PRESS RELEASE

LabVIEW Communications System Design Suite Revolutionizes Wireless Prototyping for Software Defined Radio

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NI (Nasdaq: NATI), the provider of solutions that enable engineers and scientists to solve the world's greatest engineering challenges, announced the LabVIEW Communications System Design Suite, which combines software defined radio (SDR) hardware with a comprehensive software design flow to help engineers prototype 5G systems.

Wireless prototyping was previously undertaken by separate design teams using disparate design tools. The LabVIEW Communications environment enables the entire design team to map an idea from algorithm to FPGA using a single high-level representation. This approach empowers designers to focus on innovation instead of implementation, which increases the rate and quality of their prototyping.

"Wireless consumers' insatiable demand for bandwidth has forced the wireless community to invest tremendously in new ways to increase network capacity" said Gerhard Fettweis, Vodafone chair at Technische Universität Dresden. "At TU Dresden, we're heavily involved in 5G exploration using NI hardware and software integration. With our collaboration and the use of the NI platform, TU Dresden researchers significantly compressed the time to transition from concept to prototype. In six weeks, we were able to have a working prototype. In the past, using other standard tools, this process would have taken us more than two years to complete."

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According to Jessy Cavazos, industry director for Test & Measurement at Frost & Sullivan, “SDR has become the standard for prototyping next-generation wireless systems. The addition of the FPGA to the x86 architecture has expanded the flexibility of the platform but adds the need for specialized skills and tools. LabVIEW Communications leverages existing IP, including algorithms in C and .m, so designers can integrate the right language for the right task all within a single design environment.”

LabVIEW Communications is optimized for the SDR platform with a hardware-aware design environment that provides control of physical configuration, hardware constraints and system documentation in a functional software diagram. This adds the flexibility of the hardware to the software, which gives designers access to all components in the SDR platform. Using this deeply integrated solution helps designers achieve optimal performance by eliminating the need to manually map algorithms to different hardware architectures.

“LabVIEW Communications includes built-in application frameworks for WiFi and LTE that enable wireless prototypers to focus on innovating specific components of existing standards rather than designing a new algorithm from scratch,” said James Kimery, director of RF and Communications at NI. “For some of the academic and industry researchers in our lead user program, this approach has cut the time to a validated prototype in half.”

Shelley Gretlein, director of Software Marketing at NI, added, “The number of wireless devices continues to grow exponentially despite the limitations of existing prototype tools. LabVIEW Communications helps bridge the gap between the ongoing rollout of 4G and the to-be-determined 5G standards of the future. As NI continues to innovate its SDR platform of flexible hardware and powerful prototyping software, we will enable the design of next-generation communication systems.”

Review technical details at ni.com/labview-communications.

About National Instruments

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