Broadcom®
5719 Based Quad-Port 1GbE Blade Mezzanine Adapter

Connecting
everything®

5719

QUAD-PORT GbE NETWORK MEZZANINE ADAPTER FOR DELL® PowerEdge® 12G BLADE SERVERS
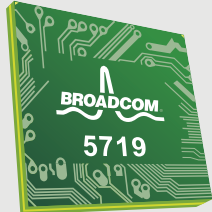
Highlights

- Delivers full line-rate performance across all ports.
- Ideal for high transaction environments requiring greater small packet performance.
- Quad-port connectivity for improved performance in multiprocessor systems.
- Optimizes virtualization: VMware® NetQueue™ and Microsoft® VMQ support.
- Support for Precision Time Protocol (PTP) provides more granular level of time synchronization between the constituents of an Ethernet network for greater accuracy in data packet delivery.
- Streamlines administrative tasks. Broadcom Advanced Control Suite (BACS) management application and integration into Dell's embedded management framework (iDRAC7 and Lifecycle Controller).
- Improves reliability and interoperability—leverages Broadcom's market-proven Ethernet architecture and software.

	5719
Service Provider	●
Data Centers	●
Enterprise	●

● Best Choice

Overview

Broadcom® now offers a quad-port 1 Gb Ethernet (GbE) network mezzanine adapter for Dell® PowerEdge® 12G blade servers. It leverages Broadcom's long-standing industry leadership in Ethernet, providing the highest level of performance, efficiency, and scalability for the enterprise data center.

Designed for today's enterprise, the Broadcom 5719 adapter is the ideal solution for multicore servers, delivering full line-rate throughput across all ports. The adapter utilizes Broadcom's quad-port 5719 integrated controller to achieve lower power consumption, reducing IT operation costs.

Increasing application workloads are placing greater demands on enterprise networks, and the Broadcom 5719 quad-port 1GbE network mezzanine adapter is the solution of choice for such environments, providing a reliable, high-performance, energy-efficient 1GbE connectivity solution.

Features

- Quad-port GbE network mezzanine adapter for Dell PowerEdge 12G blade servers
- x4 PCI Express® (PCIe™) v2.0 (5.0 GT/s)
- Precision Time Protocol (PTP)
- Full line-rate performance across all ports
- Broad OS and hypervisor support
- iSCSI remote boot support
- Preboot eXecution Environment (PXE) support
- Support for VMware® NetQueue™ and Microsoft® VMQ
- Link aggregation and automatic load balancing
- Wake-on-LAN support
- MSI and MSI-X support
- IPv4 and IPv6 offloads
- Stateless offload
- TCP, UDP, and IP checksum
- Large Send Offload (LSO)
- TCP Segmentation Offload (TSO)
- Receive Side Scaling (RSS)
- Transmit Side Scaling (TSS)
- VLAN support with VLAN tagging
- Jumbo Frame support for frames larger than 1500 bytes
- Broadcom Advanced Control Suite (BACS) management application and integration into Dell's embedded management framework (iDRAC7 and Lifecycle Controller).

Benefits

- **Accelerates Server Performance:**
  - Speeds network performance with full line-rate performance across all ports.
  - Maximizes server processing performance by reducing CPU overhead and lowering interrupt latency through the use of the MSI-X standard.
  - Boosts performance in Windows® and Linux® environments by directing interrupts to the server's CPU cores, leveraging Transmit/Receive Side Scaling (TSS/RSS).

- **Boosts Network Synchronization:**
  - Hardware support for Precision Time Protocol (PTP) IEEE 1588.
  - More accurate timestamping of packet delivery within the network.
  - Faster time synchronization across the network.
  - Critical for fast-paced banking and financial transaction environments.

- **Robust Virtualization Capabilities:**
  - Superior network performance with support for VMware NetQueue and Microsoft VMQ technologies.
  - Enhances network management and efficiency with support for VLAN/VLAN tagging.

- **Streamlines Deployment and Management:**
  - Increases deployment flexibility with four GbE connectivity ports.
  - Broadcom Ethernet solutions available across a wide range of Dell server platforms reduces management complexity.
  - Unifies the NIC and storage management using Dell iDRAC and Lifecycle Controller management framework or Broadcom Advanced Management Suite (BACS).

Specifications

General

Form factor	Mezzanine Adapter 3.13" x 2.85" (79.5 mm x 72.4 mm)
Supported server	Dell PowerEdge 12G M620 blade server
Bus type	x4 PCI Express 2.0 (5.0GT/s)
Data transfer rate per port	1000 Mbps

OS Support

Microsoft	Windows Server® 2008, 2008 R2, all editions
Linux	Red Hat® Enterprise Linux (RHEL) 5.7/5.8, 6.1/6.2
	Novell® SUSE® Linux Enterprise Server (SLES) 10 SP4, 11 SP2
VMware	vSphere™ 4.1 and 5.0
Citrix	XenServer 6.0

Management

Broadcom	BACS management application, WMI, and Broadcom Management API (BMAPI)
Dell	Embedded management framework (iDRAC and Lifecycle Controller)

Environmental Requirements

Operating temperature	32°F to 131°F (0°C to 55°C)
Storage temperature	–40°F to 149°F (–40°C to 65°C)
Relative humidity	5% to 95% noncondensing

Hardware

Certifications	RoHS, FCC A, UL, CE, VCCI, BSMI, CTICK, KC

Advanced Features and Standards

PCI Express base specification 2.0

PCI bus power management interface (rev 1.2)

Advanced Error Reporting (AER)

TCP segmentation/large send offload

Jumbo Frame Support

ACPI v2.0

SMBus 2.0

IEEE 1588—Precision Time Protocol (PTP) -ready

IEEE 802.1q—Virtual LAN (VLAN) support—VLAN tagging support

IEEE 802.3ap—Backplane Ethernet

IEEE 802.3x—Flow control

IEEE 802.3z (Clause 30)—Statistics for SNMP MIB II, Ethernet-like, and Ethernet MIB

IPv4 and IPv6 offload

Teaming support

MSI-X supports independent queues

Ordering Information

	Part Number
Broadcom 5719 Quad-Port 1GbE Network Mezzanine Adapter	430-4730

About Broadcom

Broadcom Corporation (NASDAQ: BRCM), a FORTUNE 500® company, is a global leader and innovator in semiconductor solutions for wired and wireless communications. Broadcom® products seamlessly deliver voice, video, data, and multimedia connectivity in the home, office, and mobile environments. With the industry's broadest portfolio of state-of-the-art system-on-a-chip and embedded software solutions, Broadcom is changing the world by Connecting everything®. For more information, go to www.broadcom.com.