



## LSI™ MegaRAID® CacheCade™ Software FAQ

### What is CacheCade software?

CacheCade software is an advanced software option for LSI MegaRAID 6Gb/s SATA+SAS controller cards that is designed to accelerate the performance of HDD arrays with only an incremental investment in SSD technology. The software enables SSDs to be configured as a secondary tier of cache to maximize transactional I/O performance for read-intensive applications.

### How is CacheCade software more economical than using SSDs as traditional virtual disk volumes?

CacheCade software utilizes solid state drive (SSDs) as a secondary tier of cache to maximize transactional I/O performance and help reduce I/O response time, avoiding complete 1:1 replacement of SATA HDDs with faster SAS HDDs, adding additional SATA HDDs or moving to an all SSD RAID volume to achieve performance requirements.

### For what class of applications will CacheCade software provide the largest performance benefit?

CacheCade software is best suited for highly random, small I/O block-oriented applications (such as web and SMB OLTP) that frequently read from a small working data set. Applications with much larger active data sets or more write intensive profiles show limited improvement with CacheCade software. (LSI MegaRAID FastPath™ software is typically a better fit for this type of data set.)

### Are there application profiles that perform just as well with traditional SAS/SATA HDD volumes (as opposed to using MegaRAID FastPath or CacheCade software)?

In sequential read and/or write data workload applications, 6Gb/s MegaRAID SATA+SAS RAID controllers can reach up to 3,000MB/s throughput with 6G SAS HDDs and PCIe Gen2 host interface (20 SAS HDDs). Currently it's more cost efficient to use HDDs however as faster SSD become available this will likely change (e.g., it is expected that SSDs will deliver 500MBps or more in the future).

### How would you define a working data set?

A working data set is the subset of the total stored data actively utilized by an application or applications at a specific point in time. The size of working data set varies from a small portion of the total amount of data stored up to all of the stored data depending on the application and typical usage model.

### How much of a performance improvement can an SSD configured with CacheCade software provide for SATA drive volumes?

CacheCade can deliver up to a 50X performance improvement in read-intensive applications with relatively small working data set sizes, such as Web and file servers and online transaction processing.\*

### Will CacheCade software work with any size or model of SSD drive?

Please visit [www.lsi.com/channel/support/marketing\\_resources](http://www.lsi.com/channel/support/marketing_resources) for a complete list of tested SSDs.

*Note: The performance improvement provided by CacheCade is partially dependant on the performance specifications of the chosen SSD.*

### How many SSD drives are supported with CacheCade software?

CacheCade software can support any number of SSDs up to a total of 512GB.

### Which MegaRAID controllers support the CacheCade software pack?

Initially, the advanced software options will be available as a physical key that can be installed on select MegaRAID SATA+SAS controllers. These include the MegaRAID SAS 9260-4i, 9260-8i, and 9280-4i4e. In the future, the advanced software options will be available via electronic licenses and will be supported on the full line of MegaRAID SAS 9260 and 9280 series controllers.

### What operating systems are supported with CacheCade software pack?

All supported operating systems for the given MegaRAID controller.

### Can I combine CacheCade software with other advanced software from LSI (ie. MegaRAID FastPath™ software, MegaRAID SafeStore™ software, etc)?

The initial launch of advanced software, including MegaRAID CacheCade software, will utilize physical keys that are installed on select MegaRAID SATA+SAS controllers. The CacheCade software pack includes both MegaRAID FastPath and CacheCade software on one physical key. In the future, with electronic license fulfillment, customers will have the ability to choose or combine as many advanced software options as they would like for their 6Gb/s MegaRAID SATA+SAS controller.

### What does it cost and how do I buy the CacheCade software pack?

The CacheCade software pack has a suggested retail price of \$270 U.S. dollars and is available through the LSI worldwide network of distributors, integrators and VARs.

[www.lsi.com/channel/WhereToBuy](http://www.lsi.com/channel/WhereToBuy)

*\* A 14GB volume on a two drive RAID 1 array was used to simulate web server re-read hot spot activity. Using IOMeter version 2006.07.27, a MegaRAID SAS 9260-8e with configuration settings: No Read Ahead, Write Back Cache, 64KB Stripe Size and Direct IO, using firmware version 2.60.03-0778, reached 14,896 IOs per second with CacheCade enabled, compared to 273 IOs per second with CacheCade disabled. This represents an increase of more than 50x.*

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

[lsi.com](http://lsi.com)      [lsi.com/channel](http://lsi.com/channel)

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