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NI FlexRIO Product Family Adds PXI Express Capabilities to FPGA-Enabled Instruments

New NI FlexRIO Modules for PXI Express Feature Advanced FPGAs and Peer-to-Peer Streaming for Signal-Processing Applications

AUSTIN, Texas – Feb. 15, 2010 – National Instruments (Nasdaq: NATI) today announced the expansion of its [NI FlexRIO](#) product line with a new offering of [NI FlexRIO FPGA modules for PXI Express](#) and a new [baseband transceiver adapter module](#). These new products deliver optimized solutions for high-speed signal processing and other automated test and measurement applications. They also represent the industry's first commercial off-the-shelf (COTS) solution with the flexibility of [NI LabVIEW FPGA](#) technology and high-speed, reconfigurable I/O (RIO) for [PXI](#) and [PXI Express](#) systems. With new PXI Express connectivity and peer-to-peer streaming capabilities, engineers now can achieve high-bandwidth data streaming to and from their host CPU as well as directly between multiple NI FlexRIO FPGA modules and select PXI Express modular instruments from NI.

NI FlexRIO solutions for PXI Express use two distinct hardware components: an FPGA module and an adapter module. The NI PXIe-796xR NI FlexRIO FPGA modules feature DSP-focused Xilinx Virtex-5 SXT FPGAs. These FPGAs include optimized DSP blocks to streamline operations such as fast Fourier transforms (FFTs), custom filtering, modulation and demodulation and other signal-processing functions. Unlike other user-programmable [FPGA](#) instruments, engineers can program NI FlexRIO FPGAs with [LabVIEW graphical system design software](#) and the LabVIEW FPGA module. This approach helps engineers target their applications to the FPGAs without prior VHDL knowledge while also providing an interface to import native VHDL code directly into LabVIEW FPGA.

The NI PXIe-796xR FPGA modules incorporate the new NI-STC3 application-specific integrated circuit (ASIC), which facilitates peer-to-peer streaming to significantly increase test and measurement system throughput. The ASIC powers direct data streaming between multiple NI FlexRIO FPGA modules or between PXI Express digitizers and FPGA modules without sending data through the host processor. Engineers can use this technology to add FPGA capabilities to existing high-performance NI digitizers. For computationally demanding applications, engineers also can spread their algorithms across multiple FPGAs, implementing peer-to-peer streaming from one to another at more than 800 MB/s, or in both directions at over 700 MB/s per direction, for a total module throughput of more than 1.4 GB/s.

Using the other hardware component of an NI FlexRIO system – the NI FlexRIO adapter module – engineers can directly interface FPGAs to numerous types of I/O for measurements across test and measurement applications

that require real-time performance or hardware signal processing. The new [NI 5781](#) baseband transceiver adapter module incorporates dual 100 MS/s 14-bit analog inputs and dual 100 MS/s 16-bit analog outputs and is ideal for custom baseband interfaces and ultra-high-speed control applications.

The NI 5781 adapter module joins a growing line of NI FlexRIO adapter modules, which also includes third-party adapter modules for further application specificity. For applications requiring highly customized I/O, engineers can create their own adapter modules using the [NI FlexRIO Adapter Module Development Kit](#).

To see the latest NI FlexRIO PXI Express products and NI FlexRIO adapter module, readers can stop by booth 1338 at the Embedded Systems Conference (ESC) in San Jose, CA, during April 27-29, 2010.

Readers can learn more about the new NI FlexRIO products for PXI Express by visiting www.ni.com/flexrio.

About National Instruments

National Instruments (www.ni.com) is transforming the way engineers and scientists design, prototype and deploy systems for measurement, automation and embedded applications. NI empowers customers with off-the-shelf software such as NI LabVIEW and modular cost-effective hardware, and sells to a broad base of more than 30,000 different companies worldwide, with no one customer representing more than 3 percent of revenue and no one industry representing more than 15 percent of revenue. Headquartered in Austin, Texas, NI has more than 5,000 employees and direct operations in more than 40 countries. For the past 11 years, FORTUNE magazine has named NI one of the 100 best companies to work for in America. Readers can obtain investment information from the company's investor relations department by calling (512) 683-5090, e-mailing nati@ni.com or visiting www.ni.com/nati.

Pricing and Contact Information

NI PXIe-796xR FPGA modules for NI FlexRIO

Priced* from \$4,499; €4,149; ¥630,000

NI 5781 baseband transceiver adapter module

Priced* from \$2,999; €2,749; ¥420,000

NI FlexRIO Adapter Module Development Kit

Priced* from \$4,999; €4,599; ¥700,000

Web: www.ni.com/flexrio

**All prices are subject to change without notice.*

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