

# Broadcom® 5720-Based Rack Network Daughter Card



Third-party information brought to you courtesy of Dell®.

## QUAD-PORT GbE NETWORK DAUGHTER CARD FOR DELL PowerEdge® 12G RACK 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 multi-processor systems.
- Optimizes virtualization: VMware® NetQueue™ and Microsoft® VMQ support.
- Reduces card power consumption up to 42% leveraging Energy Efficient Ethernet (EEE) standards.
- 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.

	5720
Service Provider	●
Data Centers	●
Enterprise	●

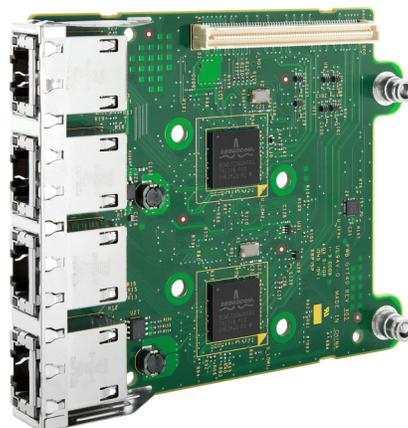
● Best Choice

### Overview

Broadcom® now offers a quad-port 1 Gb Ethernet (GbE) Network Daughter Card (NDC) for Dell® PowerEdge® 12G rack servers. This network adapter leverages Broadcom's long-standing industry leadership in Ethernet, providing the highest levels of performance, efficiency, and scalability for the enterprise data center.

Designed for today's enterprise, the Broadcom 5720-based NDC is the ideal solution for multicore servers, delivering full line-rate throughput across all ports. The card utilizes Broadcom's 5720 integrated controller to deliver lower power consumption and Energy Efficient Ethernet™ (EEE), reducing IT operation costs.

Increasing application workloads are placing greater demands on enterprise networks, and the Broadcom 5720-based quad-port 1GbE Network Daughter Card is the solution of choice for such environments, providing a reliable, high-performance, energy-efficient 1GbE connectivity solution.



### Features

- Quad-port GbE Network Daughter Card for Dell PowerEdge 12G rack servers
- Two x1 PCI Express® (PCIe™) v2.0 (5 GT/s)
- Energy Efficient Ethernet (EEE)
- 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
- Precision Time Protocol (PTP)
- 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.
  - Optimizes 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).
- **Delivers Advanced Ethernet Capabilities:**
  - Energy Efficient Ethernet (EEE)—Reduces card power consumption by up to 42% through intelligent adaptive power management, adjusting power based on data traffic load.
  - Precision Time Protocol (PTP)—Provides greater accuracy of data packet delivery within the network.
- **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.
  - Simplifies deployment and management complexity—Broadcom Ethernet solutions available across a wide range of Dell server platforms.
  - Unifies the NIC and storage management using Dell iDRAC and Lifecycle Controller management framework or Broadcom Advanced Management Suite (BACS).

## Specifications

### General

Form factor	NDC 3.66" x 3.93" (93 mm x 100 mm)
Supported servers	Dell PowerEdge 12G Rack (R720, R720XD, R620) servers.
Bus type	Two x1 PCI Express® (PCIe) v2.0 (5 GT/s)
Data transfer rate per port	10/100/1000 Mbps
MAC controller	BCM5720
Connector	RJ45

### 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
ACPI v2.0
SMBus 2.0
IEEE 802.3ad/802.1ax Link Aggregation Control Protocol (LACP)
IEEE 802.3az—Energy Efficient Ethernet
IEEE 802.1q—Virtual LAN (VLAN) support—VLAN tagging support
IEEE 802.3x—Flow control
IEEE 802.3 (Clause 30)—Statistics for SNMP MIB II, Ethernet-like MIB, and Ethernet MIB
IPv4 and IPv6 offload
Teaming support
IEEE 1588—Precision Time Protocol (PTP)-ready
MSI-X supports independent queues.

## Ordering Information

Broadcom 5720 Quad-Port 1GbE Rack Network Daughter Card

## PG SKU#

430-4418

## 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](http://www.broadcom.com).

