



Aldec HES-7 with Xilinx Virtex UltraScale Devices Enables True FPGA-based Verification

Henderson, NV – May 27, 2015 – Aldec, Inc., a pioneer in mixed HDL language simulation and hardware-assisted verification solutions for system and ASIC designs, is extending its leadership in FPGA-based verification. Announcing a new SoC and ASIC emulation and prototyping hardware platform with Xilinx® UltraScale™ devices, Aldec is enabling FPGAs to accelerate even the largest verification tasks, while bringing unparalleled capacity to FPGA-based prototypes.

The new HES-7™ platform from Aldec with Xilinx UltraScale FPGAs is an extension of the existing HES-7 hardware family, which itself already pushed the envelope for FPGA-based verification and prototyping platforms. Released earlier this year, Aldec's HES-7 12000 platform, employing Xilinx's largest Virtex®-7 devices, is already the largest single-board prototyping platform, and by pioneering the adoption of Xilinx UltraScale architecture-based devices, Aldec is enabling a new class of FPGA-based verification solutions.

The first HES-7 with Xilinx UltraScale FPGAs contains six Virtex UltraScale VU440 devices, an industry first. Each VU440 device is already breaking new ground in capacity and integration but with this six-device configuration, Aldec is uniquely providing a new level of capability for FPGA resources on a single board. In the demanding application of SoC prototyping projects which require re-targeting of non-optimized ASIC RTL and IP, Aldec expects the capacity of the devices, and the corresponding reduction in inter-FPGA partitioning, to be crucial in today's designs and for the future.

Aldec's HES-7 with Xilinx UltraScale devices offers not only scale but also scalability. The boards are designed with a high-speed scalable backplane, allowing multi-board configurations that are easily assembled into compact rack-based systems. These systems can themselves be interconnected to deliver combined capacity well into the billion-gate range at a much lower cost than an equivalent-sized emulator.

The latest HES-7 board boasts an impressive array of features, yet it is the infrastructure and communications between the FPGAs, between the boards, and across to the host verification environment that sets the solution apart from a collection of boards simply intended for prototyping. As a provider of verification environments for over 30 years, Aldec is an expert in efficiently harnessing the acceleration capability of FPGAs into mainstream verification environments. This expertise is encapsulated in Aldec's HES-DVM™ suite, which includes SCE-MI transactors, debug instrumentation, and other automated infrastructure, enabling users to easily accelerate verification environments of all kinds, from simple RTL tests up to full UVM implementations.

In addition to scale and scalability, there is integration. Even as a stand-alone prototyping board, the inclusion of a cornucopia of memories, peripherals, and interfaces means that HES-7 with Xilinx UltraScale FPGAs not only offers over double the capacity of previous solutions but also massive integration of essential SoC components including 40Gb Ethernet, USB3.0, SATA, PCIe® Gen3, QSFP+, and more memories including DDR4, NAND flash, and SPI flash.

As Aldec Hardware Division General Manager, Zibi Zalewski, asserts, *"Users should not be forced to patch together a collection of various daughter cards just to get basic prototyping functionality that should be included for free. Nevertheless, my team has added industry-standard FMC connectors so that users can add in extra functions from the world's largest collection of third-party hardware providers, linking FMC-hosted enhancements directly onto the FPGAs. However, for me, the most important benefit of HES-7 with Xilinx® UltraScale® FPGAs"*, continues Zalewski, *"is the multi-purpose scalability to*



meet many common verification and prototyping needs. My team is proud to exercise its many years' experience to provide such a complete solution on our customers' behalf."

HES-7 already boasts a large install base across ASIC and SoC labs in multiple industries, with a particular strength in high-security, IoT, and safety critical markets. With the dramatic increase in capability provided by Xilinx UltraScale FPGAs, Aldec is now leveraging their strength and 30-year experience to build hardware solutions for the high-end ASIC market.

Aldec Executive Director of Operations, Mirek Marciszyn, summarizes the breakthrough, *"HES-7™ with Xilinx® UltraScale™ devices has allowed us to combine the best elements of FPGA-based prototyping, traditional emulation, and acceleration into a new paradigm of FPGA-based verification. Only Aldec has the freedom and deep experience to help prototypers and verification engineers work together, bringing the maximum return on investment that only multiple uses of the same FPGA-based platforms can provide."*

Availability

HES-7™ with Xilinx® UltraScale™ VU440 devices will be available for early adopters in Q3'2015 with broad-based deployment soon after. HES-DVM and the HES-7 12000 boards are shipping in volume today. To learn more about HES-7 or to evaluate, please contact sales@aldec.com or call us at (702) 990-4400.

About Aldec Hardware Emulation Solutions (HES)

HES-7™ provides SoC/ASIC hardware verification and software validation teams with a high-performance, scalable, and multi-purpose FPGA-based platform. HES-7, including HES-DVM, is used in labs worldwide for tasks including simulation acceleration, emulation, hybrid virtual prototypes, co-emulation, high-speed prototyping, and software validation at MHz speeds. Learn more about [Aldec Hardware Emulation Solutions](#).

About Aldec

Aldec, Inc., established in 1984 and headquartered in Henderson, Nevada, is an industry leader in Electronic Design Verification and offers a patented technology suite including: RTL Design, RTL Simulators, Hardware Emulation, Hardware Acceleration, FPGA Prototyping Systems, Design Rule Checking, CDC Verification, IP Cores, Requirements Lifecycle Management, DO-254 Functional Verification, and Military/Aerospace solutions. www.aldec.com

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