NEWS RELEASE

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TRENTON Systems Introduces a Six-Board Cluster Computer

Trenton's Six-Board Industrial Computer System Delivers Outstanding Processing Performance in Data-Intensive Applications

Atlanta, GA – Trenton engineered, manufactured and delivered the first of several six-board cluster computer systems to a customer seeking to maximize processing performance while minimizing space utilization and power consumption. This system uses six Trenton SLT PICMG 1.3 system host boards, a six-segment BP6FS6605 backplane and a custom designed and built power distribution board to effectively manage the system's multiple power supplies.

The chassis itself is manufactured to the customer's and Trenton's specifications to provide easy access to the hot-swap fans, the front access power supplies and the bank of hard drives used in the application. Trenton delivers the completed system in the customer's specified color with their company logo silk-screened onto the chassis' front panel.

"This application illustrates the strong points of Trenton's approach to providing industrial computers that are designed to exactly meet a customer's requirements in order to maximize the effectiveness of the system," said Bill Bowling, Trenton V-P and General Manager. "With Trenton you get a system supplier that not only can integrate the system to meet your unique requirements, but one that also designs and manufactures the boards and backplanes that make up your system design. Our embedding computing board design expertise and system's experience means that your industrial computer from Trenton is engineered to deliver the exact match between your requirements and the system's performance capabilities over the lifetime of your project deployment."

SLT System Host Boards

The heart of this particular six-board cluster computer is the array of six Trenton SLT system host boards. These PICMG 1.3 boards were chosen for this application because of the powerful dual-core, dual-processor architecture design into the SLT. The processor used on the SLT has a maximum thermal design power rating of 31W with an outstanding T_{case} rating of 100°C. With this combination of CPU specifications we were able to design a very low profile cooling solution that allows us to cluster up to six, SLT boards in a 4U computer chassis with a robust ambient operating temperature range of 0° to 60° C.

Six-Segment Backplane (BP6FS6605)
This PICMG 1.3 backplane enables the SLT boards to operate in this application as six independent system host boards. One board acts a sort of a gatekeeper to the main upstream host, while the remaining five boards process data independently and communicates to their specific upstream host. Each backplane segment supports one or two PCI Express option cards and this customer's application uses a specific Ethernet communication card in segment one. The remaining option card slots in the other segments are not used in the present implementation of the system. The Trenton BP6FS6605 backplane also has an optional on-board Ethernet hub for those applications that need the SHBs to communicate to each other over the backplane's on-board Ethernet fabric.

Power Distribution and Front-Panel I/O Boards
Trenton engineers felt that in order to enable the cleanest chassis design possible and to enable the efficient distribution of system power; a couple of special purpose boards ought to be designed and built for this chassis. The power distribution board provides a central connection point for all of the power supply cables. This simple idea enables a very clean cable harness design. The board also features load balance logic that monitors each supply in order to maintain a balanced distribution of system power. Load balancing increases power supply life and ensures maximum system up time. A front panel I/O board was developed by Trenton to provide the customer's system operators with a quick and easy way to view the current system status and to individually control each SHB segment if required.

Chassis Design
Trenton worked closely with the customer to design a chassis that would meet and exceed the customer expectations for appearance, serviceability and longevity. This chassis sports a custom paint and logo scheme to meet the customer's appearance requirements. Access points and various sub-component mounting brackets were designed into the system to ease future system serviceability needs.

Pricing and Availability
Trenton Systems industrial computers are available today and are custom built to exact customer requirements. Contact Trenton Systems for pricing on a system that matches your exact requirements.

About Trenton Systems
Trenton Systems focuses on engineering innovation, customization, dependability, stability/longevity and technical support. Trenton is a specialized designer and manufacturer of industrial computer systems for critical embedded computing applications such as telephony, military/aerospace, government, medical, industrial automation and others that require performance, precision and reliability. Trenton continues the long-standing commitment to in-house, engineering-focused, quality technical support services that has been our standard operating procedure for years.

For more information about on products and design services offered by Trenton Systems, call (866) 514-4941 or (770) 287-3123. You can also visit our website at www.trentonsystems.com or e-mail us at info@TrentonSystems.com.

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