, complex DoD systems and robots working in space.



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PRACTICAL MIDDLEWARE EXPERTISE

CoreDX DDS Features: CoreDX DDS is essential for effective Open System architectures. CoreDX DDS is the only fully interoperable DDS implementation available for DSPs such as TI's OMAP-L138.

- ▶ Designed to be easily certifiable
- ▶ High Performance with a small footprint and easily scalable
- ▶ No Recursion
- ▶ Standards Compliant
- ▶ Minimal operating system services requirements
- ▶ CoreDX DDS brings the same standardized DDS API and interoperable wire protocol to DSPs.
- ▶ CoreDX DDS can use wired/wireless/serial transport like Zigbee

CoreDX DDS Benefits:

- ▶ Enables easy integration and interoperability of DSPs with GPPs and FPGAs, all in a single system
- ▶ Separates the application code from the communication transfer, so you don't rewrite common protocols each time
- ▶ CoreDX DDS allows you to send data to DSP/GPP without being an expert
- ▶ Reduces costs
- ▶ Faster Time to Market

How CoreDX DDS and DSP work:

CoreDX DDS running on a DSP provides the full flexibility and power of DDS in the DSP environment. Using CoreDX DDS, applications on the DSP can participate in the DDS Publish/Subscribe architecture, easing system integration. The DSP application uses the exact same CoreDX DDS API that is available on other platforms, providing for extreme code portability and re-usability. The DSP application appears as a standard Domain Participant within the DDS network, with the full support of Dynamic Discovery and platform independent communication.

CoreDX DDS for the DSP utilizes an efficient memory based transport to provide communication between the DSP and GPP. The CoreDX DDS based DSP Application is able to seamlessly communicate with any DDS entities present on the LAN, utilizing the network hardware present on the General Purpose Processor (GPP) - this architecture fully supports DDS interoperability. CoreDX DDS for DSP offers flexible deployment options, supporting both Linux and QNX on the GPP.

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