

6 Gb Performance Optimized HBA (Withdrawn) Product Guide (withdrawn product)

The IBM 6 Gb Performance Optimized HBA is an ideal host bus adapter to connect to high-performance solid state drives. With a PCI Express 2.0 x8 interface, two SAS x4 SFF-8087 connectors, and a high performance PowerPC I/O processor, this HBA can support the bandwidth that solid state drives can generate.

Figure 1 shows the IBM 6 Gb Performance Optimized HBA.



Figure 1. IBM 6 Gb Performance Optimized HBA

Did you know?

As well as using less power than rotating magnetic media, the SSDs are more reliable, and can service many more I/O requests per second (IOPS). These attributes make them well suited to I/O-intensive applications, such as those that perform complex queries of databases.

6 Gbps SAS 2.0 technology has been introduced to address data off-load bottlenecks in the direct access storage environment. This new throughput doubles the transfer rate of the previous generation while still maintain backward compatibility with 3 Gbps and 1.5 Gbps SAS speeds.

Part number information

Table 1 shows the part number to order the SSD Host Bus Adapter.

Table 1. Part number and feature code for ordering

Description	Part number	Feature code
IBM 6 Gb Performance Optimized HBA*	46M0912	3876

* Formerly known as the IBM 6Gb SSD Host Bus Adapter

Features and specifications

The IBM 6 Gb Performance Optimized HBA has the following specifications:

- Two internal mini-SAS x4 connectors (SFF-8087)
- PCI Express x8 2.0 host interface
- SAS Controller: LSI SAS2008
- 6 Gbps per port data transfer rate
- MD2 small form factor
- High performance I/O Processor: PowerPC 440 @ 533MHz
- uEFI support
- RAID levels : None
- Maximum endpoint devices: 256
- Power consumption: 13.5 W

The IBM 6 Gb Performance Optimized HBA has the following key features:

- Connection to supported internal solid-state drives
- High-performance LSI Fusion-MPT architecture drives more than 290,000 I/Os per second
- Power management support
- Support for SSP, SMP, STP and SATA protocols - flexible to optimize costs
- Low power consumption, which makes it environmentally friendly
- End-to-End CRC with Advanced Error Reporting
- T-10 Protection Model for early detection of and recovery from data corruption
- Spread Spectrum Clocking for EMI reductions

Warranty

One year limited warranty. When installed on a System x server, these cards assume your system's base warranty and any IBM ServicePac upgrade.

Supported servers

The IBM 6 Gb Performance Optimized HBA is supported on the System x servers listed in Table 2.

Table 2. Supported System x servers

	x3100 M3	x3100 M4	x3200 M3	x3250 M3	x3250 M4	x3400 M3	x3500 M3	x3550 M3	x3620 M3	x3630 M3	x3650 M3	x3690 X5	x3755 M3	x3850 X5	dx360 M3
IBM 6 Gb Performance Optimized HBA	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	Y	Y

Note: This adapter is not supported on older servers that are not listed in the table 2.

See the IBM ServerProven Web site for the latest information about the adapters supported by each System x server type: <http://ibm.com/servers/eserver/serverproven/compat/us/>.

Supported solid state drives

The IBM 6 Gb Performance Optimized HBA supports the solid state drives identified in Table 3. The drives can be used with the adapter if both drive and adapter are supported in the specific server you plan to use. See the IBM ServerProven Web site for the latest information:

<http://ibm.com/servers/eserver/serverproven/compat/us/>.

Table 3. Solid state drives

Description	Part number	Feature code
IBM 50 GB SATA 2.5" SFF Slim-HS High IOPS SSD	43W7714	3745
IBM 50 GB SATA 2.5" SFF HS High IOPS SSD	43W7722	3756
IBM 50 GB SATA 2.5" SFF NHS High IOPS SSD	43W7706	5598
IBM 50 GB SATA 1.8" MLC SSD	43W7726	5428
IBM 200 GB SATA 1.8" MLC SSD	43W7746	5420
IBM 200 GB SATA 2.5" MLC HS SSD	43W7718	A2FN
IBM 200 GB SATA 2.5" MLC SS SSD	43W7742	5419

The IBM 6 Gb Performance Optimized HBA also supports internal 2.5-inch and 3.5-inch hard disk drives (HDDs) in a JBOD (just a bunch of disks) configuration. The adapter does not offer any RAID functionality. The specific HDDs supported by the adapter are those supported by the servers listed in Table 2.

Note: The IBM 6 Gb Performance Optimized HBA does not support tape drives.

Supported operating systems

The adapter supports the following operating systems:

- Microsoft Windows Server 2008 R2
- Microsoft Windows Server 2008, Datacenter x64 Edition
- Microsoft Windows Server 2008, Enterprise x64 Edition
- Microsoft Windows Server 2008, Standard x64 Edition
- Microsoft Windows Server 2008, Web x64 Edition
- Red Hat Enterprise Linux 5 Server with Xen x64 Edition
- Red Hat Enterprise Linux 5 Server x64 Edition
- Red Hat Enterprise Linux 6 Server x64 Edition
- SUSE LINUX Enterprise Server 10 for AMD64/EM64T
- SUSE LINUX Enterprise Server 10 with Xen for AMD64/EM64T
- SUSE LINUX Enterprise Server 11 for AMD64/EM64T
- SUSE LINUX Enterprise Server 11 with Xen for AMD64/EM64T
- VMware ESX 4.1
- VMware ESXi 4.1
- VMware vSphere 5

See the IBM ServerProven Web site for the latest information about the specific versions and service packs supported: <http://ibm.com/servers/eserver/serverproven/compat/us/>. Click **System x servers**, then **Disk controllers** to see the support matrix. Click the check mark that is associated with the System x server in question to see details about the operating system support.

Operating environment

The HBAs are supported in the following environment:

Temperature:

- 10 to 35 °C (50 to 95 °F) at an altitude of 0 to 914 m (0 to 3,000 ft)
- 10 to 32 °C (50 to 90 °F) at an altitude of 0 to 2,100 m (0 to 7,000 ft)

Humidity: 20% to 80%, non-condensing

Maximum altitude: 2,100 m (7,000 ft)

Related publications

For more information refer to the following documents:

- IBM US Announcement Letter for the IBM 6 Gb Performance Optimized HBA
<http://ibm.com/common/ssi/cgi-bin/ssialias?infotype=dd&subtype=ca&&htmlfid=897/ENUS111-126>
- IBM US Announcement Letter for the IBM 6Gb SSD Host Bus Adapter (part of the IBM integrated solutions announcement: Schooner Appliance MySQL Enterprise and Schooner Appliance Memcached)
<http://ibm.com/common/ssi/cgi-bin/ssialias?infotype=dd&subtype=ca&&htmlfid=897/ENUS110-018>
- System x Configuration and Options Guide:
<http://ibm.com/support/entry/portal/docdisplay?Indocid=SCOD-3ZVQ5W>

Related product families

Product families related to this document are the following:

- [Host Bus Adapters](#)

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