



Applicable to the:

MegaRAID Entry Line
9240-xx Controllers

MegaRAID Value Line
9260-xx Controllers

MegaRAID Feature Line
9280-xx Controllers

MegaRAID® Release 4.3

MegaRAID Release 4.3 bundles elements across four key cornerstones of leadership, including: Features and Usability, Performance, Green, and Data Protection and Availability. Focusing on the latest technology trends and customer requirements, these four cornerstones reaffirm LSI's commitment to customer success and industry leadership.

The new features and functions specifically related to MegaRAID Release 4.3 include:

- Advanced Services key support
- Greater than 2TB physical disk support
- Improvements to MegaRAID Storage Manager™ usability and configurability
- Enhancements to virtual disk drive resizing capabilities
- Significant improvements to IOPs performance
- Hot spare disk drive power management
- Persistent hot spare location support

The MegaRAID SAS 9260-xx and 9280-xx series controllers are supported under Release 4.3. To download the latest MegaRAID Release, visit lsi.com/support

FEATURES AND USABILITY



Advanced Services Key Support

Advanced Services Key support is the ability of MegaRAID to recognize a hardware RAID Key physically installed on the board and enable specific functionality. LSI Advanced Services are software upgrades designed to

optimize application performance and enhance support for emerging technologies such as SSDs, when using MegaRAID controllers in direct-attached storage environments. These features will be sold a la carte to customers that are interested in the functionality. In a future release, hardware RAID keys will no longer be required. Instead, a software key, purchased online, will allow immediate activation without requiring that the server be opened.

Greater than 2TB Physical Disk Support

MegaRAID Release 4.3 now supports disk drives that support larger than 2TB of capacity. While today's 2TB disks are actually slightly less than 2TB, the availability of larger drives is in the near future, keeping MegaRAID on the cutting edge of today's solutions.

Improved MSM Configurability

This release contains enhancements to MegaRAID Storage Manager software. This includes simplified management wizards for SafeStore™ Encryption Services, the addition of context sensitive help navigation, and improved discovery to speed startup times.

Virtual Disk Resizing

Virtual Disk Resizing allows a virtual disk to be expanded without requiring an array reconstruction. With this new feature, virtual disks can be expanded to unused disk space in a disk group.

This feature also allows users to replace drives in a disk group with larger capacity disk drives. Once each disk has been replaced and rebuilds are complete, users have the ability to expand the virtual disk to incorporate the additional capacity. For example, a disk group is created with drives of a certain drive capacity (500GB). The user replaces each drive with a larger drive (750GB) and executes a rebuild at each reinsert. Virtual Disk Resizing allows the user to expand the VD size to partial or the rest of the new DG size.

PERFORMANCE

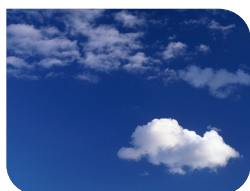


6Gb/s SAS Performance Improvements

MegaRAID Release 4.3 represents a significant improvement in the baseline IOPs performance of MegaRAID SATA+SAS RAID controller cards. Enhancements in Write Back and Write Through cache

configuration modes, as well as optimizations to general cache processing algorithms are designed to allow customers that are using large numbers of traditional disks to double IOPs performance.

GREEN



Dimmer Switch™ Phase II

As powering and cooling hard drives becomes a major cost burden in today's data centers, Dimmer Switch technology promotes ways to reduce the power consumption of a MegaRAID controller's attached devices.

MegaRAID Release 4.3 extends power savings by spinning down un-configured drives and drives that are configured as hot spares, enabling efficient power saving without compromising the disk subsystem performance or adding additional cost. This feature is enabled by default and can be disabled via MegaCLI.

These drives will remain spun-down, in power save mode, except for periodic maintenance.

The chart below indicates what operations will bring disk drives out of power save mode.

OPERATION	HOT SPARE DRIVES	UN-CONFIGURED DRIVES
Periodic background media scan (Patrol Read) to find and correct grown media defects before losing data redundancy	√	
Invocation of a hot spare to rebuild a degraded array	√	
Possible update of DDF and other metadata when RAID configuration modifications are made	√	√

DATA PROTECTION AND AVAILABILITY



Persistent Slots for Hot Spares

In the rare situation where a hot spare disk drive fails and needs to be replaced, the replacement disk drive will automatically be configured as a hot spare. By automatically

configuring the replacement drive as a hot spare, MegaRAID Release 4.3 allows IT administrators to keep hot spares in a consistent location for ease of maintenance.

For more information and sales office locations, please visit the LSI web sites at:

lsi.com lsi.com/channel

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