



Adaptec maxCache™ SSD Caching Solutions: Reduce Latency by 13x; Improve Application Performance by up to 13x

What is SSD Caching?

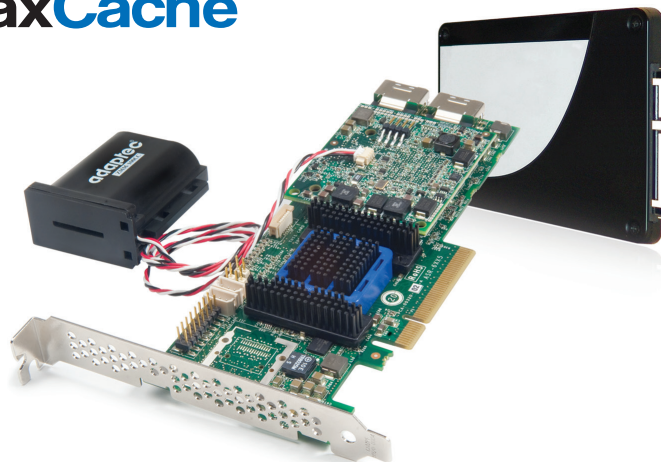
SSD caching uses Solid State Drives (SSDs) and Hard Disk Drives (HDDs) to alleviate the bottleneck that can occur between server processors and hard drives by intelligently routing data to the performance-optimized location.

SSD Caching and Adaptec maxCache SSD Caching Solutions

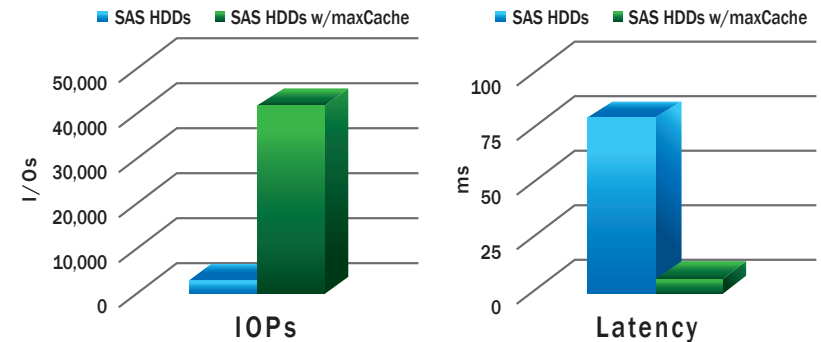
Adaptec maxCache 2.0 delivers up to 13x performance improvement in read-intensive I/O operations per second (IOPs), and up to 13x latency reduction in read-intensive applications. Adaptec maxCache 2.0 also introduces caching of write data to leverage the performance and latency capabilities of SSD technology for workloads with reads and writes.

Adaptec maxCache 2.0 is available on 6Gb/s Series 6Q RAID controllers.

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Read Caching Performance — IOPs and Latency



- RAID 0 performance comparison under 100% Random Read Iometer workload
- SAS HDDs: eight 300GB 15k SAS HDDs in RAID 0
- SAS HDDs with maxCache 2.0: eight 300GB 15k SAS HDDs in RAID 0 with two 100GB SATA SSDs for maxCache cache pool

Why Do Your Customers Need SSD Caching?

Information Technology (IT) and cloud computing environments around the world are facing intense pressure to reduce capital and operating costs while maintaining the highest levels of system performance.

The acceleration of IOPs and reduction of latency provided by maxCache SSD Caching Solutions allows data center and cloud computing environments to host more users and perform more transactions per second, and reduce the overall server hardware investment necessary to support a given workload. The reduction in servers has an additional financial benefit of reducing associated operating costs of power, cooling, and maintenance, delivering a highly reduced total cost of ownership (TCO) solution.

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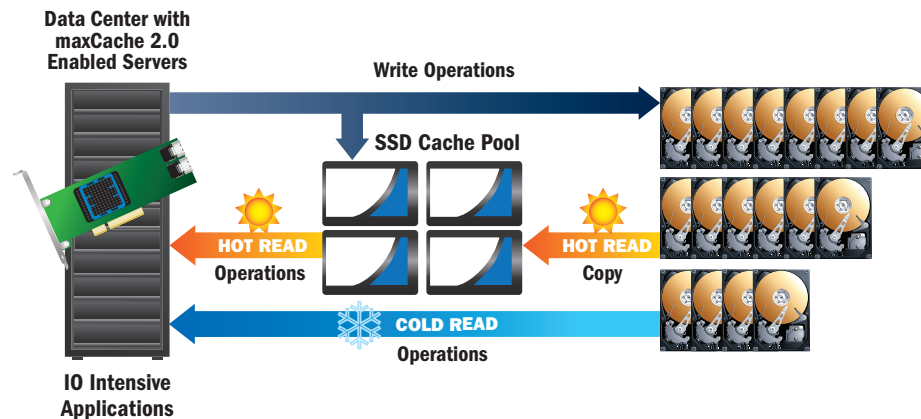
Adaptec maxCache™ SSD Caching Solutions

How maxCache 2.0 Works:

Adaptec maxCache 2.0 SSD Caching leverages a Learned Path Algorithm that identifies frequently-accessed data and optimizes reads and writes by moving a copy of this data directly into an SSD cache for faster retrieval of future requests.

By leveraging its unique presence in the data path to create a “cache pool” of “hot” data, maxCache 2.0 SSD caching can provide significant performance gains compared to HDD-only deployments.

Adaptec maxCache solutions are application-agnostic and do not require changes to storage architectures, application software or operating systems.



Adaptec maxCache 2.0 delivers performance benefits for both read and write operations.

Grow Your Business with Adaptec

Adaptec maxCache 2.0 helps you sell into **Data center** and **cloud computing** environments with high “read” demands, such as **web serving**, **file serving**, and **databases**, as well as I/O-intensive environments with mixed workloads, including **OLTP**, **Microsoft Exchange Server**, and **High-Performance Computing**.

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Glossary

Capital Expenses: Money spent by a company to purchase physical assets, such as IT equipment.

“Cold” data: Data which is accessed infrequently or written continuously. Cold data is typically less timely than “hot” data, such as week-old emails.

Flash memory: A type of solid state (no moving parts) memory that can be erased and reprogrammed. It is mainly used in memory cards and USB thumb drives for general storage. Flash memory is non-volatile, which means it can retain stored information even when not being powered.

Hard Disk Drive (HDD): A motorized mechanical device that stores data on rotating magnetic platters. HDDs are typically slower than flash memory.

“Hot” data: Data which is accessed frequently, such as recent emails or popular products on an e-commerce site. Adaptec Cache Solutions store copies of “hot” data blocks on SSD cache for fast retrieval.

I/O: Input/Output. Any operation that moves information from a disk or another device to a computer.

IOPs: Input/Output operations per second.

Latency: The delay in performance that occurs when sending a packet of data from one designated point to another.

Operating Expenses: An ongoing cost for running a business, or system. IT-related operating expenses include the costs of employees to monitor and maintain systems, as well as energy costs.

Solid State Drive (SSD): A data storage device that uses non-moving flash memory instead of the rotating platters of a hard disk drive to store data. SSDs typically outperform HDDs.

For more information:
www.adaptec.com/maxcache

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