NEWS RELEASE

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New BSP, First to Deliver Full Bandwidth 40 Gbps Ethernet Support Using VxWorks, Announced by Curtiss-Wright

BSP's New RoCE Driver Delivers 10x Boost for Ethernet on CHAMP-AV9 and VPX6-1958 Boards

ASHBURN, Va. - March 7, 2015 – Curtiss-Wright Corporation (NYSE: CW) has announced that its Defense Solutions division has introduced a new Board Support Package (BSP) that brings full bandwidth 40 Gigabit Ethernet (GbE) support using Wind River® VxWorks® real-time operating system on rugged OpenVPX™ COTS modules. The new BSP features an RDMA over Converged Ethernet (RoCE) driver and delivers a near 10x improvement in Ethernet performance with VxWorks operating environments. The remote direct memory access (RDMA) driver achieves near 40 Gbps data throughput (measured at ~38.7 Gbps over a single Ethernet port) and eliminates the need for additional components such as a TCP offload engine (TOE) to boost Ethernet performance. Additionally, this reduces processor overhead for Ethernet handling on the host processor to near-zero (~1 %). The new driver is now included in the standard BSP for Curtiss-Wright's Intel® Core™ i7-based CHAMP-AV9 digital signal processing (DSP) engine and is also available for the VPX6-1958 Single Board Computer (SBC). Use of the new BSP enables customers to continue to leverage and reuse their investment in VxWorks software while maximizing board-to-board data connectivity at performance levels 10x.

"Many of our defense and aerospace customers prefer the real-time VxWorks operating environment for its trusted and proven deterministic performance," said Lynn Bamford, Senior Vice President and General Manager, Defense Solutions division. "Our new VxWorks BSP, supported by our CHAMP-AV9 and VPX6-1958 boards, provides an Ethernet performance breakthrough, bringing 40 Gbps Ethernet performance in VxWorks environments. It enables our boards' Core i7 processors to fully dedicate their horsepower to demanding computational tasks."

The new VxWorks BSP brings the ease-of-use software enablement of the powerful *iverbs* interface, commonly used in the Linux community, to VxWorks applications. In comparison to RDMA, traditional TCP and UDP protocols do provide an advantageous approach when two nodes need to communicate to exchange inter-process communications. Users of the new BSP retain their ability to take advantage of both the

performance advantages of RoCE, as well as the communications advantages of TCP/UDP, because the RoCE data is packaged and transmitted as standard Ethernet packets. With the new driver, both types of data communications, RoCE and TCP/UDP, can coexist across the same Ethernet pipe. The new RoCE driver is designed for use with the Mellanox ConnectX®-3 Gigabit Ethernet Network Interface device, which is featured on the CHAMP-AV9 and VPX6-1958 Fabric40™ products.

About the CHAMP-AV9

The CHAMP-AV9 is the only multi-processor Core i7 DSP engine with support for VxWorks on the embedded COTS market. Using the enhanced Intel Advanced Vector Extensions (Intel AVX) 2.0 instruction set, the CHAMP-AV9 offers 664 GFLOPS per board, not including the on-chip GPU numerical co-processors, to deliver more than double the performance of previous DSP solutions. CHAMP-AV9 is also the first OpenVPX DSP engine to utilize a 40 Gigabit per second (Gbps) Ethernet or InfiniBand (IB) data plane fabric, providing 14 GB/sec full duplex throughput with RDMA to support scalable, distributed, real-time computing. With full VxWorks and Linux support, as well as accompanying middleware, libraries and tools, the CHAMP-AV9 provides a seamless migration path for both existing CHAMP-AV DSP applications and large, distributed node HPEC systems.

About the VPX6-1958

The VPX6-1958 is a rugged, high performance 6U OpenVPX single board computer (SBC) based on the Intel 4th Generation Core i7 processor. The VPX6-1958 is a full featured 6U OpenVPX SBC, designed for harsh-environment, air and conduction-cooled aerospace and defense applications. Each of the Core i7's four cores delivers 2.4 GHz of performance, providing the latest Intel Architecture processing on the increasingly popular 6U OpenVPX form factor. With a rich complement of on-board I/O – the VPX6-1958 Intel SBC supports Dual 40 GbE, PCI Express (PCIe) Gen3, Quad GbE, and PMC/XMC expansion. The VPX6-1958 satisfies the most demanding fielded applications for unmanned aerial and ground vehicles, tactical aircraft, armored vehicles and rugged naval systems.

The Fabric40™ Program

Curtiss-Wright's Fabric40 products deliver the industry's first complete end-to-end system approach for integrating the latest 40 Gbps high-speed fabrics into customer applications. Fabric40 products are the industry's first COTS modules to offer end-to-end system support for both 10 and 40 Gbps Ethernet fabrics as well as supporting the full range of IB fabric data rates:

- 10 Gbps IB SDR
- 20 Gbps DDR
- 40 Gbps QDR and FDR-10

Fabric40 products effectively double the interconnect rates currently supported by

Curtiss-Wright's industry-leading 20 Gbps interconnect-based system elements. To ensure that processing engines and CPUs are not burdened by high-speed data transfers, all Fabric40 modules support RDMA in both GbE and IB modes. The complete Fabric40 ecosystem also includes middleware software enablement such as IPC and OFED/MPI interfaces, which are optimized to support next-generation 40 Gbps systems.

Our Fabric40 Program ensures that all aspects of this new data fabric technology are optimally configured to work together, which greatly enhances interoperability and reduces our customers' integration risks and development time.

Fabric40, Signal Integrity and End-to-End Interoperability
Curtiss-Wright has developed its entire line of Fabric40 products with highly optimized Signal Integrity design rules to ensure that high-speed signals are not compromised when interconnecting board-to-board through backplanes.

Complete Fabric40 End-to-End Solutions
Curtiss-Wright Fabric40 system elements provide a complete system solution, including SBCs, DSP and FPGA engines, GPGPU processors, network switches and backplanes. This ensures that system integrators can be confident that their entire next-generation system will work together reliably from end-to-end. Curtiss-Wright will continue to announce additional products supporting the Fabric40 Program.

About the new CHAMP-AV9 and VPX6-1958 BSPs
Support for the new RDMA-enhanced RoCE driver is included in the CHAMP-AV9 board's standard BSP, and available as an add-on for the VPX6-1958's BSP. Both BSPs are available immediately.

Sales inquiries: Please forward all Sales and reader service inquiries to Kavita Williams, Curtiss-Wright Defense Solutions, Tel: (661) 705-1142; Fax: (661) 705-1206; email: ds@curtisswright.com.

For more information about Curtiss-Wright's Defense Solutions division, please visit www.cwcdefense.com.

About Curtiss-Wright Corporation
Curtiss-Wright Corporation (NYSE:CW) is a global innovative company that delivers highly engineered, critical function products and services to the commercial, industrial, defense and energy markets. Building on the heritage of Glenn Curtiss and the Wright brothers, Curtiss-Wright has a long tradition of providing reliable solutions through trusted customer relationships. The company employs approximately 9,000 people worldwide. For more information, visit www.curtisswright.com.

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