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News

Products, Optimism Abound At Bus & Board Conference

William Wong

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Long Beach, Calif., was home to a great Bus & Board Conference this year. The mood was upbeat and the booths were full of shipping products, compared to last year's plethora of prototypes. But the success stories were the big difference this year. Established standards like StarFabric were being used in high-performance, system-critical environments.

General Paul J. Kern, commander of the U.S. Army Material Command (AMC), gave the keynote speech. If it moves, is worn, or is eaten, the AMC is responsible for it. Additionally, the AMC acquires the latest technology and integrates it into new and existing hardware. Kern's presentation addressed the importance of MIL COTS (military commercial off-the-shelf) hardware. He noted the upcoming opportunities for replacing and restoring equipment used in Iraq and Afghanistan as well as new systems that were being delivered or in development.

VME NOW AND FOREVER
VME products were out in force. Quad processor boards like Radstone's G4DSP-X were common with four 500-MHz MPC7410s. Each has a Gigabit Ethernet link, 256 Mbytes of SDRAM, 32 Mbytes of flash, and a pair of PCI mezzanine card (PMC) slots. VMEbus International Trade Association (VITA) standards were the subject of a good deal of discussion, too. The VITA 46 standard, with its switch-fabric support, was high on the list along with the emerging VITA 42 XMC mezzanine standard.

The VME bus got a midlife kicker with the announcement of two 2eSST bridge chips, the Tundra Tsi148 and Thales ALMA2E. The faster VME bus interface has a throughput in excess of 300 Mbytes/s. Thales and Motorola demonstrated 2eSST-compatible boards. VMetro displayed its Vanguard VME Bus Analyzer, which supports the standards.

CLUSTERING CompactPCI
A wide range of CompactPCI boards were presented, including boards that support PICMG 2.16. SBS Technologies' CT9 Server Blade is a 6U, 1.6-GHz Pentium M-based SBC with a 2D/3D Nvidia video controller. Kontron's CP6000 6U SBC packs up to four Gigabit Ethernet links with space left for a 2.5-in. hard disk and a PMC site.

AdvancedTCA FOR REAL
Last year, development systems stole the show. This year, a host of new boards, buses, and systems in the AdvancedTCA arena took charge. Schroff and Bustronic displayed backplanes, racks, and handles. Force Computers showcased its Centellis DS 31KX AdvancedTCA Platform, which incorporates a pair of Gigabit Ethernet switches and a shelf management controller. The platform also supports a range of software, including MontaVista Linux Carrier Grade Edition. And, Artesyn Technologies demonstrated prototypes for a new AdvancedMC (AMC) carrier system that lets a board hold up to eight AMC hot-swap boards.

SPEEDY SWITCH FABRICS
StarFabric, InfiniBand, RapidIO, and Gigabit Ethernet were at the top of the list for shipping fabric products like Sky Computers' SmartPac 1200 blade system, which employs a 43 Mellanox InfiniBand switch. Mercury Computer Systems' PowerStream 7000 used RapidIO to link a large number of PowerPC processors in a single rack. The RapidIO fabric has a 75-Gbyte/s bandwidth.

Brian Seemann of Xilinx Communication Technology covered 10-Gbit/s Ethernet and the UXPi (Unified 10Gbps Physical Layer Initiative). Rajeev Kumar, president of the Advanced Switching (AS) Interconnect Special Interest Group, addressed the latest AS standards and trends.

DOUBLE FPGAs
A number of FPGA-based boards using a pair of Xilinx II Pro chips with a built-in PowerPC processor were available at the show. **Pentek**'s offering feeds the FPGAs from a 210-MHz Analog Devices AD9430 analog-to-digital converter. TekMicro's PowerRace-3 surrounds the FPGAs with Race++ links and two 533-MHz 440x Power PC chips. BittWare's T2-PCI features four 600-MHz ADSP-TS201S TigerSharc DSPs and a Xilinx FPGA.

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