

# BROCADE 1020 CNA



## SERVER CONNECTIVITY

## A New Class of Server I/O Consolidation

### HIGHLIGHTS

- High-performance line-rate 10 Gbps Ethernet for enterprise-class, reliable LAN connectivity
- Data Center Bridging (DCB) support for low-latency, lossless, and deterministic 10 Gbps Ethernet connectivity and storage over Ethernet applications (FCoE/iSCSI)
- Advanced Ethernet performance, including IPv4 and IPv6 checksum offload, Receive Side Scaling (RSS), Header Data Split (HDS), jumbo frame support, and TCP Segmentation Offload (TSO)
- Scalable connectivity features—including virtual switching offloads—across a secure, multiprotocol, lossless environment
- Unified Fibre Channel, FCoE, and Ethernet driver stacks that enable a single driver for both Brocade CNAs and Fibre Channel HBAs
- An integral part of the Brocade DCB/FCoE solution, which includes the Brocade 8000 Switch, the Brocade FCOE10-24 Blade for the Brocade DCX Backbone, and Brocade Network Advisor

The Brocade® 1020 (dual ports) Converged Network Adapter provides the industry's best-in-class server connectivity for networking and Fibre Channel storage I/O consolidation, leveraging Fibre Channel over Ethernet (FCoE) and Data Center Bridging (DCB) technology. The Brocade 1020 CNA can replace traditional Fibre Channel Host Bus Adapters (HBAs) and Network Interface Cards (NICs) in servers with one PCIe adapter—thereby increasing ROI and reducing TCO.

### IMPROVED TCO THROUGH FCOE

Brocade 1020 CNA improves TCO by replacing Fibre Channel HBAs and NICs. Combined with the top-of-rack Brocade 8000 Switch and Brocade Network Advisor, this CNA provides a powerful 10 Gbps solution that consolidates Fibre Channel and Ethernet traffic through FCoE. This new technology helps organizations significantly reduce hardware, power, cooling, management, and maintenance costs.

Through native compatibility and seamless integration with existing Fibre Channel and Ethernet networks, the Brocade 1020 CNA extends the value of storage and networking investments. It increases savings through improved infrastructure management, reduced IT training, and faster diagnostics. In addition, organizations can increase performance and improve ROI by leveraging

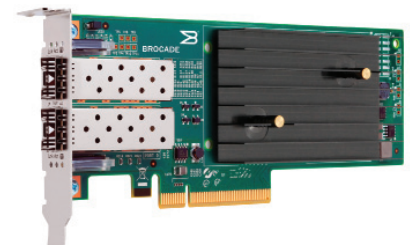
hardware-based capabilities for virtualization optimization.

### DATA CENTER BRIDGING

Supporting IEEE standards for Data Center Bridging (DCB: PFC, ETS, and DCBx), the Brocade 1020 CNA provides a highly efficient means of transporting Fibre Channel storage traffic over DCB links. These storage-focused enhancements create a lossless and deterministic transport that addresses the needs of storage traffic while protecting data integrity.

### MAXIMIZING INVESTMENTS

To help optimize technology investments, Brocade and Dell offer complete solutions that include education, support and services. For more information, contact an authorized Dell sales partner, or your Dell representative, or visit [www.dell.com](http://www.dell.com).



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# BROCADE

**KEY FEATURES****High performance:**

- Dual-port 10 Gbps CNAs for converged storage and networking traffic
- Consolidates both TCP/IP and storage (iSCSI/Fibre Channel) traffic over a single link, significantly reducing server deployment
- Full hardware offload for FCoE protocol processing on a highly integrated, low-power ASIC that provides wire-speed 10 Gbps throughput to Fibre Channel SANs

**Converged traffic:**

- Separate PCIe functions for flexible storage and networking assignment
- Powerful priority flow control features for converged traffic management

**Virtualization support:**

- Multiple I/O data queues per port for flexible allocation of host resources

**Centralized management:**

- Brocade DCFM for local and remote management of distributed CNAs
- FC-ping, FC-Traceroute, and LED beaconing to simplify fault isolation

**BROCADE 1020 SPECIFICATIONS****Host Specifications**

Server platform	Dell PowerEdge® Servers (R620, R720,R720XD, T620, T410, R905, R900, R805, T710, R910, R810, R710, R610, R410, T610, R510, R815, R715, NX3100, PE2970)
Bus interface	PCI Express Gen 2.0 Compatible (x8) with MSI-X and INTx

**FCoE Specifications**

Protocols	FC-SP, FC-LS, FC-GS, FC-FS2, FC-FDMI, FC-CT, FCP, FCP-2, FCP-3, FC-BB-5
Performance	500,000 IOPS per port
Logins	Support for 2048 logins and 4096 exchanges
Class of service	Class 3, Class 2 control frames supported

**Ethernet Specifications**

CEE support	Priority-Based Flow Control (PFC: 802.1Qbb) Enhanced Transmission Selection (ETS: 802.1Qaz) DCBX Data Center Bridging Exchange Protocol
Performance	10 Gbps full-duplex line rate
Frame sizes	9600 jumbo frames and mini-jumbo frames supported
Ethernet standards compliance	802.3ae, 802.1P/Q, 802.3x, 802.3ad
Stateless offload	IPv4/IPv6, TCP, and UDP checksum offload; IPv4 header checksum offload; TCP Segmentation Offload (TSO); Receive Side Scaling (RSS); Header Data Split (HDS); VLAN insertion/stripping and VLAN filtering

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**Software**

Driver- and Brocade Host Connectivity Manager (HCM)-supported operating systems	Windows Server 2008/R2; Windows Server 2003/R2, Windows 7/ SP1, RHEL 4/5/6; SLES 9/10/11; Solaris 10 (x86), SuSE 10/11, and VMware ESX 3.5 ESX/ESXi 4.0/4.1, ESXi 5.0
Brocade Network Advisor	Yes (Professional, Professional Plus, Enterprise)
Management APIs	SNIA HBA API v2.0, SMI-S, and FDMI-1

**Physical Specifications**

Transceivers	10 Gbps SFP+
Form factor	Low-profile MD2 form factor PCI Express Card; 16.77 cm × 6.89 cm (6.60 in. × 2.71 in.)
Bracket size	Standard/full height: 1.84 cm × 12.08 cm (.73 in. × 4.76 in.) Low profile: 1.84 cm × 8.01 cm (.73 in. × 3.15 in.)
Distance support	Up to 300 meters at 10 Gbps on multimode fiber Up to 5 meters at 10 Gbps over Twinax cable

**Environment and Power Requirements**

Airflow	45 Linear Feet/Minute (LFM)
Operating temperature	0° C/32° F to 50° C/122° F (dry bulb)
Non-operating temperature	-43° C/-40° F to 73° C/163° F (dry bulb)
Operating humidity	5% to 93% (relative, non-condensing)
Non-operating humidity	5% to 95% (relative, non-condensing)
Power dissipation	8.5 W (typical)
Operating voltage	3.3 V

**Agency Approvals**

United States	CSA 60950-1-03 First Ed; ANSI C63.4; cCSAus; FCC Class B
Canada	UL60950-1, First Ed; ICES-003 Class B; cCSAus
Japan	CISPR22 Class B and JEIDA (Harmonics); VCCI-B
European Union	EN60950-1; EN55022 Class B and EN55024; TUVBauart, CE Mark
Australia, New Zealand	EN55022 and CISPR22 Class B or AS/NZS; CISPR22; C-Tick
Russia	IEC60950-1; 51318.22-99 and .24-99; GOST Mark
Korea	KN22 and KN24; KCC Mark Class B
Taiwan	CNS 14336(94); CNS 13438(95) Class A; BSMI Mark

**Ordering Information**

25FW0	1020, Dual port 10 GbE CNA
These adapters ship with empty SFP+ ports and are meant for use with the following optics:	
1539W	10GbE TWINAX COPPER 1 METER 1PACK
V239T	10GbE TWINAX COPPER 3 METER 1PACK
48V40	10GbE TWINAX COPPER 5 METER 1PACK
3H3XY	10GbE SFP+ SHORT WAVE 1PACK

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