

BROCADE 1010 AND 1020 CNAs

SERVER CONNECTIVITY

HIGHLIGHTS

- High-performance line-rate 10 Gbps Ethernet and CEE for networking and FCoE storage traffic
- An integral part of the Brocade CEE/FCoE solution, which includes the Brocade 8000 Switch, the Brocade FCOE10-24 Blade for the Brocade DCX® Backbone, and the Brocade DCFM management application
- Unified Fibre Channel and FCoE driver stacks that enable a single driver for both Brocade FCoE CNAs and Fibre Channel HBAs
- Open industry-standard support for IEEE Data Center Bridging (DCB) capabilities, including Priority-based Flow Control (PFC 802.1Qbb) and Enhanced Transmission Selection (ETS 802.1Qaz)
- 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 virtualization switching and mobility authentication—across a secure, multiprotocol, lossless environment

A New Class of Server I/O Consolidation

The Brocade® 1010 (single port) and Brocade 1020 (dual ports) Converged Network Adapters (CNAs) provide the industry's best-in-class server connectivity for networking and Fibre Channel storage I/O consolidation, leveraging Fibre Channel over Ethernet (FCoE) and Converged Enhanced Ethernet (CEE) technology. Brocade CNAs 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 1000 Series CNAs improve TCO by replacing Fibre Channel HBAs and NICs. Combined with the top-of-rack Brocade 8000 Switch and Brocade Data Center Fabric Manager (DCFM™), these CNAs provide 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 1000 Series CNAs extend the value of storage and networking investments. They increase savings through improved infrastructure management, reduced IT training, and faster diagnostics. In addition, organizations

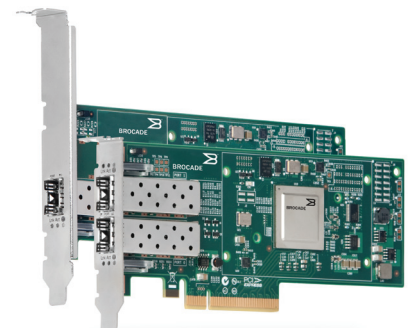
can increase performance and improve ROI by leveraging hardware-based capabilities for virtualization optimization.

DATA CENTER BRIDGING

Supporting IEEE standards for Data Center Bridging (DCB: PFC, ETS, and DCBx), the Brocade 1000 Series CNAs provide a highly efficient means of transporting Fibre Channel storage traffic over CEE 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 its partners offer complete solutions that include education, support, and services. For more information, contact a Brocade sales partner or visit www.brocade.com.



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KEY FEATURES**High performance:**

- Single- and dual-port 10 Gbps CNAs for converged storage and networking traffic
- 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 1010 AND BROCADE 1020 SPECIFICATIONS**Host Specifications**

Server platform	Intel (IA32, IEM64T), AMD (x86, 64), and Sun (x86, SPARC)
Server chipset	Intel, nVidia, ServerWorks/Broadcom, AMD/ATI, and SPARC
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

Software

Driver- and Brocade Host Connectivity Manager (HCM)-supported operating systems	Windows Server 2008; Windows Server 2003; RHEL 4/5; SLES 9/10/11; Solaris 10 (x86 and SPARC); and VMware ESX 3.5
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Brocade DCFM support	Yes
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	100 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	12 W (max)
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; TÜVBauart, 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

Warranty and support

Three years Advance Replacement, standard	Three years 24×7×365 live support, standard
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