

ServeRAID B5015 SSD Controller (Withdrawn) Product Guide (withdrawn product)

Today's business-critical servers require more protection, performance, and manageability than ever. An enterprise-grade RAID solution needs to provide the greatest level of data protection, the highest performance, and easy-to-use management tools. The ServeRAID B5015 SSD Controller combines the PM8013 maxSAS RAID-on-Chip (RoC) controller and the RAID stack from PMC-Sierra to accommodate the most rigorous server environments and support high-performing SSDs.

Figure 1 shows the ServeRAID B5015 SSD Controller.



Figure 1. ServeRAID B5015 SSD Controller

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 make 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 lists the ordering part number and feature code.

Table 1. Ordering part number and feature code

Description	Part number	Feature code
ServeRAID B5015 SSD Controller	46M0969	3889

The ServeRAID B5015 SSD Controller options kit contains the following items:

- ServeRAID B5015 SSD Controller with 3U bracket attached
- 2U bracket
- Quick install guide
- CD-ROM with product publications

Features and specifications

The ServeRAID B5015 SSD Controller has the following specifications:

- RAID 1 and 5 support
- Hot-spare support with automatic rebuild capability
- Background data scrubbing
- Stripe size of up to 1 MB
- 6 Gbps per SAS port
- PCI Express 2.0 x8 host interface
- PCI MD2 low profile form factor
- Two x4 internal (SFF-8087) connectors
- SAS controller: PMC-Sierra PM8013 maxSAS 6 Gb/s SAS RoC controller
- Up to 8 drives per RAID adapter
- Performance optimized for SSDs
- Three multi-threading MIPS processing cores
- High performance contention-free architecture
- Up to four ServeRAID B5015 adapters supported in a system
- Support for up to 4 arrays/logical volumes

Management utilities: pre-boot and OS user interfaces

Management is provided by the maxRAID Storage Manager, a browser-based configuration utility. Features include:

- True Web-based management utility—no application installation
- Supports Internet Explorer and Mozilla Firefox
- Intuitive, easy-to-use GUI for configuration, monitoring, and maintenance
- Allows user to configure, perform maintenance, and monitor physical SSDs directly attached to the ServeRAID controller
- Supports remote configuration from the local system, displays event logs and provides e-mail notifications
- Standards-based—SNIA SMI-S, CTP and SNMP

Figure 2 shows the home page of the maxRAID Storage Manager.

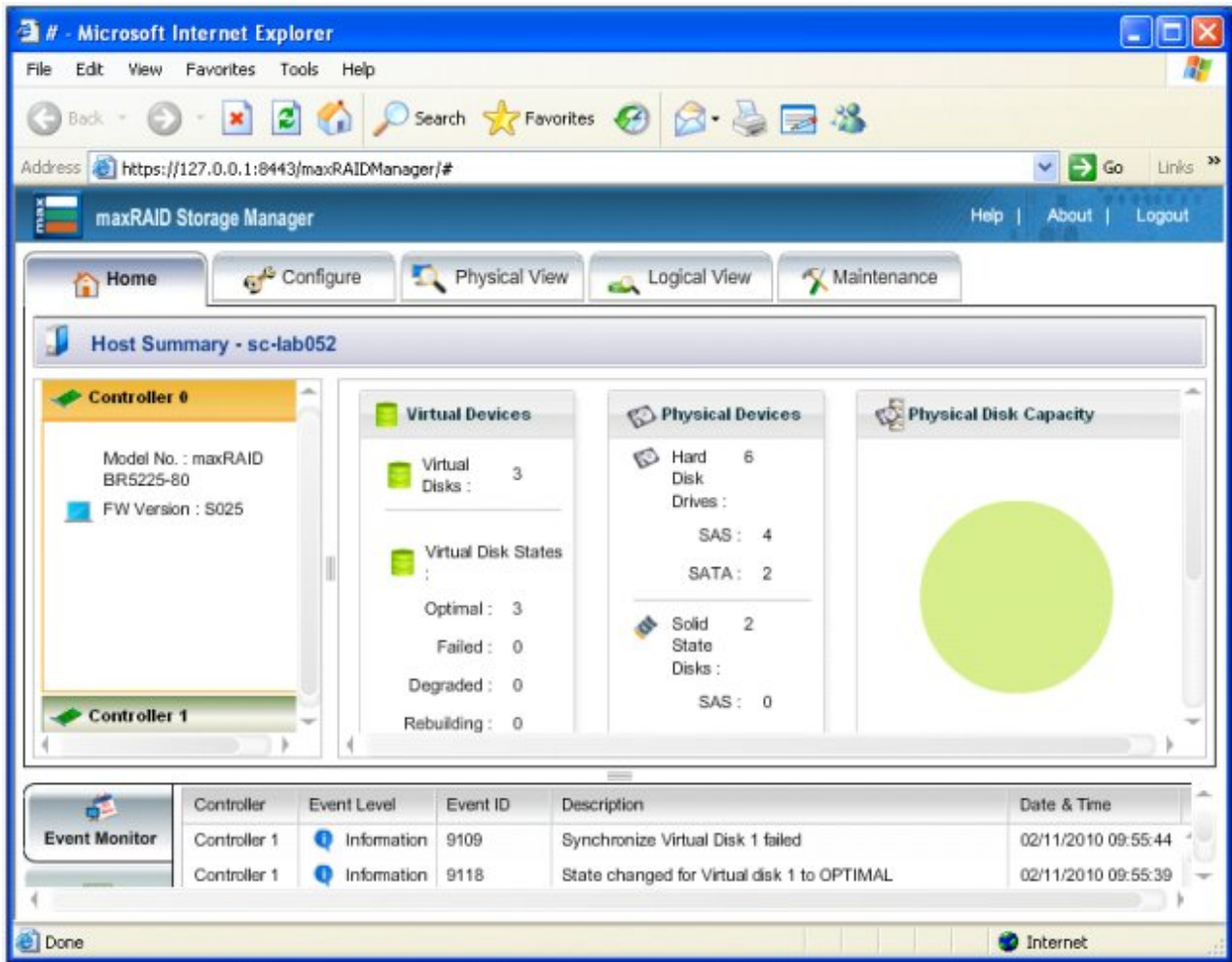


Figure 2. maxRAID Storage Manager

The Home tab displays the snapshot of the entire system, showing the number of controllers, physical and virtual disks, assigned spares, and any actively running tasks. Other tabs enable you to configure the controller and display the properties of all physical devices, volumes, hot-spares and other components.

Tip: A command-line interface is also available.

The maxRAID Storage Manager is available from the ServeRAID software matrix at:

<http://ibm.com/support/entry/portal/docdisplay?Indocid=SERV-RAID>

Also available is the pre-boot BIOS-based maxRAID Configuration Manager. As shown in Figure 3, the user interface is very similar to the browser interface, and allows you to configure, perform maintenance, and monitor physical drives directly attached to the ServeRAID controller.

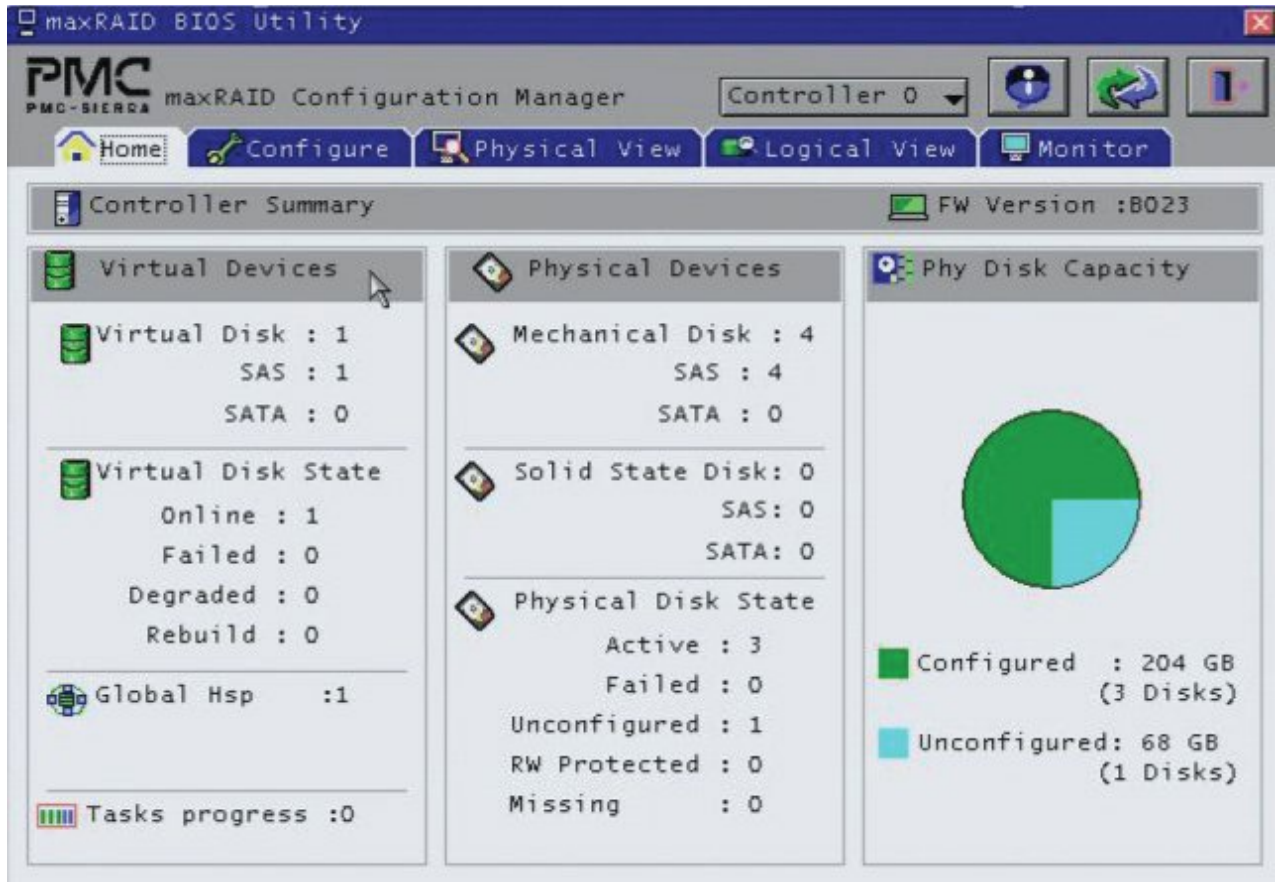


Figure 3. maxRAID Configuration Manager

Physical specifications

The ServeRAID B5015 SSD Controller has the following physical specifications (without mounting bracket):

Height: 65 mm (2.5 in.)
 Width: 168 mm (6.6 in.)
 Depth: 13 mm (0.5 in.)
 Weight: 9.1 grams (0.1 lb)

Operating environment

The ServeRAID B5015 SSD Controller is supported in the following environment:

- Temperature: 5 to 53 °C (41 to 127 °F)
- Altitude: 0-3000 m (0-10,000 ft)
- Relative humidity: 8% to 90% (non-condensing)

Warranty

One-year limited warranty. When installed in a System x server, this card assumes your system's base warranty and any warranty upgrade.

Supported servers

The ServeRAID B5015 SSD Controller is supported on the System x servers listed in Table 2.

Table 2. Supported servers (Part 1)

Adapter	x3100 M3	x3200 M2	x3200 M3	x3250 M2	x3250 M3	x3350	x3400	x3400 M2	x3455	x3500	x3500 M2	x3550
ServeRAID B5015 SSD Controller	N	N	N	N	N	N	N	N	N	N	N	N

Table 2. Supported servers (Part 2)

Adapter	x3550 M2	x3550 M3	x3650	x3650 T	x3650 M2	x3650 M3	x3655	x3690 X5	x3755	x3850 M2	x3950 M2	x3850 X5	dx360 M3
ServeRAID B5015 SSD Controller	Y	Y	N	N	Y	Y	N	Y	N	N	N	Y	Y

See the ServerProven Web site for the latest information about the adapters supported by each System x server type: <http://www.lenovo.com/us/en/serverproven/>

Supported solid state drives

The ServeRAID B5015 SSD Controller supports the solid state drives identified in Table 3.

Table 3. Supported solid state drives

Solid state drive	Part number	x3550 M2	x3550 M3	x3650 M2	x3650 M3	x3850 X5
50 GB SATA 1.8" NHS SSD	43W7734	N	N	N	N	Y
50 GB SATA 2.5" SFF Slim-HS High IOPS SSD	43W7714	Y	Y	Y	Y	N
31.4 GB SATA 2.5" SFF Slim-HS SSD V2	41Y8264	N	N	N	N	N

Figure 4 shows eight solid-state drives installed in an eXFlash SSD unit in the System x3850 X5.



Figure 4. Solid state drives in the System x3850 X5

Note: The ServeRAID B5015 SSD Controller does not support internal tape drives nor internal hard disk drives.

Supported operating systems

The adapter supports the following operating systems:

- 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 R2
- Red Hat Enterprise Linux 5.3 Server x64 Edition
- Red Hat Enterprise Linux 5.4 Server x64 Edition
- SUSE Linux Enterprise Server 10 SP2 and SP3 for AMD64/EM64T
- SUSE Linux Enterprise Server 11 for AMD64/EM64T

Note: Windows Server 2003 is not supported.

For the latest information about the specific versions and service packs supported go to the ServerProven Web site at: <http://www.lenovo.com/us/en/serverproven/>

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 the details of the operating system support.

Related publications

For more information refer to the following documents:

- *ServeRAID B5015 SSD Controller Hardware Installation Guide*
<http://www.ibm.com/support>
- *maxRAID Software Installation Guide*
<http://www.ibm.com/support>
- System x Configuration and Options Guide:
<http://ibm.com/systems/xbc/cog/>
- ServerProven latest compatibility information home page
<http://www.lenovo.com/us/en/serverproven/>
- System x RAID products home page
<http://shop.lenovo.com/us/en/systems/servers/options/systemx/storage/raid-adapters/>
- ServeRAID software matrix
<http://ibm.com/support/entry/portal/docdisplay?Indocid=SERV-RAID>

Related product families

Product families related to this document are the following:

- [RAID Adapters](#)

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