



## **ServeRAID M5016 SAS/SATA Controller offers 8-port internal 6 Gbps SAS/SATA solution with Flash-Backed cache offload capability for servers with the flexibility to use both SAS and SATA hard drives**

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### **At a glance**

ServeRAID M5016 SAS/SATA Controller can provide a cost-effective RAID solution with all the benefits that enterprise-grade RAID demands.

- LSI SAS2208 Controller: robust RAID controller for enterprise-grade performance.
- Flash-Backed cache offload: Provides clients an extended-life energy source eliminating the need for consumable batteries in the infrastructure.

### **Overview**

#### **ServeRAID M5016 SA/SATA Controller for IBM® System x® (90Y4304)**

ServeRAID M5016 SAS/SATA Controller offers an enterprise grade RAID solution for internal HDDs and integrates popular SAS technology into an organization's storage infrastructure.

In addition, M5016 comes with Flash-Backed cache offload allowing clients to have extended-life cached data protection in their storage sub-system in the event of an unexpected power outage.

Providing that additional peace of mind, your ServeRAID M5016 SAS/SATA Controller is covered under IBM warranty. This adapter carries a one-year limited warranty, or when installed in a System x Server these cards assume your system's base warranty and any IBM ServicePac® upgrade.

Features and functions of the ServeRAID M5016 SAS/SATA Controller for IBM System x:

- Up to 6 Gbps per port
- RAID Levels 0, 1, 5, 6, 10, 50, and 60
- x8 lane PCI Express® 2.0
- LSI SAS2208 Dual-Core RAID on Chip (ROC)
- Two Mini-SAS SFF8087 internal connectors
- 1 GB 1333 MHz DDRIII SDRAM
- Flash-Backed cache offload

- Support for SED enabled HDDs

## Warranty

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The ServeRAID M5016 Controller offers a one-year limited warranty<sup>1</sup>.

<sup>1</sup> For information on IBM's Statement of Limited Warranty, contact your local IBM representative. Copies are available upon request.

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## Key prerequisites

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SAS/SATA Controllers can be used on supported System x servers with an available PCI Express expansion slot.

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## Planned availability date

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December 16, 2011: ServeRAID M5016 SAS/SATA Controller (90Y4304)

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## Description

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### ServeRAID M5016 Controller

This controller is ideal for supporting server applications where high levels of sustained read and write operations are required.

Features:

- Investment protection
- Ease of use
- Compatibility

### Compatibility

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- Support for popular network operating systems
- ServerProven® testing, which verifies servers, HDDs, and the controllers will function properly

### Configurator support

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- IBM Web Configurator (R2)
- Configuration and Options Guide (COG)
- Standalone Solutions Configuration Tool (SSCT)
- x-config.

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## Product positioning

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None

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## Product number

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| Description  | Part number |
|--|-------------|
| ServeRAID M5016 SAS/SATA Controller for IBM System x | 90Y4304     |

The following is a Pseudo Option.

| Description              | Part number |
|--------------------------|-------------|
| Power Module Mounting HW | 90Y4389     |

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**Model conversions**

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None

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**Feature conversions**

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None

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**Publications**

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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

<http://publib14.boulder.ibm.com/infocenter/systems>

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**IBM Publications Center Portal**

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<http://www.ibm.com/shop/publications/order>

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.

| Title   | Order number | Part number |
|---|--------------|-------------|
| ServerRAID Controller<br>Installation Pubs<br>ships with products | None         | None        |

**Displayable softcopy publications:** None

**Source file publications:** None

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**Services**

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**Global Technology Services**

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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.

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For details on education offerings related to specific products, visit

<http://www.ibm.com/services/learning/index.html>

Select your country, and then select the product as the category.

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## Technical information

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### Specified operating environment

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#### *Physical specifications*

##### **ServeRAID M5016 SAS/SATA Controller (90Y4304)**

- Approximate height: 69 mm (2.731 in)
- Approximate width: 167 mm (6.6 in)
- Approximate depth: 13 mm (5.0 in)
- Approximate weight: 90 g (0.2 lb)

#### **Shipping dimensions**

- Approximate height: 238.3 mm (9.4 in)
- Approximate width: 143.0 mm (5.63 in)
- Approximate depth: 50.8 mm (2.0 in)
- Approximate weight: 222 g (0.489 lb)

#### **Hardware requirements**

The controller must be installed in a selected System x server:

- x3550 M3 / 7944 / All
- x3650 M3 / 7945 / All

#### **Agency approvals**

- EN55022
- EN55024
- EN60950 / CE
- EN 61000-3-2
- EN 61000-3-3
- IEC 950 CB Scheme
- FCC Part 15 Class A, and Class B
- UL 1950
- CSA C22.2 950-95
- VCCI
- NZ AS3548 / C-tick
- RRL for MIC (KCC)
- BSMI

- UL 94-/V

### **Standards**

None

### **Operating environment**

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

### **Hardware requirements**

None

### **Software requirements**

The ServeRAID M5016 SATA/SAS Controller supports the following major operating systems:

- Windows™ 2003
- Windows 2008
- Red Hat Enterprise Linux™ 4
- Red Hat Enterprise Linux 5
- Red Hat Enterprise Linux 6
- SUSE Linux Enterprise Server 9
- SUSE Linux Enterprise Server 10
- SUSE Linux Enterprise Server 11
- VMware 4.0
- VMware 4.1

### **Compatibility**

For latest compatibility information, visit

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

**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**

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### **Customer responsibilities**

The ServeRAID M5016 SAS/SATA Controller is designed as a customer setup. Customer installation instructions are shipped with each option part.

## ***Cable orders***

None

## ***Installability***

The ServeRAID M5016 SAS/SATA Controller requires about 20 minutes for installation.

Installation includes unpacking, attaching a customer-provided power cord, setting up, and powering on.

## ***Packaging***

### **ServeRAID M5016 SAS/SATA Controller**

| Product                                  | Package description | Boxes |
|--|---------------------|-------|
| Server RAID M5016<br>SAS/SATA Controller | Option Unit Box     | 1     |

#### **Contents:**

Server RAID M5016 adapter  
2U bracket  
3U bracket  
Cache module  
Power module  
2-Power module cables  
Power module tray  
Quick Install Guide  
CD with pub  
Important Notices Flyer

The ServeRAID M5016 Controller is shipped as a single package. Other items are in zipped bags.

## **Retail only**

### ***Packaging dimensions/weight***

- Single box (HxDxW): 238.3 mm (9.4 in) 143.0 mm (5.63 in) 50.8 mm (2.0 in)
- Package weight: 222 g (0.489 lb)

**Note:** All measurements are approximate.

## ***Supplies***

**For end users:** ServeRAID M5016 SAS/SATA Controller can be purchased through dealers around the world.

## ***Security, auditability, and control***

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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.

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.

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To learn how Electronic Services can work for you, visit

<http://www.ibm.com/support/electronic>

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**Terms and conditions**

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***Field installable features***

Yes

***Warranty period***

One year

ServeRAID M5016 Controller offers a one year limited warranty<sup>1</sup>

- Warranty period: 1 yr.
- Service type (IOR/IOE/CCE/CCR): CRU
- Maintenance agreement: No
- Optional upgrade: No

An IBM part or feature installed during the initial installation of an IBM machine is subject to a full warranty effective on the date of installation of the machine. An IBM part or feature that replaces a previously installed part or feature assumes the remainder of the warranty period for the replaced part or feature. An IBM part or feature added to a machine without replacing a previously installed part or feature is subject to a full warranty effective on its date of installation. Unless specified otherwise, the warranty period, type of warranty service, and service level of a part or feature are the same as those for the machine in which it is installed.

<sup>1</sup> For information on IBM's Statement of Limited Warranty, contact your local IBM representative. Copies are available upon request.

## **Customer setup**

Yes

## **Machine code**

No license terms apply.

The following parts are designated as Tier 1 CRUs.

CRUs:

- ServeRAID M5016 SAS/SATA Controller for IBM System x (90Y4305)
- 1 GB Flash (81Y4580)
- Power Module (81Y4579)
- Cables (90Y7310)

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## **Prices**

For all local charges, contact your IBM representative.

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## **AP distribution**

| Country/Region  | Announce | Announce date     |
|---|----------|-------------------|
| AP IOT  |          |                   |
| ASEAN*  | Yes      | December 13, 2011 |
| India/South Asia**  | Yes      | December 13, 2011 |
| Australia   | Yes      | December 13, 2011 |
| People's Republic of China  | Yes      | December 13, 2011 |
| Hong Kong S.A.R of the PRC  | Yes      | December 13, 2011 |
| Macao S.A.R of the PRC  | Yes      | December 13, 2011 |
| Taiwan  | Yes      | December 13, 2011 |
| Korea   | Yes      | December 13, 2011 |
| New Zealand   | Yes      | December 13, 2011 |
| Japan IOT   |          |                   |
| Japan   | Yes      | December 14, 2011 |
| * Brunei Darussalam, Indonesia, Cambodia, Lao People's Democratic Republic, Malaysia, Philippines, Singapore, Thailand, and Vietnam |          |                   |
| ** Bangladesh, Bhutan, India, Sri Lanka, Maldives, Nepal, and Afghanistan   |          |                   |

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