



Product Bulletin

Introduction of Performance Acceleration Module II AUG10

Revision History

August 12, 2009 - Initial version

October 14, 2009 – Data ONTAP 8.0 Update

December 14, 2009 – FAS/V6070 Support Update

August 16, 2010 – SA600 Support Update

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This product bulletin informs NetApp sales and NetApp partners about new or changed NetApp® products or services.

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1. Summary

This product bulletin announces the availability of Performance Acceleration Module II (PAM II). PAM II provides an innovative way, using flash technology, to optimize the performance of NetApp storage systems. Designed as an intelligent read cache, PAM II can deliver higher I/O throughput and lower latencies compared to high-performance disk drives in random read intensive workloads.

Use PAM II in FAS/V3070, FAS/V3100 series, FAS/V6040, and FAS/V6080 systems series and in corresponding systems with FlexCache® enabled. Refer to the configuration guide in section 4 for additional details.

With the December 2009 Quote Tool release, PAMII support for FAS/V6070 platforms has been added.

With the August 2010 Quote Tool release PAMII support for SA600 platform has been added.

2. What's New?

The PAM II modules come in two sizes, 512GB and 256GB. Each PAM II adds intelligent cache to the storage system. Depending on the storage system (dual-controller), as many as eight modules (with a total of 4096GB of cache) can be added. (Refer to the table in section 4.)

PAM II can improve *disk-bound* performance (IOP and latency) in many random read intensive workloads, such as file services, OLTP, engineering applications, and others. The module may also help achieve *controller-bound* performance with fewer shelves in those workloads. Customers also have the ability to customize the behavior of

PAM II, by using settable options, to meet the specific performance demands of individual workloads. The performance benefits provided by PAM II can translate into power, space, and cooling reductions, which lower the total cost of ownership for NetApp solutions.

An updated Predictive Cache Statistics (PCS) tool predicts how the addition of PAM II will improve the performance of the controller in actual customer environments. This tool uses data from emulated caches to help determine optimal PAM II setting and the number of modules to deploy to achieve maximum benefit. The updated PCS tool is included in Data ONTAP® 7.3.2.

FAS/V6070 systems now offer 512GB PAM II hardware and software support. Customers with FAS/V6070 systems in the field are now able to order 512GB PAMII hardware and software. Data ONTAP 7.3.3 is required for the PAM II hardware and software to be functional on FAS/V6070 systems.

SA600 systems now offer 512GB PAM II hardware and software support. Customers with SA600 systems in the field are now able to order 512GB PAMII hardware and software. SA600 systems configured in the factory now offer PAMII hardware and software.

3. Sales and Customer-Ready Tools (Training, SE, Customer Presentations, Datasheets, Sales Guides)

Subject to the Data ONTAP 7.3.2 release starting with the August 2009 Quote Tool, the PAM II 512GB option is now provided as an add-on part, The PAM II 512GB system-configurable option and PAM II 256GB are now offered starting with the September Quote Tool. To access the following informative presentations and guides, and more, click the [NetApp Sales](#) and [NetApp Partners](#) links.

- Sales Training for Performance Acceleration Module
- Performance Acceleration Module Product Essentials
- Performance Acceleration Module SE Presentation
- FAQ for Performance Acceleration Module
- Audio Sales Training for Performance Acceleration Module
- Datasheets

4. System Requirements

Data ONTAP 7.3.2 is required for PAM II. The following table lists the supported platforms and the maximum number of caches that can be configured.

Modules per Controller FAS/V- Series	PAM II 256GB	PAM II 512GB
FAS6080A / V6080A	N/A	4TB 8 modules
FAS6040A / V6040A FAS3170A / V3170A	N/A	2TB 4 modules
FAS3070A / V3070A FAS3160A / V3160A	1TB 4 modules	N/A
FAS3140A / V3140A	512GB 2 modules	N/A

FAS6070A/V6070A	N/A	4TB 8 Modules
SA600A	N/A	4TB 8 Modules

Note: Data ONTAP 8.0 GA will not support PAM II modules. PAM II support will come in a later Data ONTAP 8.0.x release. FAS/V6070 systems require Data ONTAP 7.3.3 in order to support PAM II hardware and software functionality.

5. Product Information

PAM II has a license based on the storage system. The following table lists the software and hardware part numbers.

Part Number	Description	Discount Category Code
SW-T3-PAMII	PAM II Software, T3	J
SW-T3-PAMII-C	PAM II Software, T3, -C	J
SW-T3C-PAMII	PAM II Software, T3	J
SW-T3C-PAMII-C	PAM II Software, T3, -C	J
SW-T4-PAMII	PAM II Software, T4	J
SW-T4-PAMII-C	PAM II Software, T4, -C	J
SW-T4C-PAMII	PAM II Software, T4	J
SW-T4C-PAMII-C	PAM II Software, T4, -C	J
SW-T5-PAMII	PAM II Software, T5	J
SW-T5-PAMII-C	PAM II Software, T5, -C	J
SW-T5C-PAMII	PAM II Software, T5	J
SW-T5C-PAMII-C	PAM II Software, T5, -C	J
SW-T6-PAMII	PAM II Software, T6	J
SW-T6-PAMII-C	PAM II Software, T6, -C	J
SW-T6C-PAMII	PAM II Software, T6	J
SW-T6C-PAMII-C	PAM II Software, T6, -C	J
SW-T7-PAMII	PAM II Software, T7	J
SW-T7-PAMII-C	PAM II Software, T7, -C	J
SW-T7C-PAMII	PAM II Software, T7	J

SW-T7C-PAMII-C	PAM II Software, T7, -C	J
X1937A-R5-C	ADPT, PAM II, PCIe, 256GB,-C,R5	A
X1937A-R5	ADPT, PAM II, PCIe, 256GB,R5	A
X1938A-R5-C	ADPT, PAM II, PCIe, 512GB,-C,R5	A
X1938A-R5	ADPT, PAM II, PCIe, 512GB,R5	A
X1938A-PBNDL-R5	ADPT,PAM II,PCIe,512GB,SupportEdge INC,R5	A
X1938A-PBNDLR-R5	ADPT,PAM II,PCIe,512GB,SupportEdge,INC,R5	A

Note: X1938A-PBNDL-R5 and X1938A-PBNDLR-R5 include 36 months of SupportEdge Premium 4-hour priced into the PAM II card and are output whenever PAM II solutions are selected in FAS6080 active-active configurations, which always include SupportEdge Premium service in the price of the system configuration. The X1938A-PBNDL-R5 is used for the direct sales model and the X1938A-PBNDLR-R5 is used for the reseller model.

Quoting

For detailed instructions on how to quote this product or service using the Quote Tool, go to the NetApp Field Portal and search on QTB-PAMI-II.

Downloading

To download software, go to [NOW™ Download Software](#).

Product Availability

With the Data ONTAP 7.3.2 release, the PAM II 512GB option is provided as an add-on part. The PAM II 512GB system-configurable option and PAM II 256GB are now offered with the September Quote Tool. The PAMII solutions for FAS6080 active-active systems with SupportEdge Premium service included in the price have been available since October 1, 2009.

Note: Data ONTAP 8.0 GA will not support PAM II modules. PAM II support will come in a later Data ONTAP 8.0.x release.

6. Regulatory Compliance

Products need to be validated against the NetApp Safety/EMI Regulatory Compliance List prior to order submission. This is required to make sure that products are being sold only in the countries in which NetApp has received regulatory compliance certification. This information can be found in the Field Portal by searching under “Compliance, Policies, and Procedures” or by following these links:

- [RoHS Compliance](#)
- [Safety/EMI Regulatory Compliance \(XLS\)](#)
- [WEEE Compliance](#)

7. Warranty and Service

PAM II provides warranty and service that are independent of the controller in which it will be installed. However,

the PAM II warranty does provide the same basic and extended options that are available for the controller.

8. Additional Information

Contact information: Please contact your NetApp sales or channel partner representative with questions concerning this bulletin.

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495 E. Java Drive, Sunnyvale, CA 94089 USA