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IBM FlashSystem delivers advanced connectivity features and capacity options for FlashSystem 840 and V840

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At a glance

IBM FlashSystem™ 840 enhancements deliver scalable performance for the most demanding applications, bringing the economic benefits of FlashSystem™ to small and midsize businesses and growth markets. FlashSystem 840 enhancements include:

- Small capacity configurations as low as 2 TB with field upgradeable, granular capacity to meet growing capacity and application performance requirements
- Up to 16 ports of 10 Gb iSCSI for clients looking for an alternative I/O interface
- The ability to configure highly optimized RAID 5 configurations from 2 TB to 40 TB

Overview

Today's global organizations depend upon the ability to unlock business insights from massive volumes of data and they need to be able to do it faster than the competition. By eliminating storage bottlenecks, flash technology has redefined the performance, efficiency, and reliability of data-intensive applications. IBM FlashSystem enhancements continue to deliver flash technology within the datacenter to solve critical client pain points.

IBM® has enhanced the flexibility of the FlashSystem 840 with new, more granular capacity offerings starting as low as 2 TB, providing an attractive entry point so that you can start with smaller, application-specific flash deployments and scale up to Tier 1 disk replacement as business needs grow. FlashSystem 840 is also cloud-optimized with support for 10 Gb iSCSI interfaces, allowing private cloud environments and MSPs to take advantage of high-performance storage inside existing Ethernet-based infrastructures.

FlashSystem 840 enhancements enable maximum flexibility, scalability, and investment protection while providing the following capabilities to clients:

- Flexible interface types including Fibre Channel, Fibre Channel over Ethernet (FCoE), iSCSI, and InfiniBand to easily integrate into existing SAN environments
- Up to 16 ports of 8 Gbps or eight ports of 16 Gbps Fibre Channel interface support for superior SAN throughput
- Up to 16 ports of 10 Gbps FCoE support for clients looking for I/O consolidation
- Up to 16 ports of 10 Gbps iSCSI for clients looking for alternatives to SANs
- Up to eight ports 40 Gbps QDR InfiniBand

- RAID 0 and RAID 5 configurations for reliability that suits varying client needs
- Enterprise-class, two-dimensional flash RAID technology comprised of IBM Variable Stripe RAID and system-wide RAID 5 technologies
- Configurable usable capacity from 2 TB to 48 TB for increased flexibility for incremental capacity and performance growth to match increased requirements
- AES XTS 256 data-at-rest-encryption for applications needing to safeguard valuable data
- Continuous availability architecture with front accessible hot-swap flash modules and concurrent code load and maintenance
- Power and space efficient 2U form factor ideally suited for today's data centers

The new 1 TB flash module will also be available for the FlashSystem V840 Storage Enclosure (9846-AE1 and 9848-AE1).

Key prerequisites

IBM FlashSystem 840 enhancements add 10 Gb iSCSI connectivity support to following servers:

- IBM System x® servers
- IBM Power Systems™ servers
- IBM Flex System®
- IBM BladeCenter®
- IBM Power® System blades
- Intel™ and AMD processor-based servers

For additional details, refer to the IBM System Storage® Interoperation Center (SSIC) at

   http://www.ibm.com/systems/support/storage/ssic

Planned availability date

July 15, 2014

Description

To build a sustainable advantage in a world of 24x7 operations, organizations of all sizes, from small to enterprise, must adopt a data agenda to extract the full value of their vast and complex data sets. Because data is the new business currency, organizations must quickly and efficiently transact, analyze, and gain actionable insight from it to fully capitalize on its value. The IBM FlashSystem family empowers organizations to take advantage of best-in-breed solutions that provide extreme performance, macro efficiency, and microsecond response times. As a result, these organizations can quickly harness the value of data within their data architecture, and be better positioned to compete, innovate, and grow in today's real-time world.

IBM FlashSystem 840 is optimized to strategically harness the value of data stored in the data center. By providing extreme performance for the most demanding applications, including online-transaction processing and analytics databases, virtual desktop infrastructures, technical-computing applications, and cloud environments, FlashSystem 840 delivers a competitive advantage for today's organizations. The IBM FlashSystem is designed to reduce application response times with MicroLatency™, that is less than 135-microsecond access times. It is this consistent low latency that enables FlashSystem to deliver application performance improvements.

Easy to deploy and manage, FlashSystem 840 delivers savings across the entire organization, from improved productivity of IT staff to energy efficiency within the data center. The efficiency benefits of FlashSystem 840 are a result of the high performance, high density, and low power consumption of the system's architecture. FlashSystem 840 is hardware accelerated, using energy-efficient IBM PowerPC® processors, field-programmable gate arrays and large arrays of high-density enterprise multi-level cell (eMLC) flash.

FlashSystem 840 can scale usable capacity from as low as 2 TB to as much as 48 TB in its compact 2U enclosure. Many granular capacity points are possible due to the three choices in flash module capacity: 1 TB, 2 TB, and 4 TB. Capacity is field upgradeable so that IT personnel can expand capacity to support changing needs with minimal disruption to operations. FlashSystem 840 supports all industry standard interfaces, including 4/8/16 Gb Fibre Channel, 40 Gb InfiniBand, 10 Gb iSCSI and 10 Gb FCoE

A robust FlashSystem 840 architecture delivers the extreme reliability, availability, and serviceability (RAS) required by today's enterprise applications. The system uses enterprise-class, two-dimensional flash RAID technology, comprised of IBM Variable Stripe RAID and system-wide RAID 5. Variable Stripe RAID maintains system performance and capacity in the event of partial or full-flash chip failures, helping reduce downtime and forestall system repairs. System-wide RAID 5 also helps prevent data loss and improves availability. All active components are fully redundant, hot-swappable, and easily accessible by a tool-less, modular design enabling IT staff to spend more time working on strategic projects and initiatives, rather than resolving system failures.

To further minimize downtime, FlashSystem 840 supports concurrent code load and maintenance for nondisruptive firmware upgrades. In order to provide advanced security for data at rest without compromising application performance, FlashSystem 840 also supports hardware-accelerated AES-XTS 256 encryption.

FlashSystem 840 is designed with MicroLatency to significantly speed application response times, so that organizations can rely upon real-time data to effectively gain actionable insight. The low-latency design improves CPU efficiency, lowering software licensing costs, and maximizing the use of existing resources. In addition, by virtually eliminating wait times and enabling more transactions to occur, FlashSystem 840 can help applications scale to support more concurrent users, helping improve the user experience, enhance productivity, and increase revenue.

As part of the IBM Smarter Storage initiative, FlashSystem 840 is data center-optimized to enable organizations to harness the value of a data architecture. FlashSystem 840 can empower enterprise organizations to build a compelling and sustainable competitive advantage. From real-time transactions to data analytics, cloud, and virtual infrastructures, FlashSystem 840 can provide organizations with the application performance they need to compete, innovate, and grow.

The new 1 TB flash module will also be available for the FlashSystem V840 Storage Enclosure (9846-AE1 and 9848-AE1).

Accessibility by people with disabilities

A US Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at

http://www.ibm.com/able/product_accessibility/index.html

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IBM intends to qualify FlashSystem 840 to the ENERGY STAR Storage Equipment requirements. Once the certification process is complete, manufacturer's specification sheets will be posted. Refer to the following website for a current list of ENERGY STAR-certified IBM FlashSystem products

> http://www-03.ibm.com/systems/storage/flash/

For the next release of FlashSystem V840 Storage System technology, IBM intends to:

- Refresh FlashSystem V840 V7 Software
- Introduce a new FlashSystem V840 Control Enclosure model

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Reference information

Refer to Hardware Announcement 113-173, dated December 17, 2013, and Hardware Announcement 113-183, dated December 17, 2013.

Product number

The following are newly announced features on the specific models of the IBM System Storage 9840, 9843, 9846, and 9848 machine types:

```
Description                                  MT    Model Feature

iSCSI Host Interface Card                    9840  AE1   AF17
1TB eMLC Flash Module                        9840  AE1   AF1B
OEM Enablement Pack with standard warranty   9840  AE1   AF1C
10Gb iSCSI 8 Port Host Optics                9840  AE1   AF1D

iSCSI Host Interface Card                    9843  AE1   AF17
1TB eMLC Flash Module                        9843  AE1   AF1B
OEM Enablement Pack with standard warranty   9843  AE1   AF1C
10Gb iSCSI 8 Port Host Optics                9843  AE1   AF1D

1TB eMLC Flash Module                        9846  AE1   AF1B

1TB eMLC Flash Module                        9848  AE1   AF1B
```

Business Partner information

If you are a Direct Reseller - System Reseller acquiring products from IBM, you may link directly to Business Partner information for this announcement. A PartnerWorld® ID and password are required (use IBM ID).

> https://www.ibm.com/partnerworld/mem/sla.jsp?num=114-080

Publications

To view online information and link to a download site, visit

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Select your country, and then select the product as the category.

Technical information

Specified operating environment

Physical specifications
For Physical specifications, refer to the IBM FlashSystem 840 Sales Manual.

Homologation
This product is not certified for direct connection by any means whatsoever to interfaces of public telecommunications networks. Certification may be required by law prior to making any such connection. Contact an IBM representative or reseller for any questions.

Hardware requirements
Visit IBM System Storage Interoperation Center (SSIC) for latest hardware requirements and compatibility information.

http://www-03.ibm.com/systems/support/storage/ssic/interoperability.wss

Software requirements

Visit IBM System Storage Interoperation Center (SSIC) for latest software requirements and compatibility information.

http://www-03.ibm.com/systems/support/storage/ssic/interoperability.wss

Planning information

You are responsible for downloading or obtaining from IBM, and installing designated Machine Code (microcode, basic input/output system code (called BIOS), utility programs, device drivers, and diagnostics delivered with an IBM machine) and other software updates in a timely manner from an IBM Internet website or from other electronic media, and following the instructions that IBM provides. You may request IBM to install Machine Code changes; however, you may be charged for that service.

Security, auditability, and control

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

Terms and conditions

Terms and conditions features section

MES discount applicable

Equal to the volume commitment discount

Field installable feature

Yes

Warranty period

One year for machine type 9840 and 9846.

Three years for machine type 9843 and 9848.

An IBM part or feature installed during the initial installation of an IBM machine is subject to a full warranty effective on the date of installation of the machine. An IBM part or feature that replaces a previously installed part or feature assumes the remainder of the warranty period for the replaced part or feature. An IBM part or feature added to a machine without replacing a previously installed part or feature is subject to a full warranty effective on its date of installation. Unless specified otherwise, the warranty period, type of warranty service, and service level of a part or feature are the same as those for the machine in which it is installed.

Customer setup

Yes

Machine code

Same license terms and conditions as base machine

Prices

The following are newly announced features on the specific model of the IBM System Storage 9840 machine type:

```
                                    Initial/
                                    MES/
                     Model   Feature Both/          RP
Description          number  number  Support  CSU  MES

iSCSI Host Interface Card
                     AE1     AF17    Both     No   No
1TB eMLC Flash Module
                     AE1     AF1B    Both     Yes  No
OEM Enablement Pack with standard warranty
                     AE1     AF1C    Initial  N/A  No
10Gb iSCSI 8 Port Host Optics
                     AE1     AF1D    Both     Yes  No
```

The following are newly announced features on the specific model of the IBM System Storage 9843 machine type:

```
                                    Initial/
                                    MES/
                     Model   Feature Both/          RP
Description          number  number  Support  CSU  MES

iSCSI Host Interface Card
                     AE1     AF17    Both     No   No
1TB eMLC Flash Module
                     AE1     AF1B    Both     Yes  No
OEM Enablement Pack with standard warranty
                     AE1     AF1C    Initial  N/A  No
10Gb iSCSI 8 Port Host Optics
                     AE1     AF1D    Both     Yes  No
```

The following are newly announced features on the specific model of the IBM System Storage 9846 machine type:

```
                                    Initial/
                                    MES/
                     Model   Feature Both/          RP
Description          number  number  Support  CSU  MES

1TB eMLC Flash Module
                     AE1     AF1B    Both     Yes  No
```

The following are newly announced features on the specific model of the IBM System Storage 9848 machine type:

```
                                    Initial/
                                    MES/
                     Model   Feature Both/          RP
Description          number  number  Support  CSU  MES

1TB eMLC Flash Module
                     AE1     AF1B    Both     Yes  No
```

Pricing terms

Prices in the following PDF prices link are suggested list prices on day of announcement for the U.S. only. They are provided for your information only. Dealer prices may vary, and prices may also vary by country. IBM list price does not include tax or shipping and is subject to change without notice.

ENUS-114-080-LIST_PRICES_2014_05_19.PDF

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