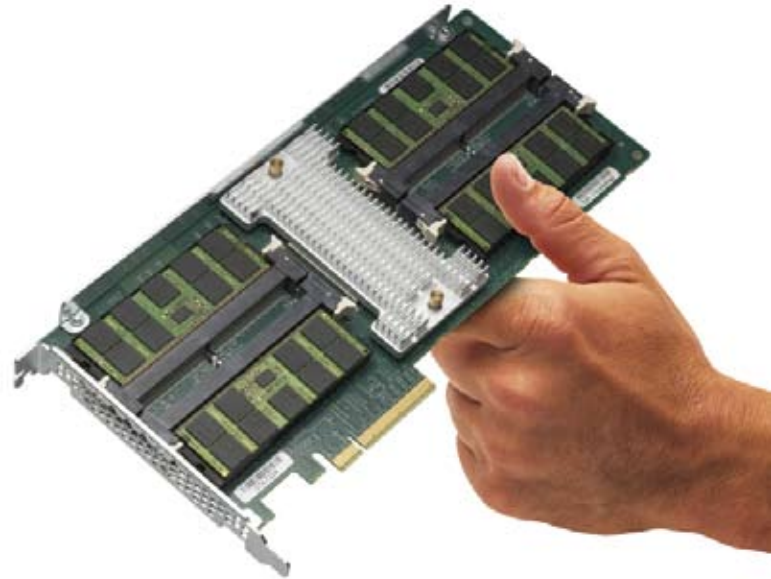




**NetApp™**  
Go further, faster



Systems

# NetApp Performance Acceleration Module

Optimize the performance of your storage system without adding disk drives and grow while conserving power, cooling, and space

## KEY BENEFITS

### **New way to optimize performance**

The NetApp® Performance Acceleration Module improves performance for workloads that are random read intensive without adding more fast-spinning disk drives.

### **Reduce latency, improve throughput**

Speed access to your data with this intelligent read cache, which reduces latency by a factor of 10 or more compared to disk drives.

### **Conserve power, cooling, and space**

Now you can grow without straining your infrastructure, because the Performance Acceleration Module uses no rack space and consumes 95% less power than a shelf of 15k RPM disk drives.

## THE CHALLENGE

### **Deliver the IT systems performance needed to increase productivity**

Information technology is a source of productivity for most organizations today. Engineers and scientists rely on IT systems to do the complex work that enables faster breakthroughs and shorter product development cycles. Executives call on IT to provide the infrastructure needed to meet aggressive goals for growth.

Whether your computing task is order fulfillment planning or design simulation, time saved doing the task is time given back to the professionals waiting for results. Their productivity can be increased by the performance of your servers and storage systems.

Of course, higher levels of performance must be achieved cost effectively and without excessive use of data center resources.

## THE SOLUTION

### **NetApp Performance Acceleration Module gives you a new way to optimize performance**

We created this intelligent read cache so you can reduce latency and improve I/O throughput without adding more fast-spinning disk drives. Configure up to five 16GB modules as a unified 80GB read cache in the PCI Express slots of your storage controller. (See Table 1 for supported systems and configurations.)

Use our Performance Acceleration Module to improve the performance of your random read intensive workloads such as file services. You can tune the Performance Acceleration Module to match your specific workload by using software settings to choose from three modes of operation.

Grow without straining your data center infrastructure, because the Performance Acceleration Module uses no rack space and 95% less power than a shelf of 15k RPM disk drives. You can use the module in place of one or more disk shelves for your storage workloads that are random read intensive.

## PREDICT YOUR RESULTS

The Performance Acceleration Module is designed to optimize performance for storage systems with workloads that are random read intensive, such as file services.

You can use a software feature of the Data ONTAP® 7G operating system to determine whether the performance of your storage system will improve with the addition of one or more modules. Predictive cache statistics generate data that can be interpreted with the assistance of a technical specialist from NetApp or a certified channel partner.

## REDUCE LATENCY, IMPROVE I/O THROUGHPUT

Reading data from disk drives typically requires 10ms or longer. Our Performance Acceleration Module gives you sub-millisecond data access, reducing latency by a factor of 10 or more. Figure 1 is a graphical representation of this relationship.

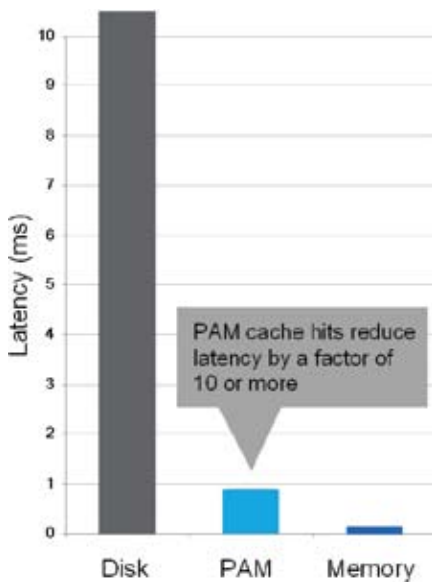
## GROW WHILE CONSERVING POWER, COOLING, AND SPACE

Each Performance Acceleration Module consumes about 18W of power, which is 95% less than a shelf of fourteen 15k

RPM disk drives. Your power savings will add up to about 3000 kW-hours per year for each disk shelf not used.

Your space savings can also be substantial because the module plugs into a PCI Express slot of the storage controller. Each disk shelf not used saves 3U of rack space, which equates to about 1 ft<sup>2</sup> (0.1 m<sup>2</sup>) of data center floor space, including the associated aisle space.

Figure 1) Latency reduction.



Latency is typically 10ms or higher when accessing data from disk drives. The Performance Accelerator Module (PAM) reduces latency by a factor of 10 or more compared to disk drives.

Table 1) Supported systems and configurations.

	MAX. MODULES PER CONTROLLER	MAXIMUM ADDED READ CACHE
FAS6080, V6080, FAS6070, V6070, SA600	5	80GB
FAS6040, V6040, FAS6030, V6030, FAS3170, V3170	4	64GB
FAS3070, V3070, FAS3140, V3140, SA300	2	32GB
FAS3040, V3040	1	16GB

Note: These specifications are for a single controller. Multiply by 2 for a dual active-active controller system.

NetApp creates innovative storage and data management solutions that accelerate business breakthroughs and deliver outstanding cost efficiency. Discover our passion for helping companies around the world go further, faster at [www.netapp.com](http://www.netapp.com).

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