High Performance, Dual Port 10GbE Bypass Server Adapter

Overview

Chelsio's B420-SR is a dual port 10 Gigabit Ethernet Bypass adapter with PCI Express 2.0 host bus interface, optimized specifically for WAN optimization, load balancing, traffic management, and other networking appliances at the network edge. Chelsio’s 10GbE B420-SR adapter delivers the highest performance bypass adapter solution available in the industry.

Bypass Mode Ensures Business Continuity

To help maintain business continuity in the event of a failure, B420-SR provides a programmable bypass mode. The bypass mode automatically activates upon programmed detection of an appliance power down, BIOS boot, or an OS or application program failure. When a detected failure occurs, mechanical relays switch the network traffic so it flows out the second port of the pair on the adapter, bypassing the problem server appliance and maintaining business continuity.

In Bypass Mode Port 0 can be bypassed to Port 1 and Port 1 to Port 0. The integrated switch can classify flows, redirect and reject traffic without host intervention such that the host listens on desired flows only. This selective bypass can be enabled on a per packet basis at line rate.

B420-SR includes a full-fledged integrated Traffic Manager for robust flow control, traffic management and QoS. It also provides per-connection and per-class rate control.

Highlights

- PCI Express Gen2 x8
- Low Latency
- Supports Up to 1M connections
- Full TCP & UDP offload
- TCP Chimney
- Full iSCSI, FCoE offload
- Full iWARP RDMA offload
- EVB, VEPA, Flex10, VNTag
- PCI-SIG SR-IOV
- Four operational modes to ensure business continuity:
  - Bypass mode
  - Normal mode
  - Drop mode
  - Selective bypass
- Integrated external switch fabric
- Chelsio T4 accelerator for fast, scalable, and reliable networking
- Line-rate full-duplex performance for high I/O enterprise grade appliances
- Powerful per-connection, per-server, and per-interface configuration and control
- Integrated HW based firewall
- Traffic filtering & management

Applications

- WAN optimization
- Web acceleration
- Load balancing
- Inline intrusion prevention
- Network security
- Traffic shaping
T4 - Fourth-Generation Protocol Offload Engine

The T4 is Chelsio’s fourth-generation ASIC supports TCP, UDP, iSCSI, iWARP (RDMA), and FCoE offload and includes a PCI Express v2.0 x8 host interface. T4 also adds support for PCIe I/O virtualization. Most of T4 features are enhanced versions of those found in the T3 ASIC. Features that carry over from T3 include stateless offloads, packet filtering (firewall offload), and traffic shaping (media streaming).

Packet Switching, Filtering and Classification

B420-SR integrates a high performance VEB packet switch, which allows switching traffic, from any of the input ports to any of the output ports (wire-to-wire) and from any of the output ports to any of the input ports (host-to-host). In addition the built-in capabilities of the hardware allow for efficient packet filtering and classification.

Robust, Proven Solution

Subjected to thousands of hours of compatibility testing, over multiple years of stress testing by several OEM test suites and production deployments in servers, storage systems and cluster computing, Chelsio’s robust, stable protocol offload technology delivers proven performance in a wide range of environments. The B420-SR is generations ahead of competing products.

Software Drivers

Chelsio offers a full suite of protocol software and drivers with the B420-SR adapter. See www.chelsio.com/support for latest info. The software supports operation in both protocol-offload and non-offload modes.

Ordering info

<table>
<thead>
<tr>
<th>Model:</th>
<th>B420-SR</th>
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<tbody>
<tr>
<td>Physical interface:</td>
<td>10GBASE-SR or LR*</td>
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<tr>
<td>Connector:</td>
<td>LC Duplex</td>
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<td>Media:</td>
<td>MMF or SMF</td>
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Accessories

| SM10G-SR: | 10G short-reach SFP+ optic module |
| SM10G-LR: | 10G long-reach SFP+ optic module |
| SRCABLE3M: | Fiber optic cable, 10GBASE-SR, 3M |
| LRCABLE3M: | Fiber optic cable, 10GBASE-LR, 3M |

*SFP+ optics sold separately. Only Chelsio-supplied modules may be used.