IBM FlashSystem 5000

IBM FlashSystem 5010 and 5030 offer the performance, functionality and cost-efficiency demanded by entry enterprise workloads.

Highlights

- Offers easy-to-own, easy-to-use, easy-to-grow flexibility
- Provides affordable, enterprise-grade functionality and performance
- Leverages AI, analytics and blockchain technologies from IBM

Leading-edge technologies such as artificial intelligence (AI), real-time analytics, and blockchain demand new levels of IT infrastructure performance and functionality for many reasons, but top of the list is because by their very nature they produce and consume enormous amounts of data.[1]

Leveraging the power of AI and blockchain, along with many other 21st-century technologies, requires a modern IT infrastructure with wide-ranging capabilities, from intelligent system optimization and powerful data reduction, through comprehensive security and encryption features, to multicloud architectures and ultra-low latency flash storage. These demands can be especially challenging in environments with smaller and midsized application workloads, because organizations with smaller workloads quite often operate with smaller IT budgets.

Because capital funds are at a premium, businesses need to preserve and extend their current investments in IT infrastructure, while upgrading outdated features. So, pay-as-you-go strategies become especially attractive. Data security can't be compromised. Agility may be even more important than ever before, so infrastructure flexibility and scalability are crucial.

IBM FlashSystem 5000 storage systems are designed specifically to address entry enterprise workloads. These storage solutions are focused on affordability with a wide range of enterprise-grade features that can easily evolve as your business grows. And you can even choose to extend award-winning software-defined storage functionality across all your existing systems to optimize current IT investments while building a leading-edge, multicloud-capable business platform.

IBM FlashSystem 5000

A family of affordable, enterprise-grade storage solutions

The IBM FlashSystem family provides especially powerful solutions for modern organizations with entry, midsized workloads and limited budgets that are seeking to gain a competitive advantage from their data assets. With comprehensive storage services and capabilities based on market-leading IBM Spectrum Virtualize technologies, FlashSystem offers feature-rich, affordable storage solutions for 21st-century enterprises looking to grow and thrive.

Market-leading functionality

IBM FlashSystem 5000 storage systems are designed to provide Entry level enterprise solutions within the overall FlashSystem family. IBM FlashSystem 5000 technology has recently been refreshed, with a focus on significant innovation. Now, FlashSystem 5000 offerings include IBM FlashSystem 5010, designed for entry-level storage requirements, IBM FlashSystem 5030 with increased functionality and performance for entry workloads.

Powerful added features

In addition to the many features and capabilities noted above, IBM FlashSystem 5000 systems include:

- Innovative management capabilities to ease storage management
- High-availability configurations with HyperSwap for FlashSystem 5030
- FlashCopy function and remote mirroring to create copies of data for back up and disaster recovery
- Dual clustering for FlashSystem 5030 to enable growth from smaller configurations
- Options to nondisruptively upgrade in the field from FlashSystem 5010 to FlashSystem 5030, providing investment protection with the ability to grow capacity and performance in the same footprint
- High-density expansion enclosures, which can hold up to 92 drives and 2.8 PB in a 5U form factor
- The option to add IBM Spectrum Virtualize for Public Cloud to enable data migration between on-premises and public cloud storage, as well as the use of the public cloud for disaster recovery
- Support for OpenStack Cinder, which helps automate storage provisioning and volume management for organizations by combining the efficiency of FlashSystem 5000 with the OpenStack Compute cloud platform

[1] "Deep Learning (deep neural network)," *TechTarget.com*, Accessed March 2019.
https://searchenterpriseai.techtarget.com/definition/deep-learning-deep-neural-network

[2] "IBM Ranked # 1 in Worldwide Software-Defined Storage Software Market," *IBM Corporation*, April 2017.
http://www-03.ibm.com/press/us/en/pressrelease/52189.wss

IBM FlashSystem 5000 at a glance

Specifications	IBM FlashSystem 5030 with IBM Spectrum Virtualize Software	IBM FlashSystem 5010 with IBM Spectrum Virtualize Software
Models	**IBM FlashSystem 5030 Models 2072-3H2 and 2072-3H4**	**IBM FlashSystem 5010 Models 2072-2H2 and 2072-2H4**
User interface	Web-based GUI	Web-based GUI
Single or dual controller	Dual (Active/Active)	Dual (Active/Active)
Connectivity (standard)	10 Gb iSCSI (On the motherboard)	1 Gb iSCSI (On the motherboard)
Connectivity (optional)	• 16 Gb/s Fibre Channel • 12 Gb/s SAS • 25 Gb/s iSCSI (iWARP or RoCE) • 10 Gb/s iSCSI	• 16 Gb/s Fibre Channel • 12 Gb/s SAS • 25 Gb/s iSCSI (iWARP or RoCE) • 10 Gb/s iSCSI
Cache per control enclosure /clustered system	32GB or 64GB / 64GB or 128GB	16 GB, 32 GB or 64 GB
Drives supported	Small form-factor 2.5-inch disk drives: • 900 GB, 1.2 TB, 1.8 TB and 2.4 TB @ 10k rpm • 2 TB @ 7.2k rpm SAS nearline Large form-factor 3.5-inch disk drives: • 900 GB, 1.2 TB, 1.8 TB and 2.4 TB @ 10k rpm, SAS (2.5-inch drive in a 3.5-inch drive carrier) • 4 TB, 6 TB, 8 TB, 10 TB, 12 TB, 14 TB @ 7.2k rpm 2.5-inch flash drives: • 800 GB, 1.92 TB, 3.84 TB, 7.68 TB, 15.36 TB and 30.72 TB	Small form-factor 2.5-inch disk drives: • 900 GB, 1.2 TB, 1.8 TB and 2.4 TB @ 10k rpm • 2 TB @ 7.2k rpm SAS nearline Large form-factor 3.5-inch disk drives: • 900 GB, 1.2 TB, 1.8 TB and 2.4 TB @ 10k rpm, SAS (2.5-inch drive in a 3.5-inch drive carrier) • 4 TB, 6 TB, 8 TB, 10 TB, 12 TB, 14 TB @ 7.2k rpm 2.5-inch flash drives: • 800 GB, 1.92 TB, 3.84 TB, 7.68 TB, 15.36 TB and 30.72 TB
Maximum drives supported	Maximum of 504 drives per system and 1,008 drives in two-way clusters: • Small form-factor enclosure: 24 x 2.5-inch drives • Large form-factor enclosure: 12 x 3.5-inch drives • High-density expansion enclosure: 92 x 3.5-inch drives	Maximum of 392 drives per system: • Small form-factor enclosure: 24 x 2.5-inch drives • Large form-factor enclosure: 12 x 3.5-inch drives • High-density expansion enclosure: 92 x 3.5-inch drives
Maximum expansion enclosure capacity	• Up to 20 standard expansion enclosures per controller • Up to 8 high-density expansion enclosures per controller	• Up to 10 standard expansion enclosures per controller • Up to 4 high-density expansion enclosures per controller
RAID levels	RAID levels 0,1,10 with distributed RAID 5 (CLI Only) and 6	RAID levels 0,1,10 with distributed RAID 5 (CLI Only) and 6
Fans and power supplies	Fully redundant, hot-swappable	Fully redundant, hot-swappable
Rack support	Standard 19-inch	Standard 19-inch
Advanced functions included with each system	• Virtualization of internal storage • Data reduction pools with thin provisioning, UNMAP, compression and deduplication • One-way data migration • Dual-system clustering	• Virtualization of internal storage • Data reduction pools with thin provisioning and UNMAP • One-way data migration
Additional available advanced functions	• (90-day trial available except encryption) • Easy Tier • FlashCopy • Remote mirroring • Encryption	• (90-day trial available except encryption) • Easy Tier • FlashCopy • Remote mirroring
Size	8.7 cm (3.4 in.) H x 48.3 cm (19.0 in.) W x 55.6 cm (21.9 in.) D Approximate weight: – Large form-factor control enclosure: • Empty: 18.0 kg (39.6 lb) • Fully configured: 28.3 kg (62.2 lb) – Large form-factor expansion enclosure: • Empty: 16.4 kg (36.1 lb) • Fully configured: 26.7 kg (58.8 lb) – Small form-factor control enclosure: • Empty: 19.0 kg (41.8 lb) • Fully configured: 27.3 kg (60.0 lb) – Small form-factor expansion enclosure: • Empty: 16.7 kg (36.7 lb) • Fully configured: 25.0 kg (55.2 lb)	8.7 cm (3.4 in.) H x 48.3 cm (19.0 in.) W x 55.6 cm (21.9 in.) D Approximate weight: – Large form-factor control enclosure: • Empty: 18.0 kg (39.6 lb) • Fully configured: 28.3 kg (62.2 lb) – Large form-factor expansion enclosure: • Empty: 16.4 kg (36.1 lb) • Fully configured: 26.7 kg (58.8 lb) – Small form-factor control enclosure: • Empty: 19.0 kg (41.8 lb) • Fully configured: 27.3 kg (60.0 lb) – Small form-factor expansion enclosure: • Empty: 16.7 kg (36.7 lb) • Fully configured: 25.0 kg (55.2 lb)
Operating environment	Air temperature: – Operating: 10°C – 35°C (50°F – 95°F) at 30.5 m below to 3,000 m above sea level (100 ft below to 9,840 ft above) – Non-operating: -10°C – 50°C (14°F – 125°F) Relative humidity: – Operating: 20% – 85% – Non-operating: 8% – 80%	Air temperature: – Operating: 10°C – 35°C (50°F – 95°F) at 30.5 m below to 3,000 m above sea level (100 ft below to 9,840 ft above) – Non-operating: -10°C – 50°C (14°F – 125°F) Relative humidity: – Operating: 20% – 85% – Non-operating: 8% – 80%
Warranty	Hardware: – Three-year warranty with 9 to 5 next-business-day response – Tier 1 customer-replaceable units and on-site repairs – Warranty service upgrades available Post-warranty support available Customer setup (initial installation and field upgrades)	Hardware: – Three-year warranty with 9 to 5 next-business-day response – Tier 1 customer-replaceable units and on-site repairs – Warranty service upgrades available Post-warranty support available Customer setup (initial installation and field upgrades)
Operating environment	For a list of currently supported servers, operating systems, host bus adapters, clustering applications, and SAN switches and directors, refer to the IBM System Storage Interoperation Center at: ibm.com/systems/support/storage/config/ssic	For a list of currently supported servers, operating systems, host bus adapters, clustering applications, and SAN switches and directors, refer to the IBM System Storage Interoperation Center at: ibm.com/systems/support/storage/config/ssic

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ISV solutions	For a list of high-quality solutions with IBM partner ISVs, including access to solution briefs and white papers, refer to the ISV Solutions Resource Library: https://www.ibm.com/partnerworld/wps/pub/systems/whyibm/programs	For a list of high-quality solutions with IBM partner ISVs, including access to solution briefs and white papers, refer to the ISV Solutions Resource Library: https://www.ibm.com/partnerworld/wps/pub/systems/whyibm/programs

Why IBM?

The FlashSystem family of data systems from IBM is known for providing efficient, highly functional, high-performance storage for any type of workload. FlashSystem solutions, customized for entry enterprise, midrange enterprise, and high-end enterprise, are specifically designed to deliver performance in streamlined packages that are easy to deploy, easy to manage, and easy to grow.

For more information

For more information about the FlashSystem family of data systems, please contact your IBM representative or IBM Business Partner, or visit: https://www.ibm.com/it-infrastructure/storage/flash

Additionally, IBM Global Financing provides numerous payment options to help you acquire the technology you need to grow your business. We provide full lifecycle management of IT products and services, from acquisition to disposition. For more information, visit: ibm.com/financing

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