



## Press Release

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### **X-ES Enters FPGA COTS Board Market with First Embedded Computing FPGA Development Environment Based on AXI4 Interface Protocol**

**Middleton, WI – August 16, 2011** – Extreme Engineering Solutions, Inc. (X-ES) announces the availability of the [XPedite2300](#), a Xilinx® Virtex®-6 based XMC module with support for pluggable daughter cards for customizable I/O. In conjunction with the [XPedite2300](#), X-ES announces the first embedded FPGA development environment based on the AXI4 interface protocol, the [XPedite2300](#) FPGA Development Kit (FDK). The FDK simplifies the development of high-performance, real-time, streaming data applications that run on the [XPedite2300](#) FPGA board.

The FDK includes IP blocks, example FPGA designs, and software to control and communicate with FPGAs. All of the IP blocks included in the FDK interface to the industry-standard AXI4 interconnect. Support for the AXI4 interconnect in the FDK is significant for a number of reasons:

- Provides an industry-standard, non-proprietary, interconnect mechanism for IP blocks
- Provides a consistent way to interconnect IP blocks
- Aligns to Xilinx's product roadmap
- Enables better use of design resources
- Enables reuse of IP

Xilinx supports the AXI4 interface standard in the Virtex-6 to facilitate Plug-and-Play FPGA design with the goal of shortening time-to-market for customers. The AXI4 interface standard finally brings true reuse to the FPGA industry. Customers can easily integrate FPGA logic based on the AXI4 interconnect from X-ES, Xilinx, and other third-parties without having to make any modifications, making it much easier to create working FPGA designs. The use of the AXI4 interface standard has made reuse of IP blocks simple and straightforward for developers.

The FDK uses only non-proprietary, industry-standard FPGA tools. With support for the AXI4 interface protocol and industry-standard tools, customers benefit from ease-of-use and true IP reuse without being locked into the X-ES FDK.

The [XPedite2300](#) is well suited to data streaming applications that require real-time signal processing, such as video surveillance, signals intelligence, and infrared threat detection. It supports the Virtex-6 LX130T, LX195T, LX240T, LX365T, SX315T, and SX475T FPGAs. There are initially two daughter cards that can be mounted on the [XPedite2300](#): a 10-bit, dual, 1.5-GSPS (or single 3.0-GSPS) A/D daughter card and a 14-bit, dual, 2.5-GSPS D/A daughter card.

The [XPedite2300](#) features include:

- Xilinx Virtex-6 FPGA LX130T, LX195T, LX240T, LX365T, SX315T, or SX475T
- Conduction- or air-cooled XMC module
- Two channels of DDR3 SDRAM, up to 1 GB (512 MB each)
- Volatile and non-volatile FPGA configuration flash
- 128 MB of flash
- 180-pin, high-density, daughter card header for expandable I/O

- 40-pin daughter card header for high speed serial links
- Front and rear panel I/O support
- x8 PCI Express XMC interface on the Pn5 connector
- Optional super cap backup for configuration bitstream encryption key
- I<sup>2</sup>C RTC with super cap backup
- Configuration via PCIe, flash, and JTAG with multi-boot support
- Linux and Wind River VxWorks BSPs

The [XPedite2300](#) FPGA Development Kit features include:

- FDK supports the AXI4 interface protocol
- Utilizes standard Xilinx and third-party tools – Xilinx ISE® Design Suite and EDK, Mentor Graphics® ModelSim®, Synopsys® Synplify®
- Logic blocks provided for all external FPGA interfaces, e.g., PCIe, flash, DDR3, daughter card I/O
- All provided logic blocks support AXI4 interconnect
- High-performance DMA controller logic block
- FPGA capability discovery mechanism
- Partial FPGA reconfiguration
- Ability to easily integrate user algorithms and third-party logic blocks that support AXI4 interfaces
- Complete example FPGA designs provided
- Complete documentation
- Software drivers to communicate with FPGA devices
- Software utility and APIs to re-flash and set-up FPGA
- Software APIs to discover capabilities loaded into FPGA
- Support for VxWorks and Linux on both Freescale™ QorIQ® processors and Intel® Core™ i7 processors

“The timing for X-ES to enter the FPGA market and Xilinx’s support for the AXI4 interface protocol was perfect,” states Bret Farnum, VP Sales. “From an ease-of-use standpoint, this allows X-ES to leapfrog the FPGA development environments that others in the industry have been providing.”

**About X-ES** — Extreme Engineering Solutions, Inc. (X-ES) designs and builds chassis, single-board computers, I/O, power, backplane, and system-level products within the embedded computer industry. X-ES offers cutting-edge performance and flexibility in design, plus an unparalleled level of customer support and service. For further information on X-ES products or services, please visit our website: [www.xes-inc.com](http://www.xes-inc.com) or call (608) 833-1155.

Data Sheet: <http://xes-inc.com/assets/products/files/XPedite2300-DS.pdf>

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