Flagship Spartan-6 FPGAs Built Into New NI Devices

Xilinx announced at NIWeek 2011 that National Instruments has expanded its NI Reconfigurable I/O (RIO) advanced control and monitoring product portfolio with the introduction of the highest performance and first multicore NI CompactRIO systems and smallest NI Single-Board RIO devices built using Xilinx flagship Spartan-6 FPGAs.

The successful collaboration between Xilinx and National Instruments spans more than a decade with the delivery of more than 60 flagship NI RIO products, which combine LabVIEW system design software and NI RIO hardware systems with embedded Xilinx FPGAs. The productivity of LabVIEW FPGA allows any engineer or scientist to quickly leverage high-performance FPGAs within innovative control, measurement and test systems without the need to learn traditional electronic design automation tools and methodologies.

With today’s announcement, the new NI CompactRIO 908x systems offer designers the highest processing power of any CompactRIO product configuration for monitoring and control applications that require exceptional performance and ruggedness. The Spartan-6 FPGA enables complex signal processing performance and control for applications such as rapid control prototyping, advanced motion control and machine vision.

In addition, the new NI Single-Board RIO 9605/06 devices provide designers with a small, cost-optimized form factor sized from less than 102.87mm x 96.52mm for high-volume and OEM applications, and offer greater customization and I/O support than previous versions for embedded monitoring and control in industries such as energy and medical. Together, the Spartan-6 FPGA and 400 MHz processor provide reliability and performance at a low price point for OEMs, with built-in peripherals such as RS232, CAN, USB and Ethernet and the ability to add peripherals for further customization.

Xilinx Spartan-6 FPGAs are designed for cost-sensitive applications requiring high-speed connectivity and low-power operation with embedded serial transceivers and advanced power management. These devices provide a rich mix of integrated system features, including memory controllers, digital signal processing, and Endpoint block for PCIe®, as well as RoHS-compliant lead-free package options for developing 'greener' electronics products.
“Xilinx Spartan-6 FPGAs play a critical role in the enhanced performance our customers will see from advanced NI RIO systems,” said Eric Starkloff, Vice President of Embedded Systems and Test Marketing at National Instruments. “The combination of NI LabVIEW and Xilinx FPGAs gives our customers the ability to design innovative embedded systems while significantly reducing their time-to-market. In the future, we look forward to enabling our customers’ applications with

Xilinx by delivering phenomenal NI RIO products based on the company's newest 7 series FPGAs and Zynq embedded processing platforms."

"National Instruments continues to drive engineering innovation by offering new high-performance solutions to domain experts using the intuitive LabVIEW graphical system design tools," added Vin Ratford, Xilinx Senior Vice President of Worldwide Marketing and Business Development . "We're delighted with the results of our longtime collaboration in delivering an easy-to-use rapid innovation platform to NI customers over many generations of the NI RIO product platform. Going forward, we're excited to see what engineering challenges customers can solve with next-generation NI products built with Xilinx's new flagship 28nm FPGA family and Zynq extensible processing platform."

About the NI RIO Advanced Control and Monitoring Platform
An integral part of the NI graphical system design platform, NI RIO technology combines LabVIEW software with commercial off-the-shelf hardware to simplify development and shorten time-to-market when designing advanced control, monitoring and test systems. NI RIO hardware, which includes CompactRIO, NI Single-Board RIO, R Series boards and PXI-based NI FlexRIO, features an architecture with powerful floating-point processors, reconfigurable FPGAs and modular I/O. All NI RIO hardware components are programmed with LabVIEW to give engineers the ability to rapidly create custom timing, signal processing and control for I/O without requiring expertise in low-level hardware description languages or board-level design. Visit www.ni.com/compactrio [1] to learn more about the NI cRIO-908x systems and www.ni.com/singleboard [2] to learn more about the new NI Single-Board RIO devices.

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