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By Richard "Zippy" Grigonis

Trenton Technology's Flood of New Boards and Backplanes



Ten years ago the Gainesville, Georgia-based company Trenton Technology (www.TrentonTechnology.com) became my favorite single board computer (SBC) manufacturer. I was initially attracted to their innovative "flush-mounted CPU solution" - designed to save backplane slots and allow use of all available standard PICMG compliant slots - which first made its appearance in 1997 when they released their first Pentium II board using the old 440LX chipset, and which they followed up the next year by bringing the same technology to a 440BX chipset-based Pentium II board, the TR-DP2.

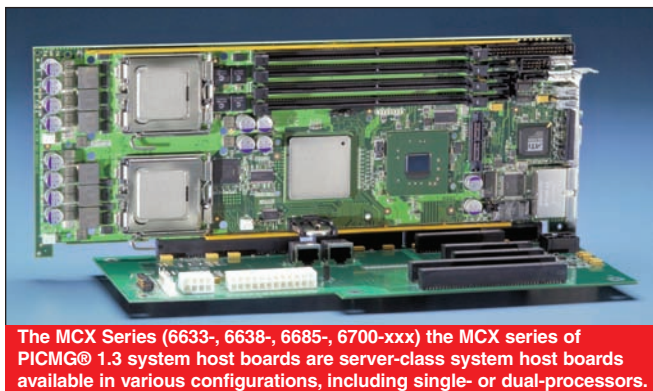
Today, Trenton remains a major force in the development of single board computers and now system host boards (SHBs). Recently they announced two new PICMG 1.3 SHB product families, the MCX and MCG family of multi-core SHBs. The MCX-series SHBs are targeted at servers, and they provide multiple PCI Express (PCIe) links to option card slots and devices on a PICMG 1.3 backplane. The MCG-series, on the other hand, offers graphics-class board configurations with native electrical support for x16 PCI Express video and imaging cards.

But Trenton also offers backplanes. Indeed, they recently announced availability of five new PICMG 1.3 backplanes that support SHB Express system host boards and various PCIe, PCI-X and PCI option cards. Among the five new backplanes is the 20-slot BP6FS6605 which has six flexible system host board segments capable of supporting graphics-class or server-class PCI Express slot configurations. Each segment is capable of supporting a x16 PCIe link and each segment can operate independently or over an Ethernet fabric built into the backplane. The fabric option enables the backplane and its SHBs to operate in cluster

computing applications. Each segment contains a x16 PCI Express mechanical slot and three of the segments also include a x8 PCIe mechanical slot. Standard ATX/EPs power connections are supported along with the terminal block connection method (the optional terminal blocks and the backplane's on-board voltage regulation optimizes shared power configurations). The segments can be powered individually or grouped together to share a common power source.

The 14-slot BPX6610 backplane is designed for applications with PCI Express and PCI-X or universal PCI option cards. The BPX6610 backplane supports a server-class PICMG 1.3 system host board and has one x16 and five x8 PCIe card slots plus six PCI-X card slots that also support universal PCI option cards. The x16 slot and one of the x8 PCIe slots are driven directly from the SHB with x8 PCIe links. The SHB also provides a x4 PCIe link to a PCI Express fan out switch to connect x4 links to the remaining four x8 PCIe mechanical slots. Another x4 link from the fan out switch drives a PCI Express-to-Dual Channel PCI-X bridge chip that supports two 64-bit/100MHz and four 64-bit/66MHz PCI-X card slots. ■

Richard Grigonis is the Executive Editor of TMC's IP Communications Group. He has written about embedded computing, fault tolerant and "fault resilient" computing (a term he coined) for telecom since 1994.



The MCX Series (6633-, 6638-, 6685-, 6700-xxx) the MCX series of PICMG® 1.3 system host boards are server-class system host boards available in various configurations, including single- or dual-processors.



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