# TRM

# Highlights

- Maximizes I/O transfer rates with up to 500,000 IOPS per port at 4 Gbps
- Utilizes N\_Port Trunking capability to create a single logical 4 Gbps high-speed link¹
- Supports virtualized environments with N\_Port ID Virtualization (NPIV) for 255 virtual ports



# Brocade 4 Gb FC HBAs for IBM System x

Fibre Channel SAN solutions for data centers with easy-to-manage virtualization

The Brocade 4 Gb Fibre Channel (FC) single-port and dual-port host bus adapters (HBAs) provide a new level of server connectivity through unmatched hardware and unique software features and performance.

### End-to-end storage networking

As part of the Brocade DCF architecture, the Brocade single- and dual-port HBAs lay the foundation for extending fabric intelligence to servers, virtual machines and applications—enabling end-to-end storage network management. Organizations have a platform to extend traditional Brocade fabric technologies—such as Quality of Service, port trunking, load balancing, authentication, and encryption—to the HBA and server level.<sup>1</sup>

Brocade HBAs in IBM® System x® servers enable the use of NPIV and Adaptive Networking and provide Quality of Service (QoS) from the virtual port throughout the fabric. Brocade Data Center Fabric Manager (DCFM) provides a unified, end-to-end management across fabrics with unique features such as virtual machine visibility, and real-time performance monitoring. DCFM is integrated with IBM Systems Director.

## Strategic data center fabric architecture

As virtualization becomes more prevalent, however, organizations require new connectivity options with higher performance, guaranteed service levels, simplified management and greater data protection for both physical and virtualized environments.

The Brocade Data Center Fabric architecture provides a strategic framework that simplifies connectivity, optimizes performance and scalability, and reduces cost and risk. It combines storage, networking and servers into a converged infrastructure composed of FC switches, directors and backbones.



### **Maximizing investments**

To help optimize technology investments, IBM offers a single point of serviceability backed by industry-renowned education, support and training. In addition, Brocade 4 Gb HBAs are in the ServerProven® program, enabling compatibility among IBM and partner products.

#### Brocade 4 Gb FC Host Bus Adapters for System x at a glance

Blocade + db i o flost bus Adapters for System x at a grance	
Part number	59Y1987 (single-port), 59Y1993 (dual-port)
Performance	Up to 500,000 IOPS per port
Topology	Point-to-point (N_Port), switched fabric (N_Port)
Distance support	50 meters at 4 Gbps on 62.5/125 µm Multi-Mode Fibre (MMF)
Bus interface	PCle Gen 2.0 compatible (x8), with MSI-X and INTx
Operating Non-operating	0°C/32°F to 50°C/122°F -43°C/-40°F to 73°C/163°F
Operating Non-operating	5% to 93% (relative humidity, non-condensing) 5% to 95% (relative humidity, non-condensing)
Power dissipation	6 W (typical) x 4 lanes; reduced in green power mode
Operating voltage	3.3 V
Transceivers	4 Gbps FC LC-style pluggable (SFP+), MMF (850 nm)
Bracket size	Standard: 1.84 cm x 12.08 cm (.73 in. x 4.76 in.) Low-profile: 1.84 cm x 8.01 cm (.73 in. x 3.15 in.)
Management suite	Brocade DCFM, Brocade HCM, IBM Systems Director
Supported servers	Visit the ServerProven page for the latest supported servers at ibm.com/servers/eserver/serverproven/compat/us/
Operating Systems	Microsoft® Windows® 2003/2008, Linux® Red Hat and SUSE, VMware
Protocols	SCSI-FCP, FCP-2, FC-SP
Form factor	Low-profile MD2 form factor PCle card
Dimensions	16.77 cm x 6.89 cm (6.60 in. x 2.71 in.)
Limited warranty	1-year limited warranty. When installed in System x server cards assume system's base warranty and any IBM ServicePac® upgrade

#### For more information

U.S. ibm.com/servers/systems/x
Canada ibm.com/systems/ca/en/servers/x/index.html

#### **Buy Direct**

U.S. 1-888-SHOP-IBM Canada 1-888-411-1WEB



© Copyright IBM Corporation 2010

IBM Systems and Technology Group Route 100 Somers, NY 10589

March 2010 All Rights Reserved

IBM, the IBM logo, ibm.com and System x are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. If these and other IBM trademarked terms are marked on their first occurrence in this information with a trademark symbol (® or TM), these symbols indicate U.S. registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of IBM trademarks is available at ibm.com/legal/copytrade.shtml.

Linux is a registered trademark of Linus Torvalds in the United States, other countries or both.

Microsoft and Windows are trademarks or registered trademarks of Microsoft Corporation in the United States, other countries or both.

Other product, company or service names may be trademarks or service marks of others.

<sup>1</sup> Planned for a future driver release.



Please Recycle