PMC8300

Storage and Security Accelerator Module

PERFORMANCE
TECHNOLOGIES

Highlights

>> **High-Density PT7MC Form Factor**

>> **Dual Gb/s Ethernet Link Speed, Full Front Duplex**

>> **IPsec Security Support**

>> **DES/3DES Encryption Support**

>> **SHA-1 Authentication Support**

>> **Compatible with PT7MC-Enabled Baseboards**

>> **32/64-bit, 33/66MHz PCI Routed Down to SBC**

>> **SCSI Architectural Model (SAM-2) and SCSI-3 Command Sets**

>> **SCSI Block Level Data Encapsulated in IP (iSCSI)**

>> **Supports Initiator and Target Modes**

Today's high performance networks are handling increasingly complex data at faster speeds, sometimes placing prohibitive processing burdens on networked servers, which can degrade network application performance. Additional requirements such as storage management and security can utilize up to 90 percent of a CPU, minimizing the number of cycles dedicated for actual application processing. The PMC8300 incorporates an acceleration offload technology that can cost-effectively boost the performance of moving data between application servers and clients across networks. The results are faster servers, an accelerated network and superior performance.

The PMC8300 is the first to introduce an integrated accelerator module supporting iSCSI encapsulation and full IPsec functionality.

Storage

Storage is a growing requirement for many network applications. The traditional approach to storage in the embedded environment has been to buy large, expensive, NEBS-compliant storage arrays using expensive technology such as Fibre Channel. With the introduction of the PMC8300 you now have an option for creating a highly reliable, highly available, secure and managed IP storage solution for a fraction of the cost and space of traditional SAN approaches.

Interoperability

The PMC8300 can be attached directly onto any base board supporting the PT7MC mezzanine, such as Performance Technologies' CPC5505 Single Board Computer, enabling an administrator to place storage and backup units anywhere on the network with near local attached storage performance. The PMC8300 allows network engineers to easily design, manage and maintain system storage solutions.

Security

As both data and control become managed over the IP network, there is an increased need for security. The PMC8300 provides high security via the use of IPsec with DES/3DES encryption support. SHA-1 authentication comes standard, and full line (1GB/s) encryption/authentication is available in both AES/SHA-1 and 3DES/SHA-1 modes.

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Ordering Information

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TCP/IP Offload Engine (TOE)

The growing adoption of Gigabit Ethernet (GigE) networks has resulted in more bandwidth potential, but that potential is limited due to bottlenecks in the CPU server. Recognizing those constraints, the software roadmap for the PMC8300 includes TCP/IP offload capability (contact Performance Technologies for details). By offloading the Transmission Control Protocol (TCP) and Internet Protocol (IP) stack processing to dedicated hardware, the PMC8300 relieves the server or host CPU from managing network connection tasks. Now the CPU is free to perform additional CPU cycles for processing applications more quickly and efficiently than before.

Warranty

One year

Specifications

The PMC8300 is compliant with the following specifications:
- PICMG® 2.15 PTMC specification, PT7MC signal mapping
- Designed for NEBS level 3 and ETSI installations
- iSCSI architectural model (SAM-2) and SCSI-3 command sets
- Block level SCSI data over IP networks (iSCSI)
- 66/33MHz, 64/32-bit PCI v2.3

Hardware IPsec Engine
- DES, 3DES and 3DES-CBC encryption and decryption
- HMAC-SHA-1 Authentication
- Supports both Authentication Header and Encapsulated Security Payload protocols
- Supports both transport mode and tunnel mode

High Performance Networking Functions
- Fully compliant with 100 Base-TX and 1000 Base-T (802.3, 802.3u, 802.3ab)
- Fully compliant with 1000 Base-SX and 1000 Base-LX Ethernet protocols (802.3, 802.3z)
- IEEE 802.3x full duplex flow control
- IEEE 802.1D and 802.1Q priority queuing
- Virtual LAN (VLAN) support per IEEE 802.1Z
- Supports Auto-MDIX at 10, 100, 1000Mb/s
- ASF (Alert Spec Forum) support v1.0
- 9KB jumbo frame support
  − DIX/SNAP formats supported
- Support for SNMPv2 MIB for IP/TCP/UDP
- Support for iSCSI MIB

Environmental
- Required airflow: 250 linear feet per min. (LFM)
- Operating temperature: 0° C to 45° C
- Storage temperature: -40° C to +85° C
- Non-condensing relative humidity: less than 95% at 40° C