

Enabling the future of your business

IBM FlashSystem accelerates the cloud, big data analytics, mobile and social systems and the applications that will power the future of your business.



How far will you go?

Where will the future take your business? What will stand in your way? The World Economic Forum sees data as an economic asset, like currency or gold.¹ There's no doubt that much of your business' future success or failure will hinge on how well you leverage your data assets to capture or maintain competitive advantage.

Deeper insights from data assets will require better information technology (IT). As you modernise your IT infrastructure to enable innovation rather than limit it, you'll need a data storage system that can keep pace with multi-Gigahertz (GHz) processors and multi-dimensional analytical software. IBM® FlashSystem is engineered from the chip to the chassis to meet these demands. It provides not only the high performance and ultra-low latency that flash storage is known for, but also high reliability and lower IT cost. This combination makes IBM FlashSystem extremely attractive for businesses determined to make more, spend less and move faster.

Introducing the IBM FlashSystem family

IBM FlashSystem is a family of all-flash storage arrays that offer a comprehensive feature set and are engineered to address the most demanding enterprise performance, reliability and cost requirements. The family currently includes four models:

- IBM FlashSystem 900, the workhorse base model designed to provide extreme performance, low latency and data protection for business-critical application acceleration
- IBM FlashSystem V9000 adds the leading-edge storage services and virtualisation capabilities of IBM Spectrum Virtualize to create a complete Tier 1 storage solution

- IBM FlashSystem A9000, based on IBM Spectrum Accelerate, uses an innovative grid architecture that eliminates most traditional storage management tasks and costs
- IBM FlashSystem A9000R offers all the advantages of IBM FlashSystem A9000 in a rack configuration for performance and capacity scalability that can meet the most demanding cloud environment or big-data analytics storage requirement.

IBM FlashSystem 900

Powered by IBM FlashCore technology, IBM FlashSystem 900 delivers the extreme performance, enterprise reliability and operational efficiencies required to accelerate business-critical applications.



IBM FlashSystem 900

IBM FlashSystem 900 is composed of up to 12 IBM MicroLatency modules that provide high storage density, enterprise-grade data protection and extremely high storage performance. At the heart of IBM FlashSystem 900 lies IBM FlashCore technology. Its hardware-accelerated architecture provides consistent microsecond (μ s) latency, which increases reliability and efficiency by removing most software from the data path. IBM FlashCore technology enables the integration of lower cost, higher density multi-level cell (MLC)

flash chips by leveraging IBM-engineered flash management features such as enhanced wear leveling (spreading data evenly among flash cells to increase flash life) and garbage collection (reclaiming flash capacity by aggregating valid data in the flash chips). Advanced flash management features also include IBM Variable Stripe RAID technology, which maintains system performance and capacity in the event of partial or full flash chip failures, helping reduce downtime and forestall system repairs.

IBM FlashSystem V9000

IBM FlashSystem V9000 offers the advantages of software-defined storage at the speed of flash memory. This all-flash storage array combines the high performance, ultra-low latency, superb efficiency and extreme reliability of IBM FlashCore technology with a rich set of virtualisation and storage features, including IBM Real-time Compression, dynamic tiering, thin provisioning, data copy services and high-availability (HA) configurations.

IBM FlashSystem V9000 is designed as a comprehensive storage solution for all active data sets. By accelerating a wide range of applications and infrastructures, IBM FlashSystem V9000 can help reduce costs, increase revenue and improve customer satisfaction. Plus with powerful data reduction capabilities such as IBM Real-time Compression, you may be able to get the advantages of flash for less than the cost of a conventional enterprise storage array.

IBM FlashSystem V9000 can function as a feature-rich, software-defined storage layer that virtualises all managed storage. In this capacity, it acts as the virtualisation layer between the host and other external storage systems, extending functionality and flexibility to the external systems. A single IBM FlashSystem V9000 array can manage up to 32 Petabytes (PB) of external storage and, because the storage is virtualised, volumes can be moved between external and internal storage capacity without disrupting operations. This functionality enables very agile integration into existing storage environments with seamless data migration between IBM FlashSystem V9000 and legacy storage systems.

IBM FlashSystem A9000

IBM FlashSystem A9000 combines IBM FlashCore technology with an innovative all-flash grid architecture designed to eliminate most traditional storage management tasks and their associated costs. Built on a foundation of IBM Spectrum Accelerate with IBM Hyper-Scale technology, IBM FlashSystem A9000 addresses the needs of rapidly growing structured and unstructured data and cloud environments for simplified management and scale-out capabilities.



IBM FlashSystem V9000



IBM FlashSystem A9000

Comprehensive data reduction, including inline deduplication and a new data compression engine, optimises storage economics and efficiency, helping to reduce both acquisition costs and total cost of ownership (TCO). The advanced management interface with IBM Hyper-Scale Manager enables agile orchestration of private and hybrid multi-tenant cloud environments, even at very large scales. Solution design and implementation support through the IBM Flash Centres of Competency, worldwide IBM customer support and product warranties and maintenance help to reduce risk and optimise value.

IBM FlashSystem A9000R

IBM FlashSystem A9000R offers all the advantages of IBM FlashSystem A9000 in a rack configuration for the performance and capacity scalability needed to meet the most demanding cloud environment or big-data analytics storage requirements. The self-tuning, flash-optimised, InfiniBand-powered grid storage architecture of IBM FlashSystem A9000R delivers consistent high performance and reliable quality of service (QoS) for cloud, virtualised and business-critical workloads.

Why IBM FlashSystem? More value

If all you need from your storage system is to store data – deploy IBM tape storage. You will be able to drive your storage costs well below a penny per gigabyte (GB)² per month with these solutions. However, if you ever want to detect or prevent online fraud in real time, match a banner ad to a customer’s preferences as they shop, or provide secure access to patient data at the point and moment of care, you’ll need much faster storage. The truth is, you deploy IBM FlashSystem not simply to store data, but instead to derive much greater value from it.



IBM FlashSystem A9000R

Consider a typical online retail business. The baseline data set is generated during a transaction when a shopper buys one of your products or services online. However online shoppers are notoriously impatient – they will leave a transaction before it's completed if your application response time is longer than a second or two. So you turn to IBM FlashSystem to accelerate online transactions, increase purchase completion rates and improve customer satisfaction.

However how do you know the transaction isn't fraudulent in some way? And even more importantly, how do you prevent fraud from even occurring? These days, you can run sophisticated fraud detection and prevention analytics against much of the same data generated during the online purchase process – but you only have a few seconds to sift through all this data to detect anomalous patterns and take action. This job requires a storage system offering consistent, predictable microsecond (μ s) latency – IBM FlashSystem.

It's quite possible that there are many additional products or services in your catalogue that may appeal to your online shoppers, but they have never noticed them. By applying customer experience management analytics, you can assess the preferences and purchasing histories of each customer and match these to your products. But you can do this only if you can process large volumes of complex data in near real time. To derive this additional business value from that original baseline data set, you again turn to IBM FlashSystem solutions.

Fast storage made simple

However your business didn't come into existence yesterday. You already have a significant investment in data storage mumberling away on your data centre (DC) floor. You're not going to forklift it out the door, but you're not going to allow it to hinder the growth of your business, either. Beyond performance, this is another reason why enterprises around the world are turning to IBM FlashSystem.

You need dozens of terabytes of extremely capable storage for your business-critical application – this afternoon, not next week. Your business is to serve your customers, not your information systems. You want to field a new mobile application, deploy virtual desktops, add new customer services to gain competitive advantage and innovate at top speed – simply, cost-effectively, now. This is exactly what IBM FlashSystem does; it makes fast storage simple.

Storage for the future of your business

The IBM FlashSystem family of all-flash storage platforms is designed for the future of your business. These products are less expensive than conventional enterprise storage systems, because IBM understands that the volume and velocity of your data is exploding, but your budget cannot. The Internet of Things, mobile computing, social systems of engagement, cloud computing, big data, real-time fraud detection and prevention, in-depth analytics and timely decision-making require storage performance beyond anything previously available. IBM FlashSystem is engineered to provide this level of performance, helping you derive more value from rapidly growing volumes of data, reliably, safely and simply.

For more information

To learn more about the FlashSystem storage, please contact your IBM representative or IBM Business Partner (BP), or visit the following website:

ibm.com/systems/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



IBM United Kingdom Limited

PO Box 41
North Harbour
Portsmouth
Hampshire
PO6 3AU
United Kingdom

IBM Ireland Limited

Oldbrook House
24-32 Pembroke Road
Dublin 4

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- ¹ World Economic Forum, 'Big Data, Big Impact: New Possibilities for International Development,' 2012. http://www3.weforum.org/docs/WEF_TC_MFS_BigDataBigImpact_Briefing_2012.pdf
- ² Cost of tape based on average street price of IBM nearline tape solution.

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