



Highlights

- Gain enterprise-class reliability with IBM® Variable Stripe RAID™ technology—without sacrificing performance or usable capacity
 - Reduce time to decisions with faster applications, including data warehouses and online analytical processing (OLAP) databases
 - Improve IT efficiency with IBM MicroLatency™, high bandwidth and extreme input/output operations per second (IOPS) performance in a small footprint
 - Realize macro efficiencies with green storage designed for fast data access at low wattage
 - Extract immediate value from your investment with quick time to deployment
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IBM FlashSystem 810 and IBM FlashSystem 710

*Accelerate enterprise applications with
extreme-performance flash storage*

Flash technology is rapidly defining a new business landscape, where organizations can perform advanced data analytics faster than ever to gain a competitive advantage. IBM flash storage offerings provide extreme IOPS and low-latency performance to turbocharge these new IT infrastructures. When compared to equivalent disk systems, IBM flash storage solutions deliver 6.7 times more capacity in a single rack, 19 times more cost efficiency in dollars/per IOPS, and are 115 times more energy efficient.¹

IBM FlashSystem™ 810 and IBM FlashSystem 710 are designed to speed up the performance of critical enterprise applications, including data warehousing and OLAP applications, content delivery networks, video rendering and editing software, and 3D modeling and simulation applications. These systems deliver extreme performance per gigabyte so organizations can quickly uncover business insights from IBM DB2®, Oracle and other database applications. In addition, FlashSystem 810 and FlashSystem 710 eliminate storage bottlenecks with MicroLatency that enables faster decision making.

Promoting space and power efficiency in the data center

FlashSystem 810 and FlashSystem 710 offer scalable performance in storage devices that are both space and power efficient. By offloading heavy workloads to these flash storage systems, organizations can extend the life of their existing storage assets—and consolidate their legacy systems for “all-flash” business efficiency.



FlashSystem 810 can scale up to 10 TB storage capacity in 2 TB increments, while FlashSystem 710 supports up to 5 TB in capacity in 1 TB increments. When compared to traditional high-performance storage solutions, FlashSystem 810 and FlashSystem 710 provide cost efficiencies across power, cooling and “rack estate,” and do it all in a smaller footprint. In addition, you can achieve superior acceleration in a single application using these systems.



Delivering enterprise-class reliability and availability

Beyond energy savings, FlashSystem 810 and FlashSystem 710 also deliver enterprise-class reliability and macro efficiency for the most demanding data centers. Patented Variable Stripe RAID technology helps reduce business interruptions by providing a higher level of protection from flash device failures, and also improves system availability. In addition, standard chip-level RAID technology, enhanced error-correcting code (ECC) and internal redundancies help reduce the need for maintenance and IT productivity—enabling IT staff to spend more time on strategic initiatives, rather than on system failures.

Leveraging next-generation, enterprise-grade, flash technology

IBM flash storage solutions include the latest in industry-standard, solid-state flash memory technology. FlashSystem 810 uses enterprise multi-level cell (eMLC) flash technology, while FlashSystem 710 utilizes single-level cell (SLC) flash technology.

SLC flash technology provides the highest performance, lowest latency flash storage in the industry for customers looking for the ultimate in flash performance. At the same time, eMLC is revolutionizing the economics of flash by delivering extreme performance with greater density—and at low cost per terabyte—while maintaining IBM standards for reliability and durability.

Performance is a key reason that IBM flash storage solutions leverage SLC and eMLC technologies instead of commodity-based MLC flash technology. In fact, the eMLC flash technology in FlashSystem 810 is 10 times more reliable than commodity-based MLC flash technology at the chip level. IBM flash storage uses eMLC flash chips rated for 30,000 write/erase cycles to extend product life. In contrast, the equivalent consumer-grade MLC flash technology is typically rated for 1,000 - 3,000 write/erase cycles.

Extending value through integration

To deliver maximum performance with deep functionality, FlashSystem 810 and FlashSystem 710 integrate with IBM System Storage® SAN Volume Controller for an enterprise-class solution, as well as IBM System Storage Easy Tier® technology for intelligent data placement. Both flash storage systems also enable high-performance servers to operate at peak efficiency, so organizations can:

- Process vast amounts of data with high IOPS and bandwidth
- Accelerate individual application response times with MicroLatency—a core feature of and value to the IBM FlashSystem family—which encompasses high performance to accelerate the flash medium
- Increase server performance by rebalancing the CPU-to-storage-utilization ratio
- Make decisions faster by speeding up critical applications across virtual and cloud infrastructures
- Improve operational efficiency, since database and system administrators no longer have to adjust configurations to boost performance
- Enhance the end-user experience, enabling users to spend less time waiting for applications to respond and more time on revenue-generating activities; this efficiency can also help enhance time to market for products and services, which can lead to greater satisfaction for end consumers

IBM Systems and Technology
Data Sheet

IBM FlashSystem 810 and IBM FlashSystem 710 at a glance*

Series	IBM FlashSystem 810	IBM Flash System 710
Model	9830-AE1	9830-AS1
Flash type	eMLC	SLC
Usable capacity (terabyte [TB]/ tebibyte [TiB])	10.3 TB/9.4 TiB	5.2 TB/4.7 TiB
Raw maximum capacity (TB/TiB)	13.7 TB/12.5 TiB	6.9 TB/6.3 TiB
Incremental usable capacity upgrade (TB/TiB)	2.1 TB/1.9 TiB	1.0 TB/0.9 TiB
Minimum latency		
Write	60 µs	60 µs
Read	110 µs	100 µs
Read (from host)	160 µs	145 µs
Maximum IOPS 4 KB		
100% read	550k	570k
Mixed 70/30% read/write	430k	490k
100% write	400k	400k
Maximum bandwidth 256 KB		
Read	3.3 GB/s (Fibre Channel) 5 GB/s (InfiniBand)	3.3 GB/s (Fibre Channel) 5 GB/s (InfiniBand)
Write	2.8 GB/s (Fibre Channel) 2.8 GB/s (InfiniBand)	3.3 GB/s (Fibre Channel) 4.5 GB/s (InfiniBand)
Power	350 Watts	280 Watts
Cooling	1194 BTU/hr.	955 BTU/hr.
Reliability	Module-level Variable Stripe RAID Redundant interfaces Redundant and hot-swappable power supplies N+1 batteries	2n fans Error-correcting code Checksums Data integrity fields
Supported RAID levels	0	
Connectivity options	4 x 8 Gb/s Fibre Channel 4 x 40 Gb/s QDR InfiniBand	
Client operating system support	For a current list of platforms supported, please visit the IBM System Storage Interoperation Center (SSIC)	
Enclosure dimensions (H x W x D)	1U x 432 mm x 569 mm (1U x 17 in. x 22.5 in.)	
Weight	11.3 kg / 25 lb	

Why IBM?

Building on decades of storage leadership, IBM offers a comprehensive portfolio of integrated, flash-optimized storage solutions that can propel organizations into the next era of IT. These proven, easily integrated flash solutions result in faster time to insights with MicroLatency and extreme performance for macro efficiency across your business.

As part of IBM Smarter Storage—a strategic approach to storage that enables organizations to harness the value of stored data—FlashSystem 810 and FlashSystem 710 empower organizations to take advantage of best-in-breed solutions to build a compelling business advantage. From data analytics to 3D animation, cloud to virtual infrastructures, these solutions can provide organizations with the storage performance they need to compete, innovate and grow.

For more information

To learn more about IBM FlashSystem 810 or IBM FlashSystem 710, please contact your IBM representative or IBM Business Partner, or visit the following website:
ibm.com/storage/flash



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Actual available storage capacity may be reported for both uncompressed and compressed data and will vary and may be less than stated.

* Performance specifications based on fully configured system

¹ Information calculated and scaled from a demonstration conducted at the IBM Almaden Research Lab



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