



Quad-port HBA
Low power,
4x1 Gbps Ethernet ports,
8 Gbps,
2M concurrent sessions

LeWiz's MAGIC2028-4P™ is an ultra high performance PCI-X quad-port host bus adapter (HBA) with a powerful on-board TCP/IP Offload Engine (LE2028™) chip. This multi-port board is designed for high performance high connectivity networked systems such as servers, storage and networked appliances. By off-loading TCP/IP processing to hardware, the MAGIC2028-4P™ takes the host processor(s) out of the TCP/IP loop, no longer performing the major TCP/IP tasks in software. This balanced approach allows the host processor(s) to utilize most of its bandwidth to run applications, resulting in reduced system bottlenecks and enhanced system performance. Furthermore, the MAGIC2028-4P™ accelerates the TCP/IP processing to wire rate, effectively reducing network latency and overhead in network attached systems. The MAGIC2028-4P™ plugs directly into the systems PCI-X slot. It has the capability of handling a load of up to 2M concurrent connections and performs 44K connections per second complete set-up and tear-down.

TCP/IP is the protocol used to communicate server to server, server to PC, server to storage, server to network appliance, and the list of applications continues to expand. Unfortunately, TCP/IP places a very heavy burden on host CPUs. With the advent of Gigabit Ethernet and higher, server CPUs have begun to choke while processing the TCP/IP overhead associated with transferring data. This board offloads the TCP/IP processing from the host CPUs, freeing up valuable CPU cycles for application processing while maintaining the programmability, configurability, and flexibility via the host interface. Designed for maximum wire rate throughput across the ports. It also supports fail-over protection/alternate pathing and load balancing/trunking/ bonding capabilities required in high-performance server and storage systems. The result is faster servers, an accelerated network, and superior application performance, saving cost and improving reliability for the enterprise network. The MAGIC2028-4P™ is ideal for network intensive environments such as file serving, network attached storage (NAS), high performance technical computing, high-end backup and restore, IP storage, and video serving.

Using LeWiz's advanced layer-processing architecture, the MAGIC2028-4P™ with the LE2028™ chip offers the highest performance, lowest power and most cost effective way of addressing the performance bottlenecks found in many IP network attached equipment.

Features

- Performs TCP/IP functions in hardware, not software, for lowest latency and overhead
- Handles MACs directly without CPU intervention
- Optional local memory, utilize system memory
- Full TCP/IP offload
- Supports fail-over protection (alternate pathing)
- Supports port aggregation, bonding
- On chip DMA engine for high speed data throughput
- Full remote diagnostics capability
- Qualified across multiple host platforms from Dell™, HP™, IBM™, and SUN™
- Supports all CPU types: Opteron™, Pentium™, PowerPC™, SPARC™, MIPS™, and others
- Board size: Short Form PCI-X HBA (4.2" x 6.6")

Applications

- Servers (application servers, Web/DNS/e-mail/file servers, etc.)
- Storage (iSCSI, SAN/NAS, etc.)
- iSCSI NIC, initiator or target
- Remote KVM switching
- Security appliances (firewalls, load balancers, etc.)
- Network appliances
- Compression systems
- Streaming Multimedia



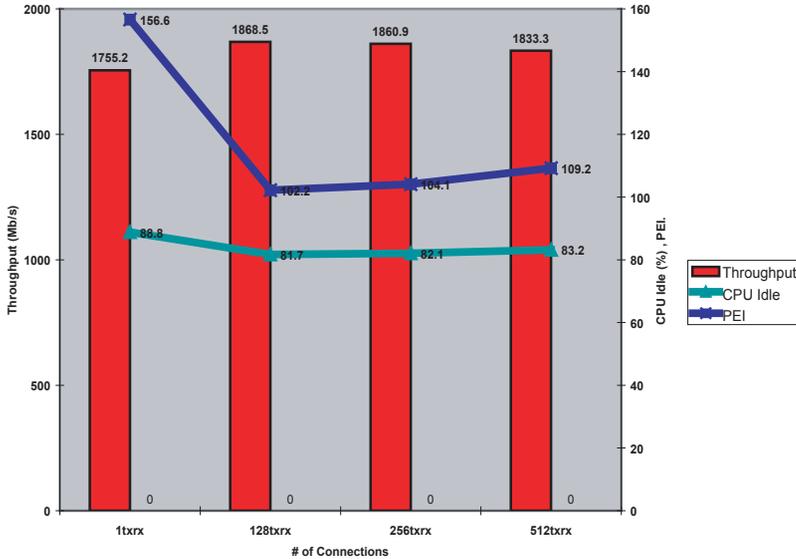
RedHat AS 4.0
 SUSE LES 9.0
 RedHat 9.0
 Variety of 32/64 bit,
 2.6/2.4 kernels

Benefits

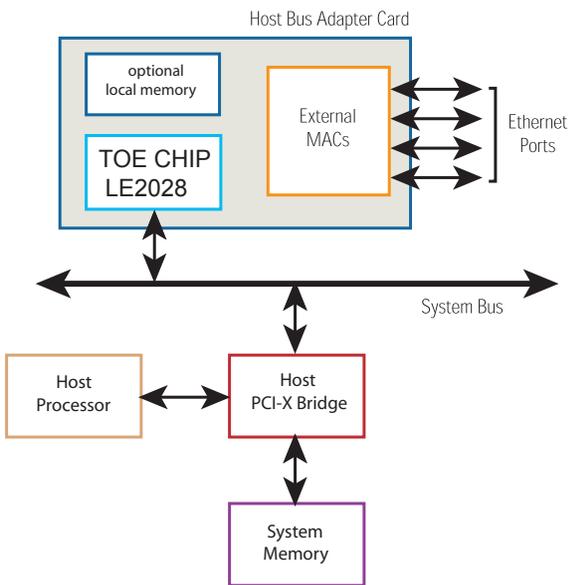
- Low power NO heatsinks
- Lowers overall network cost
 - 4 bi-directional ports (8Gbps)
 - Increases throughput and load handling for systems
 - Delay new purchase of hardware and software
 - Better reliability, less downtime
- Enhances and balances system performance
 - 44k connections per second set-up/tear-down
 - 2M concurrent connections
 - Allows processor to run applications efficiently
- Optimize network efficiency
 - Achieve wire speed, full duplex
- Enhances system security
- Reduces network maintenance and service cost
- Non-intrusive to system hardware and software
- Easy installation

MAGIC2028-4P™

Bi-Directional Performance per Port



Applications



8Gbps Quad-Port TCP/IP Offload HBA

Product Functionality

- Compatible with PCI-X 1.0b and PCI 2.2 Standards
- 64-bit/133/100/66MHz, 3.3V PCI-X bus interface
- Compatible with IPv6 and IPv4
- External SDRAMs extend up to 2M concurrent connections
- Concurrent operation on primary and secondary bus interfaces
- Concurrent transmit and receive operations
- Buffers optimized for fast packet & stream transfers
- Full software support with device drivers, utilities and reference design

TCP/IP Features Supported

- Full TCP/IP offload
- Non-intrusive to existing TCP/IP stack
- Reassembly of incoming data
- Segmentation of outgoing data
- Sequence ordering - handling out of order segments
- Overlap elimination - handling duplicate segments
- Re-transmission, Flow control, etc.
- TCP timer handling
- Connection set up and tear down
- Hardware checksum processing
- Window scaling, updating, and sizing

Ordering Part #: Magic2028-4P



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