IBM 320GB High IOPS SD Class SSD PCIe Adapter provides ultra-high-performance storage for IBM System x and BladeCenter

At a glance

This SSD-based high-performance server-class storage adapter can provide the performance required for extensive computations while utilizing a reduced storage footprint.

Features:

- 320GB of SSD storage in a standard PCIe adapter: Significantly lower power and cooling costs, low management overhead, smaller storage footprint in the datacenter, and a much greener storage solution
- An alternative to SSD-based hard drives: Higher IOPS performance, lower cost per IOP, higher endurance, and efficiency of scale-up
- IBM® branding: A single point of serviceability and enterprise-grade warranty to enable interoperability with a variety of IBM and partner products
- The ability to do more with less during these tough economic times: Lower operational expenditure (OPEX) and capital expenditure (CAPEX) in applications that require high IOPS compared to solutions that use a larger number of HDD and SSD devices to achieve equivalent IOPS

Overview

The IBM 320GB High IOPS SD Class SSD PCIe Adapter comes with all the benefits of standard storage in addition to enterprise-class high performance of up to 100,000 sustained IOPS. This adapter is designed primarily for performance-hungry high-performance servers and computing appliances while providing the added benefits of lower power and cooling costs, low management overhead, and a smaller storage footprint.

Based on standard PCIe architecture coupled with silicon-based NAND clustering storage technology, the High IOPS SSD PCIe Adapter is optimized for System x® racks and blades. The scalable design comes in 320GB capacity with single level cell (SLC) technology in a full-height, half-length PCIe form factor.

This adapter uses NAND flash memory as the basic building block of solid-state storage and contains no moving parts. Thus, it does not have issues associated with vibration, noise, and mechanical failure. The adapter is built as a block device on a PCIe bus with advanced wear-leveling, 11-bit ECC, and N+1 chip-level redundancy providing unparalleled reliability and efficiency.

Whether enabling high-performance computing or reducing the storage footprint, IBM offers High IOPS SSD PCIe Adapters to meet your computational requirements.
This adapter is compatible with a wide variety of System x towers, racks, and blades.

Providing that additional peace of mind, your High IOPS PCIe Adapter purchase is covered under IBM warranty. This adapter carries a three-year limited warranty. Post-warranty service can be obtained via special bid.

Features and functions:

IBM 320GB High IOPS SD Class SSD PCIe Adapter (46M0878)

- PCIe x8 full-height, half-length design
- High reliability
  - Advanced wear-leveling
  - 11 Bit ECC used for maximum efficiency
  - N+1 chip-level redundancy (think SAN on a card)
- x8 PCI Express®, x4 on PCIe 2.0

Warranty: Three-year limited warranty¹. Post-warranty service can be obtained via special bid.

¹ For information on IBM’s Statement of Limited Warranty, contact your local IBM representative. Copies are available upon request.

Key prerequisites

This SSD PCIe Adapter can be used on supported System x and BladeCenter® servers with an available PCI Express expansion slot.

Planned availability date

April 13, 2010

Description

Ideal for businesses requiring high-performance storage without sacrificing capacity, this adapter provides an opportunity to lower power and cooling costs while simplifying management overhead and reducing the overall storage footprint.

- High reliability through:
  - Advanced wear-leveling
  - 11-bit ECC used for maximum efficiency
  - N+1 chip-level redundancy ("SAN on a card")
- Reduced power, cooling, and management costs through storage "in server" versus disk arrays and controllers
- Industry-standard PCIe adapter

Compatibility

- Support for popular network operating systems
- ServerProven® testing to verify servers and PCIe adapters function properly

Features:

- Investment protection, ease-of-use, and compatibility
### Product number

<table>
<thead>
<tr>
<th>Description</th>
<th>Part number</th>
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<tbody>
<tr>
<td>IBM 320GB High IOPS SD Class SSD PCIe Adapter</td>
<td>46M0878</td>
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</table>

### Publications

Publications are shipped with the announced product.

The IBM Systems Information Center provides you with a single information center where you can access product documentation for IBM systems hardware, operating systems, and server software. Through a consistent framework, you can efficiently find information and personalize your access. The IBM Systems Information Center is at


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The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided, as well as payment options via credit card. A large number of publications are available online in various file formats, which can currently be downloaded free of charge.

Installation pubs ship with the adapter.

**Displayable softcopy publications**

None

**Source file publications**

None

### Services

#### Global Technology Services

IBM services include business consulting, outsourcing, hosting services, applications, and other technology management.

These services help you learn about, plan, install, manage, or optimize your IT infrastructure to be an On Demand Business. They can help you integrate your high-speed networks, storage systems, application servers, wireless protocols, and an array of platforms, middleware, and communications software for IBM and many non-IBM offerings. IBM is your one-stop shop for IT support needs.

For details on available services, contact your IBM representative or visit

http://www.ibm.com/services/

For details on available IBM Business Continuity and Recovery Services, contact your IBM representative or visit

http://www.ibm.com/services/continuity

For details on education offerings related to specific products, visit
Select your country, and then select the product as the category.

**Technical information**

**Specified operating environment**

**Physical specifications**

IBM 320GB High IOPS SD Class SSD PCIe Adapter (46M0878)

- Approximate height: 16 mm (0.63 in)
- Approximate width: 110 mm (4.331 in)
- Approximate depth: 170 mm (6.693 in)
- Approximate weight: 279 g (0.61 lb)

**Shipping dimensions**

- Approximate height: 65 mm (2.559 in)
- Approximate width: 220 mm (8.662 in)
- Approximate depth: 240 mm (9.449 in)
- Approximate weight: 478 g (0.98 lb)

**Standards**

None

**Operating environment**

- Temperature:
  - 10 to 35 degrees C (50 to 95 degrees F) at 0 to 914 m (0 to 3,000 ft)
  - 10 to 32 degrees C (50 to 90 degrees F) at 914 to 2133 m (3,000 to 7,000 ft)
- Relative humidity: 20% to 80% (noncondensing)
- Maximum altitude: 2,133 m (7,000 ft)

**Hardware requirements**

The controller must be installed in a selected System x or BladeCenter server system.

**Software requirements**

The IBM 320GB High IOPS SD Class SSD PCIe adapter supports the following major 64-bit operating systems:

- Microsoft® Windows® 2003
- Microsoft Windows 2008
- Red Hat Enterprise Linux® 4
- Red Hat Enterprise Linux 5
- SUSE Linux Enterprise Server 10
- SUSE Linux Enterprise Server 11

**Compatibility**

For the latest compatibility information, visit

**Note:** Some configurations may not be compatible.

**Limitations**
None

**User group requirements**
This announcement satisfies or partially satisfies the requirements from one or more of the worldwide user group communities. Groups include COMMON, COMMON Europe, Guide Share Europe (GSE), InterAction (Australia/New Zealand), Japan Guide Share (JGS), and SHARE Inc.

**Planning information**

**Customer responsibilities**
The SSD PCIe Adapter product is designated as customer setup. Customer installation instructions are shipped with the option part.

**Cable orders**
None

**Installability**
The 320GB High IOPS SD Class SSD PCIe Adapter requires about 20 minutes for installation.

Installation includes unpacking, setting up, and powering on.

**Packaging**

<table>
<thead>
<tr>
<th>Product</th>
<th>Package description</th>
<th>Boxes</th>
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<tbody>
<tr>
<td>IBM 320GB High IOPS SD Class SSD PCIe Adapter</td>
<td>Option Unit Box</td>
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</table>


Contents:

- 320GB High IOPS SD Class SSD PCIe adapter
- Quick install guide
- USB key with documentation
- Important Notices Flyer

The 320GB High IOPS SD Class SSD PCIe Adapter is shipped as a single package. Other items are in zipped bags.

**Retail only**

**Packaging dimensions and weight**
- Single box (HxDxW): 65 mm (2.559 in) x 240 mm (9.449 in) x 220 mm (8.662 in)
- Package weight: 478 g (1.05 lb)

**Note:** All measurements are approximate.

**Supplies**

**For end users:**
The IBM 320GB High IOPS SD Class SSD PCIe Adapter can be purchased through dealers around the world.
Security, auditability, and control

It is a customer's responsibility to ensure that the server is secure to prevent sensitive data from being removed.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

Global Technology Services

Contact your IBM representative for the list of selected services available in your country, either as standard or customized offerings, for the efficient installation, implementation, and/or integration of this product.

IBM Electronic Services

IBM has transformed its delivery of hardware and software support services to help you achieve higher system availability. Electronic Services is a Web-enabled solution that offers an exclusive, no-additional-charge enhancement to the service and support available for IBM servers. These services are designed to provide the opportunity for greater system availability with faster problem resolution and preemptive monitoring. Electronic Services comprises two separate, but complementary, elements: Electronic Services news page and Electronic Services Agent.

The Electronic Services news page is a single Internet entry point that replaces the multiple entry points traditionally used to access IBM Internet services and support. The news page enables you to gain easier access to IBM resources for assistance in resolving technical problems.

The Electronic Service Agent™ is no-additional-charge software that resides on your server. It monitors events and transmits system inventory information to IBM on a periodic, client-defined timetable. The Electronic Service Agent automatically reports hardware problems to IBM. Early knowledge about potential problems enables IBM to deliver proactive service that may result in higher system availability and performance. In addition, information collected through the Service Agent is made available to IBM service support representatives when they help answer your questions or diagnose problems. Installation and use of IBM Electronic Service Agent for problem reporting enables IBM to provide better support and service for your IBM server.

Terms and conditions

Field-installable features

Yes.

Warranty period

Three years.

The IBM 320GB High IOPS SD Class SSD PCIe Adapter offers a 3-year limited warranty. Post-warranty service can be obtained via special bid.

- Warranty period: Three years
- Service type (IOR/IOE/CCE/CCR): CRU
- Maintenance agreement: No
- Optional upgrade: No
Customer setup
Yes.

Machine code
No license terms apply.

Pricing

For all local charges, contact your IBM representative.

Announcement countries

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