



# IBM ServeRAID M5100 Series 2GB Flash/RAID 5 Upgrade provides new technology to provide high performance for M5110(e) and M5120 Controllers for internal and external storage connectivity for System x servers

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## At a glance

The IBM® ServeRAID M-Series family of products can provide advanced RAID solutions with all the benefits that enterprise-grade RAID demands.

- Portfolio richness
  - A comprehensive portfolio of products ranging from entry RAID to enterprise-class flash-based controllers available as integrated and adapter form factors
  - Upgrade features such as support for self encrypting drives (SEDs), performance optimization and caching with solid-state drives (SSDs), and Features-on-Demand (FoD)
- Consistency
  - Management of all products through MegaRAID management tools to help significantly reduce qualification time, personnel training, and management overhead
  - Easy transition to the new portfolio for clients migrating from previous-generation controllers
- Flexibility
  - An entire portfolio of building blocks that allows clients to design around a bottoms-up approach and caters to a wide array of storage requirements
  - Over three times the granularity in offerings configurability to optimize client implementations
- Performance
  - Optimized for high-performance SSDs with integration of dual-core chip architecture, DDR3, and PCIe Gen 3 technologies

## Overview

The ServeRAID M5100 Series 2GB Flash/RAID 5 Upgrade can be installed on any M5100 Series SAS/SATA Controller with an available memory connector and two power module storage bays.

This product is optimized to deliver performance demanded by ever-growing I/O requirements of today's enterprises.

The IBM ServeRAID M-Series family of products offers a complete server storage solution consisting of RAID controllers, cache and flash modules, energy packs, and software feature upgrades in an ultra-flexible offerings structure.

The portfolio is designed around several base solutions with a set of upgrades that are rich with features, designed to minimize parts required, optimized for storage performance, and consistent with existing industry-leading ServeRAID products.

Providing that additional peace of mind, your ServeRAID M-Series option is covered under IBM warranty. All adapters and upgrade modules carry a 1-year limited warranty or, when installed in a System x® server, assume your system's base warranty.

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## Warranty

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The ServeRAID options offer a one-year limited warranty<sup>1</sup>.

<sup>1</sup> For information on the IBM Statement of Limited Warranty, visit

Alternatively, this information is available through your IBM representative or reseller. Copies are available upon request.

[http://www-947.ibm.com/systems/support/machine\\_warranties](http://www-947.ibm.com/systems/support/machine_warranties)

With respect to on-site service, IBM sends a technician after attempting to diagnose and resolve the problem remotely.

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## Key prerequisites

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The ServeRAID M5100 2GB Flash/RAID 5 Upgrade can be used on supported System x servers with an available cache slot on an M5100 Series controller and two available off-load power module bays.

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## Planned availability date

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October 30, 2013

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## Description

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ServeRAID M5100 Series 2GB Flash/RAID 5 Upgrade for IBM System x (47C8670)

- Enables RAID 5, 50 and SED on ServeRAID M5100 Series SAS/SATA Controllers
- Provides 2GB of 72-bit DDR3 cache for enterprise performance
- Utilizes Flash-Backed-Cache-Offload with a long-life energy source

Features:

- Investment protection
- Ease of use
- Compatibility

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## Compatibility

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

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## Product number

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Description	Machine type	Model	Feature	SEO	Part number
ServerRAID M5100 Series 2GB Flash/RAID 5 Upgrade for IBM System x	3331	HC1	A4G6	47C8670	47C8670

The following are features already announced for the 3331 and 8722 machine types:

Description	MT	Model	Feature
ServerRAID M5100 Series 2GB Flash/RAID 5 Upgrade for IBM System x	3331	HC1	A4G6
ServerRAID M5100 Series 2GB Flash/RAID 5 Upgrade for IBM System x	8722	AC1 MC1	
ServerRAID M5100 Series 2GB Flash/RAID 5 Upgrade Placement	5374	CM1	A46N

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### Business Partner information

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If you are a Direct Reseller - System Reseller acquiring products from IBM, you may link directly to Business Partner information for this announcement. A PartnerWorld ID and password are required (use IBM ID).

<https://www.ibm.com/partnerworld/mem/sla.jsp?num=113-166>

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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.

### 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.

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

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

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

### **System x and BladeCenter® support services**

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#### ***Recommended core technical support***

When you buy IBM System x technology, include the support services you need -- to help keep both your hardware and software working for you, day after day, at peak performance. It's your first step toward helping to protect your investment and sustain high levels of system availability. We offer service-level and response-time options to fit your business needs. And we'll help you get started with a core support package that includes:

- **Continuous system monitoring**

Electronic monitoring that helps speed up problem-solving with automated, early detection of potential problems and system errors.

- **Hardware maintenance**

World-class remote and on-site hardware problem determination and repair services.

- **Software technical support**

Access to help line calls for fast, accurate answers to your questions during installation and throughout ongoing operations.

For more information, visit

<http://www.ibm.com/servers/eserver/xseries/services.html>

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## Technical information

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### **Specified operating environment**

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#### ***Physical specifications***

*ServeRAID M5100 Series 2GB Flash/RAID 5 Upgrade (47C8670)*

## Flash Module

- Approximate height: 10.25 mm (0.404 in)
- Approximate width: 51.04 mm (2.008 in)
- Approximate depth: 78.87 mm (3.105 in)
- Approximate weight: 34 g (1.2 oz)

## Power Module

- Approximate height: 13.01 mm (0.512 in)
- Approximate width: 49.91 mm (1.965 in)
- Approximate depth: 63.36 mm (2.494 in)
- Approximate weight: 98 g (3.5 oz)

## Shipping dimensions

- Approximate height: 50.8 mm (2.0 in)
- Approximate width: 143.0 mm (5.63 in)
- Approximate depth: 238.3 mm (9.38 in)
- Approximate weight: 708 g (1.6 lb)

## Hardware requirement

The Flash/RAID 5 must be installed in a selected System x server.

## Agency approvals

- UL
- cUL
- IEC60950
- EMC
- FCC
- TUV
- CE
- VCCI
- BSMI
- C-tick
- KC

## Standards

None

## Operating environment

- Temperature: -5°C to 40°C (41°F to 104°F) at 0 to 5,000 m (16,404 feet)
- Relative humidity: 8% to 93% (noncondensing)
- Maximum altitude: 5,000 m (16,404 feet)

## Homologation

This product is not certified for direct connection by any means whatsoever to interfaces of public telecommunications networks. Certification may be required by law prior to making any such connection. Contact an IBM representative or reseller for any questions.

## **Hardware requirements**

None

## **Software requirements**

The ServeRAID M5100 Series 2GB Flash/RAID 5 Upgrade for IBM System x is operating system independent and therefore can be supported by all operating systems supported by the host M5100 controller.

## **Compatibility**

For latest compatibility information, visit

<http://www-03.ibm.com/systems/info/x86servers/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 IBM ServeRAID M-Series family of products are designed as a customer setup. Customer installation instructions are shipped with each option part.

### **Cable orders**

None

### **Installability**

The IBM ServeRAID M5100-Series 2GB Flash/RAID 5 Upgrade requires about 20 minutes for installation.

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

### **Packaging**

#### *ServeRAID M5100 Series 2GB Flash/RAID 5*

Product	Package description	Boxes
ServeRAID M5100 Series 2GB Flash/RAID 5 Upgrade for IBM System x	Option Unit Box	1

#### Contents:

- Cache module
- Cache-to-flash power module
- Two power module cables
- ServeRAID M Documentation CD
- Important Notices Flyer

The ServeRAID M5100 Series 2GB Flash/RAID 5 Upgrade is shipped as a single package. Other items are in zipped bags.

## **Retail only**

### *Packaging dimensions and weight*

- Single box (HxDxW): 51 mm (2.0 in) x 143.0 mm (5.63 in) x 238 mm (9.38 in)
- Package weight: 708 g (1.6 lb)

**Note:** All measurements are approximate.

## **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.

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## **IBM Electronic Services**

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Electronic Service Agent™ and the IBM Electronic Support web portal are dedicated to providing fast, exceptional support to IBM Systems customers. The IBM Electronic Service Agent tool is a no-additional-charge tool that proactively monitors and reports hardware events, such as system errors, performance issues, and inventory. The Electronic Service Agent tool can help you stay focused on your company's strategic business initiatives, save time, and spend less effort managing day-to-day IT maintenance issues. Servers enabled with this tool can be monitored remotely around the clock by IBM Support all at no additional cost to you.

Now integrated into the base operating system of AIX® 5.3, AIX 6.1, and AIX 7.1, Electronic Service Agent is designed to automatically and electronically report system failures and utilization issues to IBM, which can result in faster problem resolution and increased availability. System configuration and inventory information collected by the Electronic Service Agent tool also can be viewed on the secure Electronic Support web portal, and used to improve problem determination and resolution by you and the IBM support team. To access the tool main menu, simply type "smitty esa\_main", and select "Configure Electronic Service Agent ." In addition, ESA now includes a powerful web user interface, giving the administrator easy access to status, tool settings, problem information, and filters. For more information and documentation on how to configure and use Electronic Service Agent, refer to

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

The IBM Electronic Support portal is a single Internet entry point that replaces the multiple entry points traditionally used to access IBM Internet services and support. This portal enables you to gain easier access to IBM resources for assistance in resolving technical problems. The My Systems and Premium Search functions make it even easier for Electronic Service Agent tool-enabled customers to track system inventory and find pertinent fixes.

## **Benefits**

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**Increased uptime:** The Electronic Service Agent tool is designed to enhance the Warranty or Maintenance Agreement by providing faster hardware error reporting and uploading system information to IBM Support. This can translate to less wasted time monitoring the "symptoms," diagnosing the error, and manually calling IBM Support to open a problem record. Its 24x7 monitoring and reporting mean no more

dependence on human intervention or off-hours customer personnel when errors are encountered in the middle of the night.

**Security:** The Electronic Service Agent tool is designed to be secure in monitoring, reporting, and storing the data at IBM . The Electronic Service Agent tool securely transmits via either the Internet (HTTPS or VPN) or modem, and can be configured to communicate securely through gateways to provide customers a single point of exit from their site. Communication is one way. Activating Electronic Service Agent does not enable IBM to call into a customer's system. System inventory information is stored in a secure database, which is protected behind IBM firewalls. It is viewable only by the customer and IBM . The customer's business applications or business data is never transmitted to IBM .

**More accurate reporting:** Since system information and error logs are automatically uploaded to the IBM Support center in conjunction with the service request, customers are not required to find and send system information, decreasing the risk of misreported or misdiagnosed errors. Once inside IBM , problem error data is run through a data knowledge management system and knowledge articles are appended to the problem record.

**Customized support:** Using the IBM ID entered during activation, customers can view system and support information in the "My Systems" and "Premium Search" sections of the Electronic Support website at

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

My Systems provides valuable reports of installed hardware and software using information collected from the systems by Electronic Service Agent . Reports are available for any system associated with the customer's IBM ID. Premium Search combines the function of search and the value of Electronic Service Agent information, providing advanced search of the technical support knowledgebase. Using Premium Search and the Electronic Service Agent information that has been collected from their systems, customers are able to see search results that apply specifically to their systems.

For more information on how to utilize the power of IBM Electronic Services, contact your IBM Systems Services Representative, or visit

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

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## Terms and conditions

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***MES discount applicable***

No

***Field-installable feature***

Yes

***Warranty period***

One year

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.



### Customer setup

Yes

### Machine code

No license terms apply

### Optional features warranty period

One year

ServeRAID options offer a one-year limited warranty<sup>1</sup>.

- Warranty period: One year
- Service type (IOR/IOE/CCE/CCR): CRU
- Maintenance agreement: No
- Optional upgrade: No

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## Prices

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For current prices, contact IBM at 888-Shop-IBM (746-7426) or visit

<http://www-03.ibm.com/systems/x/>

To locate the web price, search on the feature number in the Search field.

Description	SEO number
ServerRAID M5100 Series 2GB Flash/RAID 5 Upgrade for IBM System x	47C8670

The following are features already announced for the 3331 machine type:

Description	Model number	Feature number	Initial/MES/Both support	RP CSU MES
ServerRAID M5100 Series 2GB Flash/RAID 5 Upgrade for IBM System x	HC1	A4G6	MES	

The following are features already announced for the 8722 machine type:

Description	Model number	Feature number	Initial/MES/Both support	RP CSU MES
ServerRAID M5100 Series 2GB Flash/RAID 5 Upgrade for IBM System x	AC1 MC1	A4G	Initial Initial	

The following are features already announced for the 5374 machine type:

Description	Model number	Feature number	Initial/ MES/ Both		RP CSU	MES
			support			
ServerRAID M5100 Series 2GB Flash/RAID 5 Upgrade Placement						
	CM1	A46N	Initial			

### **Maintenance charges**

For additional information on maintenance and pricing, please contact your IBM Sales Representative or your IBM Business Partner, or call 1-800-IBM-CALL (1-800-426-2255).

### **Trademarks**

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<http://www.ibm.com/planetwide/us/>