

Broadcom® 57810S-Based Converged Network Adapter

Connecting
everything®



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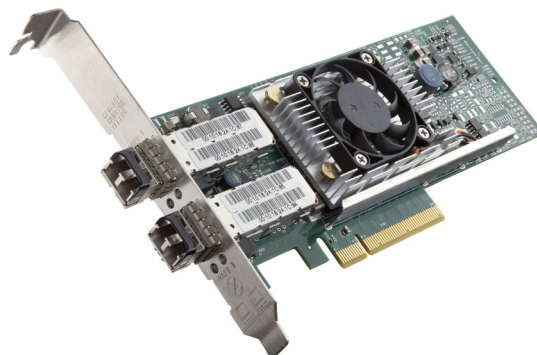
DUAL-PORT 10GbE CONVERGED NETWORK ADAPTER FOR DELL® PowerEdge® 12G SERVERS

Overview

Broadcom® now offers a dual-port 10GbE Converged Network Adapter (CNA) for Dell® PowerEdge® 12G rack and tower servers. It leverages Broadcom's long-standing industry leadership in Ethernet, providing the highest levels of performance, efficiency, and scalability for the enterprise data center.

For more effective utilization of the 10GbE bandwidth, the Broadcom 57810S-based CNA offers Switch Independent Partitioning which enables segmentation of a single 10GbE port into four virtual ports with flexible allocation of bandwidth to each port. This allows IT organizations to improve resource utilization while lowering infrastructure and operational costs.

Virtualization, cloud computing, High-Performance Computing (HPC), convergence, and clustering initiatives are increasing workload demands. The Broadcom 57810S-based CNA is the solution of choice for workload-intensive computing environments, providing a reliable, high-performance 10GbE connectivity solution.



Features

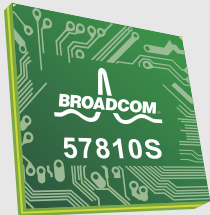
- Dual-port 10GbE connectivity for Dell PowerEdge rack and tower servers
- x8 PCI Express® (PCIe™) V2.0 (5 GT/s) support
- Full line-rate performance across all ports
- Broad OS and hypervisor support
- Full iSCSI and FCoE hardware offload
- Full TCP/IP hardware offload
 - Microsoft® Chimney-compliant
- Network boot support:
 - iSCSI remote boot
 - FCoE boot from SAN
 - Preboot eXecution Environment (PXE) 2.0
- Switch Independent Partitioning with up to four partition assignments per 10GbE link
- Broadcom Advanced Control Suite (BACS) management application
- Integration into Dell's embedded management framework (iDRAC7 and Lifecycle Controller)
- MSI and MSI-X support
- IPv4 and IPv6 offloads
- PCI-SIG SR-IOV
- Comprehensive stateless offloads
- RX/TX multiqueue
- Receive Side Scaling (RSS)
- Transmit Side Scaling (TSS)
- Support for VMware® NetQueue™ and Microsoft VMQ
- Support for VLAN tagging
- Jumbo frame support for frames larger than 1500 bytes
- Network teaming, failover, and load balancing:
 - Smart Load Balancing (SLB)
 - Link Aggregation Control Protocol (LACP) and generic trunking
- Data Center Bridging (DCB)

Highlights

- Delivers full line-rate 10GbE performance across all ports.
- Consolidates network traffic and storage traffic over converged 10GbE connections.
- Enables provisioning of 10GbE ports for greater deployment flexibility through Switch Independent Partitioning.
- Boosts host CPU efficiency with hardware offload for network (TCP/IP) and storage (FCoE/iSCSI) data traffic.
- 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.

57810S	
Cloud Computing	●
Virtual Server	●
High-Performance Computing	●

● Best Choice



Benefits

- **Accelerates Server Performance:**
 - Boosts network performance with full line-rate 10GbE performance across all ports.
 - Increases server performance with full hardware offload for storage traffic.
 - Delivers highest networking performance and lowest CPU utilization with TCP/IP offload (TOE).
 - 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).
- **Includes Robust Virtualization Capabilities:**
 - Provides superior network performance with support for VMware NetQueue and Microsoft VMQ technologies.
 - Enhances network management and efficiency with support for VLAN tagging.
- **Streamlines Deployment and Management:**
 - Increases network flexibility, scalability, and capacity with Switch Independent Partitioning, segmenting 10GbE ports and reallocating their bandwidth and resources to address application's performance requirements.
 - 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	PCI Express short, low-profile card—167.64 mm × 68.91 mm (6.60" × 2.71")
Data rate	10 Gbps per port, each direction
Bus type	x8 PCI Express 2.0 (5.0GT/s)
MAC controller	Broadcom BCM57810S
Connector	SFP+

OS Support—Networking and iSCSI

Microsoft	Windows Server® 2008 and 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.x
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
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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 802.3ae
IEEE 1588—Precision Time Protocol (PTP)-Ready
IEEE 802.1q—VLAN tagging support
IEEE 802.3x—Flow control
IPv4 and IPv6 offload
Teaming support
MSI-X supports independent queues

Ordering Information

Broadcom 57810S Dual-Port 10GbE SFP+ Converged Network Adapter

PG SKU#

Full-height bracket: 430-4421
Low-profile bracket: 430-4422

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.

