

# FlashSystem 9500

## Solution Brief

Automate, Optimize, and Safeguard your storage for your mission critical workloads



### Highlights

Delivering all the benefits of the IBM FlashSystem family

IBM FlashSystem 9500 key capabilities

IBM FlashSystem 9500 use cases and workloads

IBM FlashSystem 9500 is a high-end, all flash enterprise storage array designed to deliver exceptional performance, efficiency, and resilience. Its combination of IBM FlashCore® Modules, an NVMe-based architecture, and intelligent capabilities powered by AI provides a comprehensive block storage solution that addresses the needs of modern businesses.

FlashSystem 9500 delivers all the benefits you expect from the rest of our FlashSystem lineup, including:

- Energy efficient storage guaranteed, with some configurations delivering energy efficiency as low as 1.7w/TB<sup>1</sup>
- Seamless integration to FlashSystem grid with non-disruptive data movements and zero downtime
- Guaranteed threat detection in 1 minute or less<sup>2</sup>
- Ensure your data remains **always available** through our IBM FlashWatch High Availability Guarantee<sup>3</sup>

Demanding workloads, such as SAP and data analytics, can benefit from the exceptional performance and low latency of FlashSystem 9500. It is also a great fit for modernization and workload consolidation use cases as it can help you reduce your datacenter storage footprint with its performance, data density, scalability, and energy efficiency advantages when compared to running those workloads on HDD storage arrays.

IBM FlashSystem® is a collection of high-speed, all-flash and hybrid flash storage solutions that are fast, secure, and intelligent.



Figure 1. FlashSystem 9500 supports up to 6.6 Pb effective capacity in a single 4U enclosure

## Delivering all the benefits of the FlashSystem family

### **Automate, Optimize, and Safeguard your storage**

IBM FlashSystem is well known for delivering energy efficient all flash block storage that is fast, secure, and intelligent, making it an excellent choice to address storage needs for mission critical enterprise applications and data.

#### **Automate your data management**

Get up to 40% lifecycle cost savings by managing with AI recommendations, business SLAs, and policies instead of manual modeling.

#### **Optimize your data effortlessly**

All data moves now have zero downtime and are non-disruptive, guaranteed — no swing box required.

#### **Safeguard your data consistently**

Detect and alert on ransomware threats, guaranteed in 60 seconds or less with AI-enabled threat detection that provides real-time data monitoring and alerting.

On top of these benefits, FlashSystem 9500 delivers excellent performance and scalability due to its powerful NVMe architecture and its ability to scale to 6.6Pb effective capacity. Configured with IBM FlashCore® Module 4 (FCM4) drives, FlashSystem 9500 delivers industry-leading hardware-based, wire-speed compression and encryption with no impact on performance. This enables it to support numerous concurrent workloads with ease while still providing the high performance needed for I/O intensive applications.

# FlashSystem 9500 key capabilities

## Meet business SLAs while ensuring your data is secure & available

IBM FlashSystem 9500 is equipped with advanced features that ensure high performance, data protection, and ease of management. Key capabilities include:

**Performance and Efficiency:** FlashSystem 9500 delivers up to 8 million IOPS and 100GB/s of bandwidth per system, making it one of the most powerful block storage systems available. It supports NVMe over Fabric (NVMe-oF) host connections for additional performance with response time on reads < 50 microseconds. The system can scale up with high-performance Serial-Attach SCSI (SAS) SSDs and scale out via clustering.

**Data Reduction:** FlashSystem 9500 provides a data reduction guarantee with FlashCore Modules (FCM4s), which we guarantee can achieve a 2-to-1 data reduction ratio without any performance impact. Additionally, IBM's Data Reduction Pools (DRP) offer selective deduplication and compression, delivering up to a 5-to-1 data reduction ratio in some environments with significant deduplication.

**Resilience and Cybersecurity:** FlashSystem 9500 includes extensive data protection, data resilience, and cyber resilience capabilities. It features ransomware threat detection and Quantum Safe Encryption, ensuring that data is secure and protected against cyber-attacks. The system also offers immutable safeguarded copies and policy-based high availability (HA) and disaster recovery (DR) solutions.

**Cloud Integration:** IBM Storage Virtualize software, included with FlashSystem 9500, provides a consistent on-ramp to the cloud for over 500 different storage systems, eliminating complexity and enabling a unified approach to cloud integration.

**Ease of Management:** IBM Storage Insights, an AIOps storage software solution included with FlashSystem 9500, offers proactive health monitoring and predictive analytics, simplifying management and ensuring optimal performance and uptime.

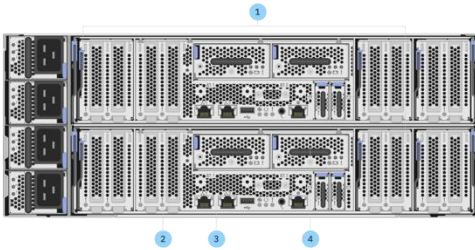


Figure 1. FlashSystem 9500 – back

1. 2 Controller modules
2. 12 PCIe G4 Interface Card Slots  
per enclosure: 32 Gb and 16 Gb  
FC, 25 Gb Ethernet, and 10 Gb  
Ethernet ports are available for  
FC and iSCSI connectivity with  
optional 12Gb SAS ports for host  
attachment and expansion  
enclosure attachments
3. RJ45 Management Ports
4. Hot swappable, multiple ride  
PSU batteries

IBM FlashSystem 9500 is well suited to address a wide range of use cases and workloads where performance and scalability is critical.

## Use Cases and Workloads for FlashSystem 9500

### **High-Performance Computing (HPC)**

The system's exceptional performance and low latency make it suitable for HPC environments that require fast data processing and high throughput. FlashSystem 9500 delivers up to 8 million IOPS and 100GB/s of bandwidth per system, making it an incredibly powerful block storage system. It supports NVMe over Fabric (NVMe-oF) host connections for additional performance with very low latency. The 4U enclosure supports up to 48 drives with a maximum raw capacity of 4.5PB. The system can scale up further with high-performance Serial-Attach SCSI (SAS) SSDs and scale out via clustering.

### **Virtualized Workloads**

FlashSystem 9500 supports a wide range of virtualization workloads, including physical, virtual, and container environments. This is enabled by its powerful Storage Virtualize software stack, which provides consistent management across over 500 different storage systems, facilitating easy data migration and offering features such as end-to-end NVMe support, clustering, data reduction pools, and ransomware threat detection.

### **Data Analytics**

The system's high IOPS and bandwidth capabilities make it ideal for data analytics workloads, enabling businesses to process large volumes of data quickly and derive actionable insights. Capabilities delivered by high-performance IBM FlashCore Modules, end-to-end NVMe architecture, and AI-powered observability and advisories through IBM Storage Insights make it ideal for handling heavy mixed workloads, ensuring rapid data processing and robust data resilience.

### **IT Modernization**

Modernizing your storage management and automating related workflows with FlashSystem 9500 can accelerate your digital journey. It achieves this through its performance and scalability for high-volume, latency sensitive workloads, with advanced features like AI-enabled ransomware threat detection, providing data reduction without performance penalties, and its support for NVMe and Storage Class Memory. This helps to enable improved data resilience and efficiency, ultimately leading to better operational outcomes and cost savings.

### **Application Consolidation**

Consolidating your applications onto a high-performance, secure storage subsystem can lead to improved efficiency, reduced costs, and simplified management. FlashSystem 9500 delivers up to 8 million IOPS and 100GB/s bandwidth, extensive data protection and resilience features, and the ability to virtualize over 500 different storage systems, enabling consistent management and enhanced performance.

# Conclusion

IBM FlashSystem 9500 is a powerful and versatile storage solution that delivers exceptional performance, efficiency, and resilience. Its advanced capabilities and robust security features make it an ideal choice for businesses seeking to optimize their storage infrastructure and ensure business continuity. With its support for a wide range of use cases and workloads, FlashSystem 9500 is well-suited to meet the demanding storage needs of modern enterprises.

## For more information

To learn more about FlashSystem 9500, contact your IBM representative or IBM Business Partner, or visit <https://www.ibm.com/flashsystem>.

<sup>1</sup> FlashSystem Sustainability Guarantee –

<https://www.ibm.com/flashsystem/data-storage-sustainability>

<sup>2</sup> FlashSystem Cyber Resilience Guarantee –

<https://www.ibm.com/flashsystem/cyber-resilience>

<sup>3</sup> IBM FlashWatch Policy Based High Availability (PBHA) Commitment -

<https://www.ibm.com/support/customer/csol/terms/internal/?id=i126-9809&lc=en>

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