

IBM Systems

IBM Storage Product guide

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Helping
make
storage
simple.

Storage made simple
is the right foundation
for your data-driven
hybrid multicloud.

Introduction

Throughout the world, organizations in different industries are using IBM® Storage and software-defined storage (SDS) solutions for big data, analytics, AI and deep learning, high-performance computing and the cloud to improve business results in their digital transformation.

IBM Storage has the broadest portfolio in the industry that can enable organizations to effectively deliver data-driven IT services across their hybrid multicloud environments. Using IBM solutions, enterprises can more efficiently use their compute and storage resources to help achieve their goals. Whether it's human genome research for cancer treatments and personalized medicine, aerodynamics testing for race cars, or stock portfolio analysis for risk assessment, IBM Storage can help enterprises become more agile, modern and security-rich.

What's possible with IBM Storage



Hybrid multicloud

Reduce complexity with container-enabled enterprise storage, deployed seamlessly across on-premises and hybrid cloud storage environments.



AI and data

Simplify your infrastructure with optimized efficiency to drive faster results that are massively scalable and globally available from edge to inference.



Data protection and cyber resiliency

Maximize backup storage efficiency, data security and performance with maximum uptime and resiliency while lowering costs.



Cloud paks and containers

Surpass your business goals with speed, productivity and agility, all enabled by a security-rich, persistent storage infrastructure with enterprise-class services for private cloud and Red Hat® OpenShift® container storage.

IBM Storage Portfolio

Storage for Data and AI

IBM Spectrum® Scale
IBM Cloud® Object Storage
IBM Spectrum® Discover
IBM Elastic Storage® Server (ESS)
IBM Elastic Storage System 3000

Storage for hybrid multicloud

IBM FlashSystem® Family
IBM FlashWatch
IBM SAN Volume Controller
IBM Storage Insights
IBM Spectrum Virtualize for Public Cloud
IBM Spectrum Control
IBM Spectrum Storage™ Suite

Modern data protection

IBM Spectrum Protect
IBM Spectrum Protect Plus
IBM Spectrum Copy Data Management
IBM Spectrum Archive
IBM Tape Solutions

Storage for IBM Z®

IBM DS8000® storage systems
IBM Spectrum Scale for Z
IBM Virtual Tape Library

Storage for SAP HANA

IBM FlashSystem Family
IBM Spectrum Copy Data Management
IBM Spectrum Protect

Storage for containers

IBM Storage for Red Hat OpenShift
IBM Storage Suite for IBM Cloud Pak®
IBM FlashSystem Family
IBM DS8900F
IBM Spectrum Virtualize
IBM Spectrum Scale Data Management Edition
IBM Cloud Object Storage

Storage networking

SAN b-type family
SAN c-type family

Converged infrastructure

VersaStack
VersaStack for Hybrid Multicloud



Storage for Data and AI

Challenges

Keeping pace with the rapid growth and sprawl of data is a challenge organizations face to more efficiently and securely manage their data and leverage it for AI analysis. As the adoption rate of AI accelerates, teams require greater data science productivity, increased workload flexibility, faster time to insight, and increased scalability and performance of workloads.

Why IBM?

IBM Storage for Data and AI offers end-to-end storage solutions that help streamline and transform data-intensive AI and large-scale analytics workloads into actionable insights. With a scalable and flexible data service built on IBM SDS, you can collect, organize and manage AI-infused data across your enterprise. By providing advanced data management tools designed for speed and efficiency, these offerings can address skills gaps that would otherwise limit AI adoption across your organization, and help your enterprise better manage data volume and quality in a smarter and more efficient way.

The [Mercedes-Benz Stadium](#) is a destination venue for fans of major sports, concerts and other live events. IBM solutions provide a wide array of technologies integrated into a single, seamless, state-of-the-art system that provides fans with a unique, personalized experience that enhances the action on the field or stage. The system includes both on-premises and cloud-based IBM Storage solutions. IBM and Flagship Solutions Group created a powerful hybrid storage landscape built around IBM Elastic Storage Server with IBM Spectrum Scale, IBM FlashSystem 7200 and IBM Cloud Object Storage.

Benefits

Faster time to insights

Unify data in a single global namespace

Accurate insights and analytics

Employ a consolidated interface to more precisely manage data insights

Increased efficiency and performance

Experience full use of graphics processing units (GPUs) with high throughput

Flexible data pipelines

Provide a software-defined foundation on which to build flexible and efficient end-to-end data pipelines across your hybrid multicloud infrastructure

Scalable AI infrastructure

Leverage the ability to start small and scale with virtually no limits

Optimized data flow efficiency

Reduce “copy sprawl” for on- and off-premises cloud integrated architectures with higher levels of reuse

Offerings

IBM Spectrum Scale
IBM Cloud Object Storage
IBM Spectrum Discover
IBM Elastic Storage Server (ESS)
IBM Elastic Storage System 3000

Storage for Data and AI

Offerings

IBM Spectrum Scale

IBM Spectrum Scale is an ideal foundation for building your AI pipeline and infrastructure and can deliver insights faster, while managing rapid infrastructure growth. This solution helps support big data analytics, AI, machine learning and deep learning workloads along with traditional high-performance computing applications. IBM Spectrum Scale is designed to meet the demanding capacity, performance and data management needs of these workloads efficiently, reliably and with extreme scalability. The solution also includes in-place archive and analytics, data-aware intelligence, global collaboration and data integrity.

[Learn more about IBM Spectrum Scale →](#)

IBM Cloud Object Storage

IBM Cloud Object Storage is designed to support exponential data growth with simplicity, high durability, security and efficiency for cloud-native and object-based workloads. With a unique shared-nothing parallel architecture, this solution can help you maintain and improve performance. In addition to cost efficiencies, as the solution grows from terabyte to petabyte or even to exabyte scale it's designed to never go down with geo-dispersed data protection. Commonly deployed as a storage solution for large data deployments with multiple concurrent applications or users, IBM Cloud Object Storage is also used for data archiving and backup for many traditional applications.

[Learn more about IBM Cloud Object Storage →](#)

IBM Spectrum Discover

IBM Spectrum Discover simplifies data and AI organization with a high volume catalog and index that provides a 360-degree view for higher productivity and helps optimize data for faster AI analysis.

[Learn more about IBM Spectrum Discover →](#)

Did you know?

Did you know? IBM Elastic Storage System 3000 is the one of the simplest ways to deploy IBM Spectrum Scale. [Learn more about IBM Elastic Storage System 3000.](#)

Storage for Data and AI

Offerings

IBM Elastic Storage Server

IBM Elastic Storage Server (ESS) is a modern implementation of SDS and combines IBM Spectrum Scale software with POWER8® processor-based I/O-intensive servers and storage enclosures. This solution can increase system throughput with each new server, while still providing you a single name space. The scale-out capability of ESS, combined with in-place analytics, helps eliminate data silos and simplify storage management.

ESS provides multi-protocol support and a powerful intuitive graphic user interface (GUI) that can support big data analytics and AI and deep learning workloads. This solution can reduce total cost of ownership, seamlessly extend storage to the cloud and enable global collaboration.

[Learn more about IBM Elastic Storage Server →](#)

IBM Elastic Storage System 3000

IBM Elastic Storage System 3000 is a powerful data management solution that can speed time to value for AI, deep learning and high-performance computing workloads. Using all Non-Volatile Memory Express (NVMe) storage this offering can provide simple installation and management and helps accelerate time to insights. Each 2U system delivers 40 GB per second of data throughput and is available in a wide range of capacities from tens to hundreds of terabytes. Capacity and throughput can be quickly and easily scaled out by adding more servers to the system.

[Learn more about IBM Elastic Storage System 3000 →](#)

Did you know?

IBM Elastic Storage System 3000 is one of the simplest ways to deploy IBM Spectrum Scale. [Learn more about IBM Spectrum Scale.](#)



Storage for hybrid multicloud

Challenges

Industry leaders are frustrated, trying to more easily manage storage and be ready for new workloads. Solutions need to have flash innovation, AI-infused management and data mobility on-premises and in the cloud.

Why IBM?

IBM Storage for hybrid multicloud environments creates a strategic storage foundation to help modernize existing storage infrastructure. While avoiding vendor and cloud-provider lock-in, enterprises can innovate and transition to a hybrid multicloud infrastructure with IBM solutions. Integrated with all-flash and hybrid storage systems, these offerings can scale up and scale down your storage capacity as application and data growth require.

Hotels can't predict when a guest will check in, any more than a transportation company can tell when a shipment will be scheduled. [TM-Solutions and Sourcecom](#) deployed an IT hosting service offering built on all-flash IBM Storage solutions and IBM Spectrum Storage management tools, deployed in an active-active configuration. The platform offers 24x7 industries security-rich, high-performance IT hosting services designed to never falter, enabling clients to capitalize on every business opportunity.

The right software platform is critical to the strategic storage choices your organization makes. IBM software platforms support over 500 devices from a wide range of vendors, helping provide flexibility and data migration without interruption.

With a unified set of tools, APIs and software, FlashSystem addresses the entire range of storage requirements with one data platform extending enterprise functionality that works seamlessly across all deployment types (bare metal, virtualized, container, and hybrid multicloud) and support your existing storage estate, whether the storage is from IBM or other vendors.

Benefits

Agility

Move data without disruption among storage systems and between on-premises and cloud environments regardless of vendor or provider to have the right data on the right hardware

Bridge

Adapt to the shifts in technology from UNIX, Microsoft Windows or VMware to Linux®, Red Hat OpenShift, Kubernetes, and CRI-O containerized environments

Cloud

Deploy software capabilities and their application programming interfaces (APIs) across traditional and hybrid multicloud environments

Data reduction

Save on infrastructure costs by extending data reduction techniques across all your existing storage hardware to help store more data

Encryption

Improve cyber resiliency by encrypting data at rest across all storage to help minimize the financial impact of cyber threats

Offerings

- IBM FlashSystem Family
- IBM FlashWatch
- IBM SAN Volume Controller
- IBM Storage Insights
- IBM Spectrum Virtualize for Public Cloud
- IBM Spectrum Control
- IBM Spectrum Storage Suite

Storage for hybrid multicloud

Offerings

IBM FlashSystem Family

The IBM FlashSystem family is a portfolio of cloud-enabled storage systems designed to be easily deployed and quickly scaled to help optimize storage configurations, streamline issue resolution and lower storage costs. IBM FlashSystem is built with IBM Spectrum Virtualize software to help deploy sophisticated hybrid cloud storage solutions, accelerate infrastructure modernization, address security needs and maximize value by leveraging the power of AI.

Tip

To help support hybrid multicloud deployments, use IBM flash storage to deliver premier flash storage solutions with sophisticated functionality.

Entry enterprise

IBM FlashSystem 5000

IBM FlashSystem 5010 and IBM FlashSystem 5030 are designed to provide enterprise-grade functionalities without compromising affordability or performance.

Built with the rich features of IBM Spectrum Virtualize and the AI-powered predictive storage management and proactive support of Storage Insights. IBM FlashSystem 5000 helps make modern technologies such as AI accessible to enterprises of all sizes.

[Learn more about IBM FlashSystem 5000 →](#)

IBM FlashSystem 5100

IBM FlashSystem 5100 combines the performance of flash and NVMe end-to-end, the innovation of IBM FlashCore® technology and Storage Class Memory (SCM) for ultra-low latency. This solution includes IBM Spectrum Virtualize features, AI-powered predictive storage management and proactive support.

Providing multicloud storage capacity, FlashSystem 5100 uses AI to simplify management and cost efficiency while enabling cloud applications in containers.

[Learn more about IBM FlashSystem 5100 →](#)

Midrange enterprise

IBM FlashSystem 7200

IBM FlashSystem 7200 offers the advantages of end-to-end NVMe, the innovation of IBM FlashCore technology and SCM for ultra-low latency. This solution includes IBM Spectrum Virtualize features, AI predictive storage management and proactive support of Storage Insights in a powerful 2U system.

Bringing high-end capability for clients needing enterprise mid-range storage, FlashSystem 7200 allows you to easily add in the multicloud technology that best support your business.

[Learn more about IBM FlashSystem 7200 →](#)

Did you know?

IBM FlashSystem 5000, 5100 and 7200 are available as all-flash and hybrid flash models to suit different workload mixes.

Storage for hybrid multicloud

Offerings

IBM FlashSystem Family

High-end enterprise

IBM FlashSystem 9200

IBM FlashSystem 9200 combines the performance end-to-end NVMe with the reliability and security of IBM FlashCore technology and SCM for ultra-low latency. This solution includes IBM Spectrum Virtualize features, AI predictive storage management and proactive support by Storage Insights, all in a powerful 2U enterprise-class and fast storage all-flash array.

Providing intensive data driven multicloud storage capacity, FlashSystem 9200 allows you to easily add in the multicloud solutions that best support your most critical demands.

[Learn more about IBM FlashSystem 9200 →](#)

IBM FlashSystem 9200R

Based on IBM FlashSystem 9200, IBM FlashSystem 9200R is an IBM tested and validated rack solution designed for the most demanding environments.

IBM FlashSystem 9200R delivers all the same capability of FlashSystem 9200 with up to four systems clustered in a single rack. Dedicated switches support that clustering, separate from the general-purpose SAN.

FlashSystem 9200R is delivered assembled and IBM representatives complete installation and configuration, allowing you to confidently add technologies to your multicloud solutions.

[Learn more about IBM FlashSystem 9200R →](#)

Did you know?

Clustering capability with IBM FlashSystem 5030, 5100, 7200 and 9200 enables you to add performance and capacity while maintaining the advantages of a single system to manage.

Storage for hybrid multicloud

Offerings

IBM FlashWatch

The IBM FlashWatch program provides outstanding peace of mind for IBM FlashSystem and IBM SAN Volume Controller that gives you the confidence to purchase, own and upgrade your IBM storage.

High availability guarantee

Proven 99.9999% availability with an optional 100% guarantee when using HyperSwap deployed by IBM Lab Services

Data reduction guarantee

2:1 self-certified, up to 5:1 with workload profiling

Tip

If you're unsure if your IBM flash storage system qualifies, contact your IBM representative or IBM Business Partner for full details.

All-inclusive licensing

All storage functions are included in the licensing cost for internal storage

Comprehensive care

Up to 7 years of 24x7 support, with 3 years Technical Advisor, enhanced response times and managed code upgrades

Cloud analytics

IBM Storage Insights included at no extra cost so you can proactively manage your environment

Flash endurance guarantee

Flash media is covered for all workloads while under warranty or maintenance

IBM Flash momentum

Refresh your controller and storage every 3 years with full flexibility

Cloud-like pricing

IBM Storage Utility pricing has monthly payments for only the storage you use

No-cost migration

90-day, no-cost data migration from over 500 storage systems, both IBM and third party

[Learn more about flash storage guarantees →](#)

IBM SAN Volume Controller

IBM SAN Volume Controller is an enterprise-class system that consolidates storage from over 500 IBM and third-party storage systems to improve efficiency, simplify management and operations, modernize existing storage with new capabilities, and enable a common approach to hybrid cloud regardless of storage system type.

By helping effectively maximize the economics of massive volumes of data, SVC helps improve data value, increase data security, enhance data simplicity and enable 100% availability with HyperSwap.

[Learn more about IBM SAN Volume Controller →](#)

Did you know?

IBM SAN Volume Controller was built with IBM Spectrum Virtualize software.

Storage for hybrid multicloud

Offerings

IBM Spectrum Control

IBM Spectrum Control provides monitoring, automation and analytics across multivendor file, object, block and software-defined storage, cloud storage and SANs.

IBM Spectrum Control helps simplify storage management through data-driven capacity planning, performance tracking and reporting that can help reduce costs.

[Learn more about IBM Spectrum Control →](#)

IBM Storage Insights

IBM Storage Insights provides a single pane of glass to monitor your storage environments either on-premises or in the cloud. Storage Insights helps you manage complex storage infrastructures, make cost-saving decisions and streamline support. It combines IBM data management leadership with proprietary AI-based analytics from IBM Research®.

[Learn more about IBM Storage Insights →](#)

[Try the live demo →](#)

Tip

Upgrade to [IBM Storage Insights Pro](#) for more detailed information, additional capabilities and support for non-IBM storage.

IBM Spectrum Virtualize for Public Cloud

IBM Spectrum Virtualize for Public Cloud is comprehensive software for managing storage in the cloud. Together with IBM FlashSystem or SAN Volume Controller on-premises, it enables sophisticated hybrid cloud storage for data and application mobility, disaster recovery, cyber resiliency, DevOps and more. IBM Spectrum Virtualize for Public Cloud is available on IBM Cloud or Amazon Web Services (AWS).

[Learn more about IBM Spectrum Virtualize for Public Cloud →](#)

IBM Spectrum Storage Suite

IBM Spectrum Storage Suite gives you unlimited access to the IBM Spectrum Storage software family and IBM Cloud Object Storage software with licensing on a flat, cost-per-TB basis. This approach makes pricing easy to understand and predictable as capacity grows. Structured specifically to meet changing storage needs, the suite is ideal for organizations just starting out with SDS as well as those with established infrastructures who need to expand their capabilities.

[Learn more about IBM Spectrum Storage Suite →](#)



Modern data protection

Challenges

Organizations struggle with the cost and complexity of protecting data as they embrace digital transformation, manage massive data growth, and the need for always-on services. VMs are ubiquitous and containerized workloads are becoming more prevalent. Providing backup and recovery for physical, virtual and containerized workloads on premises and in the cloud is critical to an organization's success.

Why IBM?

The IBM Modern Data Protection Portfolio unifies data protection for physical servers, VMs, applications, containers and cloud-based workloads. Service-level agreements (SLA)-based policies, role-based access control, and REST APIs automate data protection processes and ensure continuous data access for storage administrators, developers and data owners across the organization. Integration with Amazon S3 Glacier, Azure Archive and IBM Cloud Object Storage enables cost-effective data retention. Locking down data on object storage using write-once-read-many (WORM) technology and air-gapping data on physical tape helps support cyber resiliency.

The [Computational Medicine Center at Jefferson](#) is breaking new ground in the understanding of disease by analyzing huge amounts of biological data with the help of high-performance computing. Dr. Rigoutsos, the Founding Director, concludes: "The resilience of the IBM solution was tested a little over a year ago when an accident severed a large portion of our storage system. With IBM Spectrum Protect, we were able to bounce back with no data loss. In a relatively short time, we recovered years' worth of data, which had been generated by dozens of people in the Center. And, before long, we were again able to shift our attention back to our research work. Built-in automation, high availability features and seamless integration between the different components made that possible."

Benefits

Lower costs

Minimize data retention costs with multiple simpler, efficient, flexible and cost-effective storage options

Speed data backup and recovery

Newer technologies are providing near-instant data recovery and a searchable global catalog of VMs, files, databases and applications

Simplify management

Reduce administrative burden by providing self-service data access and end-to-end SLA-based policies

Seamless integration with the cloud

Unify data protection for VMs, files, databases, applications and containers in hybrid multicloud environments

Faster deployment

Accelerate deployment and lower maintenance with a virtual appliance and agentless architecture

Protect with a plan

Lock down data with security-rich object storage, or air-gap data on tape storage as part of a comprehensive cybersecurity plan

Offerings

IBM Spectrum Protect
IBM Spectrum Protect Plus
IBM Spectrum Copy Data Management
IBM Spectrum Archive
IBM Tape Solutions

Modern data protection

Offerings

IBM Spectrum Protect

IBM Spectrum Protect is a proven data protection solution for physical, virtual and software-defined workloads. Thousands of organizations have benefited from its exceptional scalability, broad application support, cost-saving data reduction technologies, flexible data retention on tape and immutable object storage, and built-in support for cyber resiliency.

[Learn more about IBM Spectrum Protect →](#)

IBM Spectrum Protect Plus

IBM Spectrum Protect Plus is a modern data protection solution for VMs, databases, applications and containers in hybrid multicloud environments. SLA-based policies automate the entire data protection process, including data backup, replication and secure data retention on-premises and in the cloud. This data retention includes IBM Cloud Object Storage WORM cyber-resilient retention vaults. Role-based access control (RBAC) and REST APIs enable self-service data reuse and seamless integration with third party tools and services.

[Learn more about IBM Spectrum Protect Plus →](#)

IBM Spectrum Copy Data Management

IBM Spectrum Copy Data Management manages and orchestrates hardware snapshot copies of data. It makes copies available when and where users need them by cataloging and managing copy data across hybrid multicloud infrastructure. Data owners can use a self-service portal to create the copies they need, enabling business agility. Copy processes and workflows, including data masking, are automated to ensure consistency and reduce complexity.

[Learn more about IBM Spectrum Copy Data Management →](#)

IBM Spectrum Archive

IBM Spectrum Archive, a member of the IBM Spectrum Storage family, gives you direct, intuitive and graphical access to data stored in IBM tape drives and libraries. Spectrum Archive incorporates the Linear Tape File System (LTFS) format standard for reading, writing and exchanging descriptive metadata on formatted tape cartridges. And it eliminates the need for additional tape management and software to access data. Spectrum Archive offers three software solutions for managing your digital files with the LTFS format: Single Drive Edition, Library Edition and Enterprise Edition.

[Learn more about IBM Spectrum Archive →](#)

Modern data protection

Offerings

IBM Tape Solutions

A simple and inexpensive data protection solution virtually impervious to cyberattacks does exist from one of the oldest technologies in the data center—tape. The solution requires users to simply remove the tapes storing their data from their networks and stack the tapes on the nearest shelf. The “air gap” thus created between the data and troublemakers provides a simple defense that effectively prevents penetration by hackers. Air gaps are just one of several types of data protection that tape can offer. IBM tape-based data storage solutions provide a wide range of data protection features, including data encryption, key management and WORM technology.

High-end enterprise

IBM enterprise-class tape storage products are designed to offer the high performance, availability, reliability and capacity needed for mass storage, data archiving, data backup and disaster recovery.

[IBM TS7700 Virtual Tape Library →](#)

[IBM TS4500 Tape Library →](#)

Midrange enterprise

IBM midrange tape storage products can provide reliable and flexible data backup, archiving and management for today and into the future.

[IBM TS4300 Tape Library →](#)

Entry enterprise

IBM entry-level tape products provide reliable, affordable data backup and protection.

[Learn more about IBM tape drives and autoloaders →](#)

Did you know?

When treasuring heritage, IBM Spectrum Archive on tape is a scalable, cost-effective archive solution.



Storage for IBM Z

Challenges

Operating in a mission-critical multicloud environment is a reality and a challenge for most enterprise functions today. Enterprises need seamlessly integrated multicloud platforms that are highly available to position themselves for greater competitive advantage and lower costs.

Why IBM?

Storage for IBM Z provides a comprehensive portfolio of enterprise storage solutions designed to match the mission critical capabilities of IBM Z, adding next-level performance, data protection, resiliency and always-on availability. These offerings help organizations maximize the potential of their mainframe environments across the hybrid multicloud.

When Puerto Rico was devastated by Hurricanes Irma and Maria, the territory's [Department of the Treasury](#) decided that citizen services needed to be better protected. To safeguard essential revenue services for the Puerto Rico government and its population, the Treasury implemented a continuous availability solution based on IBM Z technology. Using IBM Global Mirror, the department replicates data asynchronously to a second IBM z14 at a separate site operated by another of the Treasury's main contractors, Evertec. The Treasury also refreshed its storage environment with IBM DS8884 hybrid storage and IBM TS7760 tape systems. The Treasury deployed a continuous availability solution based on IBM z14™ technology with help from IBM Business Partners Truenorth and PSR, ensuring it maximizes uptime and can resume operations quickly if disaster strikes.

Benefits

Maximize mainframe performance

Optimize mainframe power across mission-critical, hybrid multicloud environments

Speed up your cloud native app environment

Accelerate tasks associated with developing, deploying and maintenance

Data encryption everywhere

100% data protection wherever it resides by extending z15 pervasive encryption

Cyber resiliency

Deliver continuous enterprise protection despite user errors or ransomware attacks

Business continuity

Provide the highest level of business uptime

Flexibility

Flexible racked and rack mounted configurations for organizations of different sizes with different needs

Offerings

IBM DS8000 storage systems
IBM Spectrum Scale for Z
IBM Virtual Tape Library

Storage for IBM Z

Offerings

IBM DS8000 storage systems

IBM DS8900F series

IBM DS8900F is designed for data-intensive and mission-critical workloads, and can provide ultra-low latency, better than seven 9s availability, transparent cloud tiering, and advanced data protection against malware and ransomware. Built with the most advanced POWER9™ processor technology, this offering can increase performance, data protection, resiliency and availability across your hybrid multicloud solutions.

[Learn more about IBM DS8900F →](#)

High-end enterprise

This consolidated solution can hold all mission-critical workloads in one place.

[IBM DS8950F 3D tour →](#)

Did you know?

IBM DS8900F can provide 100% data encryption at-rest, in-flight and in the cloud.

Midrange enterprise

This rack-mountable or single-rack solution can help meet advanced storage needs with powerful capabilities at a lower cost.

[IBM DS8910F 3D tour →](#)

Tip

Help improve business efficiency by consolidating all your mission-critical workloads for IBM Z servers, IBM Power Systems and distributed systems under a single all-flash storage solution with more than 99.99999 (seven 9s) availability.

Storage for IBM Z

Offerings

IBM Spectrum Scale for Z

IBM Spectrum Scale for Z can deliver superior performance, while helping provide industry-leading disaster-recovery capabilities and server-less direct data transfer to cloud environments. This offering can perform archive and analytics in place. By helping ensure security-rich, reliable and high-performance experiences, this solution can manage data and enable extreme scalability, data aware intelligence, global collaboration and data integrity.

[Learn more about IBM Spectrum Scale for Z →](#)

IBM Virtual Tape Library

IBM TS7700 family

TS7700 Virtual Tape Library (VTL) solutions are designed to match the performance, resiliency and security capabilities of mainframe environments.

Build an ideal foundation for your mission-critical hybrid multicloud by deploying TS7700 powerful capabilities with enhanced flexibility. To help increase data access from tape systems while providing leading-edge data protection, the TS7700 family offers data storage mainframe solutions. It provides a smaller footprint and lower entry costs for organizations with different needs. Built with some of the most advanced POWER9 processors,

the TS7770 solutions are designed to match the performance, resiliency and security capabilities of mainframe environments. The TS7770 Automated Grid Cloud Failover capability helps ensure data is available from anywhere at any time.

[Learn more about IBM TS7770 family →](#)

[IBM TS4500 Tape Library →](#)

[IBM TS1160 Tape Drive →](#)

[IBM TS1150 Tape Drive →](#)

Did you know?

IBM TS7770 offers a cloud native experience using transparent cloud tiering for long-term data retention with the server-less direct data transfer from TS7770 to a cloud.



Storage for SAP HANA

Challenges

Many SAP infrastructure leaders and application owners are concerned about migrating from traditional databases to an accurately sized SAP HANA in-memory database by 2027, without interrupting operations and data availability. Enterprises require persistent storage solutions that meet SAP HANA data demands deployed on premises, on SAP HANA cloud or across a hybrid multicloud infrastructure. This helps IT leaders to deliver on key performance indicators (KPIs) and SLAs for SAP applications running on SAP HANA.

Why IBM?

The IBM Storage portfolio includes a comprehensive set of SAP HANA Tailored Datacenter Integration (TDI)-certified solutions, to address the full range of data delivery, management, protection and budget requirements needed by modern enterprises. High availability configurations, integrated modern data protection capabilities and built-in cyber-resiliency features help address the ever-increasing demands for greater data availability in mission-critical SAP environments.

Familiprix wanted to give its pharmacies new capabilities: more intelligent procurement, easier ordering, more timely and accurate delivery, order traceability and automated replenishment. By moving to SAP S/4HANA on IBM Power® Systems and IBM Storage, Familiprix can manage the entire business value chain with a high degree of data quality and minimal manual effort.

IBM and SAP have a long-standing relationship, with IBM receiving many SAP Pinnacle Awards over the years. IBM continues to develop award-winning data storage solutions that can accommodate and even accelerate SAP HANA advantages.

Benefits

Unparalleled flexibility

Implement smarter storage that scales easily and affordably, is simple to manage and can match the price, capacity and performance needs of any SAP HANA data demand

Increased resiliency

Eliminate SAP application downtime with a broad set of high availability, cyber resiliency and next generation data backup and recovery options for the most mission-critical SAP applications

Open standards

Ready your data infrastructure for any requirement with storage that can integrate easily and is designed for the complexities of hybrid multicloud SAP HANA deployments

End-to-end synergy

Integrate with IBM Power System to deliver an SAP HANA optimized data and compute infrastructure

Offerings

IBM FlashSystem Family
IBM Spectrum Copy Data Management
IBM Spectrum Protect

Storage for SAP HANA

Offerings

IBM FlashSystem Family

IBM FlashSystem family is a portfolio of SAP TDI-certified, cloud-enabled storage systems designed to be easily deployed and quickly scaled to help optimize SAP configurations, streamline issue resolution and lower storage costs. Built with IBM Spectrum Virtualize software to help increase the cloud readiness and mobility of data, these solutions help accelerate infrastructure modernization, address security needs and maximize value of SAP HANA implementations.

Did you know?

The FlashSystem family provides numerous measures to eliminate SAP application downtime with six 9s availability and active-active support designed to deliver peace of mind with the IBM FlashWatch guarantees.

Entry enterprise

IBM FlashSystem 5000

These highly flexible virtualized all-flash or hybrid storage solutions are designed for ease of use and provides advanced functions that help organizations overcome storage challenges through increased performance, functionality and cost-efficiency.

[Learn more about IBM FlashSystem 5000 →](#)

IBM FlashSystem 5100

This NVMe all-flash, enterprise-class solution is designed to deliver high performance that can lead to competitive advantage.

[Learn more about IBM FlashSystem 5100 →](#)

Midrange enterprise

IBM FlashSystem 7200

These systems provide the foundation for a cost-efficient, high-performance SAP HANA storage infrastructure, allowing you to accelerate analytics and insights by boosting bandwidth and slashing latency while minimizing costs.

[Learn more about IBM FlashSystem 7200 →](#)

High-end enterprise

IBM FlashSystem 9200

IBM FlashSystem 9200 combines the performance of end-to-end NVMe with the rich features of IBM Spectrum Virtualize, AI predictive storage management and proactive support in Storage Insights. Providing intensive data-driven multicloud storage capacity, FlashSystem 9200 allows you to easily add in the multicloud solutions that best support your SAP application deployments.

[Learn more about IBM FlashSystem 9200 →](#)

IBM FlashSystem 9200R

Based on IBM FlashSystem 9200, IBM FlashSystem 9200R arrives assembled and IBM representatives complete installation and configuration, allowing you to confidently add technologies to your multicloud solutions.

[Learn more about IBM FlashSystem 9200R →](#)

Storage for SAP HANA

Offerings

IBM Spectrum Copy Data Management

IBM Spectrum Copy Data Management manages and orchestrates hardware snapshot copies of SAP HANA data. It makes copies available when and where users need them by cataloging and managing copy data across hybrid multicloud infrastructure. Data owners can use a self-service portal to create the copies they need, enabling business agility. Copy processes and workflows, including data masking, are automated to ensure consistency and reduce complexity.

[Learn more about IBM Spectrum Copy Data Management →](#)

IBM Spectrum Protect

IBM Spectrum Protect can provide data protection for billions of SAP objects on physical file servers, applications and virtual environments. Use built-in data efficiency to help reduce backup infrastructure costs, migrate data on premises, off premises or in the cloud. Optimize existing investments for long-term data retention and disaster recovery of mission-critical SAP environments.

[Learn more about IBM Spectrum Protect →](#)

Tip

Upgrade to [IBM Spectrum Protect Plus](#) to experience near-instant recovery, replication, retention and reuse for VMs, databases and containers in hybrid multicloud environments



Storage for containers

Challenge

Providing developers with persistent self-service storage capabilities to deliver faster, more flexible application delivery continues to be a challenge for enterprises. DevOps and hybrid multicloud applications require persistent storage. IT leaders need standard service catalogs that automate and orchestrate while accelerating application development, testing and delivery, and protecting data across hybrid multicloud deployments.

Why IBM?

IBM Storage unifies traditional and container-ready storage and provides cloud-native agility, with the reliability, availability and security to manage enterprise containers in a production environment. As clients scale containerized applications beyond development, testing or departmental use, award-winning storage IBM solutions deliver enterprise data resources and storage to containers. This means mission-critical infrastructure is now possible, delivering shared-storage operational efficiency, price-performance leadership and data resource and storage protection.

A key component of [ZF Friedrichshafen AG](#)'s hybrid cloud strategy, the Hybrid Data Bridge is based on full virtualization and supports multiple providers in a public and private cloud. The Hybrid Data Bridge enables highly efficient transmission, storage and archiving of large amounts of data. Its cloud architecture is based on the hybrid cloud foundation RedHat OpenShift to create and scale containerized applications, which speeds up data reception and video transformation. IBM Spectrum Scale stores the data. A scalable, high-performance data and file management solution, it provides integrated information lifecycle tools that manage petabytes of data and billions of files. Choose between flash, disk, tape or cloud object storage based on timing and budget needs.

Benefits

Increased security

Use container security architecture to help reduce vulnerability footprint by enabling intelligent storage volume mapping to containerized applications

Higher enterprise availability and performance

Harness six 9s data assurance and resiliency, and up to 2.5x higher throughput for DevOps and database workloads

Accelerated developer speed and productivity

Delivers 50% more IOPs in a fraction of the rack space and improves application availability and time to market as self-service storage classes

Infrastructure agility

Deploy a multi-compute architecture using Red Hat OpenShift and a storage portfolio with block, file and object storage for workload and infrastructure flexibility

Offering

IBM Storage for Red Hat OpenShift
IBM Storage Suite for IBM Cloud Paks
IBM FlashSystem Family
IBM DS8900F
IBM Spectrum Virtualize
IBM Spectrum Scale Data Management Edition
IBM Cloud Object Storage

Storage for containers

Offerings

IBM Storage for Red Hat OpenShift

Engineered to open standards, IBM Storage for Red Hat OpenShift delivers persistent storage bringing enterprise data resources to containers. This enables customers to build and deploy enterprise class scale-out microservices applications where they couldn't before. This offering provides the infrastructure foundation and storage orchestration for a full-platform on-premises hybrid multicloud environment supporting the container storage interface (CSI) specifications while increasing productivity, security, enterprise availability and infrastructure agility.

[Learn more about IBM Storage for Red Hat OpenShift →](#)

IBM Storage Suite for IBM Cloud Paks

IBM Storage Suite for IBM Cloud Paks is a flexible SDS solution. The suite is made up of members of the IBM Spectrum Storage family, IBM Cloud Object Storage, and complementary open-source offerings from Red Hat. This brings unprecedented flexibility for enterprise data resources and storage services to all container environments. This solution provides a highly flexible, comprehensive set of SDS offerings to satisfy almost any size workload requirement regardless of the need for block, file or object storage data resources.

[Learn more about IBM Storage Suite for IBM Cloud Paks →](#)

IBM FlashSystem Family

The IBM FlashSystem family is a portfolio of cloud-enabled storage systems designed to be easily deployed and quickly scaled to help optimize storage configurations, streamline issue resolution and lower storage costs. These offerings support Red Hat OpenShift and Kubernetes container environments, accelerating deployment of persistent volumes with the IBM block storage CSI driver, certified by Red Hat and IBM.

[Learn more about IBM FlashSystem family →](#)

IBM DS8900F

IBM DS8900F is the next generation of enterprise data systems built with the most advanced POWER9 processor technology. Designed for data intensive and mission-critical workloads, IBM DS8900F provides persistent highly available storage with the ability to maintain the data separately from the container, making it always available to the application, regardless of container location, planned downtime or unexpected disruptions. With Red Hat OpenShift support, IBM DS8900F unifies traditional and cloud native storage, providing the reliability, availability and security to manage mission-critical containers.

Additionally, it provides next-level performance, security and resiliency across your hybrid multicloud solutions through ultra-low latency, better than seven 9s availability, transparent cloud tiering and advanced data protection against malware and ransomware.

[Learn more about IBM DS8900F →](#)

Storage for containers

Offerings

IBM Spectrum Virtualize

IBM Spectrum Virtualize offers powerful technology that enables efficient, cost-effective SDS solutions for containers and hybrid multicloud environments. It provides comprehensive data services and storage virtualization capabilities, including advanced replication, high-performance, thin provisioning, encryption, compression, deduplication and IBM Easy Tier®. These advanced functions improve administrator productivity and boosts storage utilization while enhancing and extending the value of existing storage investments.

[Learn more about IBM Spectrum Virtualize →](#)

IBM Spectrum Scale Data Management Edition

IBM Spectrum Scale Data Management Edition provides high performance, highly functional data management for all the types of data that business activities may generate. It offers a full-featured set of file data management tools, including advanced storage virtualization, global collaboration for data-anywhere access that spans storage systems and geographic locations, and intelligent storage tiering. IBM Spectrum Scale is designed to support a wide range of application workloads at scale using a variety of access protocols and has been proven extremely effective in large, demanding environments.

[Learn more about IBM Spectrum Scale →](#)

IBM Cloud Object Storage

IBM Cloud Object Storage is a highly scalable cloud storage solution for unstructured data that provides both on-premises and cloud-based optimized application and container based solutions. It enables enterprises to store and manage massive amounts of data more efficiently and securely, with “15-nines” of system reliability and accessibility from any location. IBM Cloud Object Storage uses an innovative concurrent parallel access approach for cost-effectively storing large volumes of unstructured data. It delivers the capabilities required to provide continuous data with no downtime or data migrations. Customers can start with less than 100TB and grow to hundreds of PB or even to EB configurations.

[Learn more about the IBM Cloud Object Storage solution story →](#)



Storage networking

Challenge

Organizations of all sizes are challenged with efficiently managing their expanding volumes of data, while making this data accessible across the entire enterprise. IT leaders are making storage a strategic investment priority to better enhance flexibility and scalability.

Why IBM

IBM SAN solutions help create smarter data centers by connecting servers and storage with a high-speed and intelligent network fabric. By implementing IBM SANs, the leading storage infrastructure, clients can achieve improved economics of IT.

IBM has one of the industry's broadest range of offerings and IBM SAN solutions support virtualization, hybrid multicloud and big data requirements.

With data volumes growing after the introduction of new digital services, [The General Treasury of the Kingdom of Morocco \(TGR\)](#) set out to ensure that it could recover critical data quickly if a system failure ever occurred.

To increase storage capacity and backup performance, TGR deployed two IBM Storage arrays in each of its three data centers — two located at its Rabat headquarters and a third in Tangier. TGR also uses IBM Storage Networking SAN24B-6 switches to connect its storage devices, with two switches installed in each of its three environments.

By simplifying and consolidating infrastructure management, IBM solutions can provide an operating environment that's designed to be smarter, faster, greener, open-source and easy to manage.

Benefits

Flattened and converged data network

Use an open, standards-based approach to implement the latest advances in the data center network

Unified fabric architecture

Deploy a high-speed, low-latency, unified fabric architecture across your hybrid multi-cloud infrastructure

Optimized and automated virtualization

Advance virtualization awareness and help reduce the cost and complexity of deploying physical and virtual data center infrastructures

Simplified and consolidated infrastructure management

Employ data center networks that are designed to be easily deployed, maintained, scaled and virtualized

Offerings

SAN b-type family
SAN c-type family

Storage networking

Offerings

SAN b-type family

Entry enterprise

SAN switch models

The entry-level SAN switches are designed to provide easy-to-use, affordable solutions for small and midsized businesses.

[IBM Storage Networking SAN24B-6 →](#)

[IBM Storage Networking SAN24B-5 →](#)

Extension switch models

These SAN extension switches can deliver capabilities ranging from connecting heterogeneous SAN fabrics, to enabling distance extension using Fibre Channel over Internet Protocol and help address disaster recovery, performance.

[IBM System Storage SAN18B-6 →](#)

[IBM System Storage SAN42B-R →](#)

Midrange enterprise

SAN switch models

These SAN switches are designed to provide affordable and scalable solutions for small and midsized businesses.

[IBM Storage Networking SAN128B-6 →](#)

[IBM Storage Networking SAN96B-5 →](#)

High-end enterprise

SAN director switch models

Enterprise SAN directors can provide increased capacity, greater throughput and higher levels of resiliency for large enterprises.

[IBM Storage Networking SAN512B-6 and IBM Storage Networking SAN256B-6 →](#)

[IBM Storage Networking SAN768B-2 and IBM Storage Networking SAN384B-2 →](#)

Did you know?

NVMe is a protocol that accelerates data transfer, the ROI of your storage investments and protects your high-value data assets. NVMe-based SAN b-type storage networking solutions work together with IBM FlashSystem Storage to give you fast data transfer. Learn more about [NVMe Over Fibre Channel for Dummies](#) under Resources.

Storage networking

Offerings

SAN c-type family

Entry enterprise

SAN switch model

The entry-level SAN switch model helps organizations deploy cloud-scale applications and deliver flexibility through a unique port expansion module designed to increase cost-effectiveness.

[IBM Storage Networking SAN32C-6 →](#)

Extension switch model

The extension switch model is an optimized platform that can deploy high-performance and cost-effective connectivity for open systems and mainframe environments.

[IBM Storage Networking SAN50C-R →](#)

Did you know?

SAN50C-R is an ideal solution for departmental and remote branch-office SANs, with its compact form factor and advanced capabilities, normally available on director-class switches exclusively.

In conjunction with the IBM Storage Networking SAN384C-6 Director, SAN50C-R is also a solution for large-scale SANs.

Midrange enterprise

SAN switch models

These SAN switch models are designed to address the requirements for a scalable and virtualized SAN infrastructure.

[IBM Storage Networking SAN96C-6 →](#)

[IBM Storage Networking SAN48C-6 →](#)

High-end enterprise

SAN director switch models

SAN director switch models are designed to provide the highest availability and scalability when deployed across large-scale storage networks.

[IBM Storage Networking SAN768C-6 →](#)

[IBM Storage Networking SAN384C-6 →](#)

[IBM Storage Networking SAN192C-6 →](#)



Converged infrastructure

Help deliver extraordinary efficiency, performance and economics

Challenge

With constrictive budgets and resources, providing IT solutions that enable enterprises to easily and cost-effectively scale computing, network and storage capacity is a difficult task for IT leaders.

The right converged solution can provide preconfigured and pretested solutions that help deliver faster returns on investment through reduced overhead, lowered TOC and simplified scalability.

Why IBM

VersaStack solutions harness the innovation of IBM Storage and the power of Cisco compute and networking to help address the latest IT trends, such as data center modernization, AI, hybrid cloud and SDS.

[Arizona State Land Department](#) generates revenue for the state's education services—yet sluggish information access threatened to drag efficiency downwards. To boost performance and enable mobile access to business-critical data and tools, the department deployed VersaStack from IBM and Cisco, including IBM Storage.

The new platform delivers the speed, agility and efficiency that the department was seeking, enabling it to provide IT services as rapidly as staff across various business units need them. By adding compute, network and storage resources as needed, clients can access resource options to scale infrastructure up or down while helping support current functionality and decrease TCO.

Benefits

Simple and flexible deployment model
Fewer components to manage without requiring infrastructure modifications

Higher performance and efficiency
Faster input/output response times complete more work from each server

Availability
Help ensure applications and services availability at all times with no single point of failure

Manageability and extensibility
Ease deployment of ongoing management to minimize operating costs with support for various applications and configurations

Scalability
Expand and grow with significant investment protection

Compatibility
Minimize risk by ensuring compatibility of integrated components

Offering

VersaStack
VersaStack for Hybrid Multicloud

Converged infrastructure

Offerings

VersaStack

Jointly developed by IBM and Cisco, VersaStack solutions help drive data center efficiency, boost performance and deliver dynamic resource allocation.

VersaStack solutions combine a comprehensive set of converged infrastructure and software-defined technologies from IBM and Cisco to help organizations accelerate digital transformation.

[Learn more about VersaStack →](#)

Tip

One of the key benefits of the IBM converged infrastructure solution, VersaStack, is that it can provide enterprises the ability to maintain consistency in both scale-up and scale-down models for greater performance and capacity.

VersaStack for Hybrid Multicloud

VersaStack for Hybrid Multicloud can provide the flexibility to choose the best deployment option for a wide variety of enterprise IT workloads while freeing up resources in the data center for new-generation applications and cognitive workloads.

This solution is designed to help enable enterprises easily and cost-effectively scale compute, network and storage capacity as needed.

[Download the data sheet →](#)

Did you know?

VersaStack for Hybrid Multicloud uses simplified architecture and validated design to help reduce deployment time, increase asset use, and decrease capital and operating expenses.

IBM Services for storage

Experience 24x7 support
across your enterprise

As IBM clients move towards the next chapter of digital transformation, IBM can provide the resources your team needs to support the reinvention of your organization through scalable AI and a security-rich hybrid cloud infrastructure. IBM works with you to integrate solutions designed specifically for your needs that transform your business into a cognitive enterprise and provide 24x7 support across various service providers.

IBM can deliver deep technological expertise and rich industry insight to help you align your IT and business objectives with the following services:



IBM Global Technology Services®
Expand to the cloud through storage as a service based on IBM Spectrum Accelerate and IBM Cloud. →



IBM Business Resiliency Services
Maintain continuous business operations and improve overall resiliency. →



Private cloud storage-as-a-service
Create a foundation for your hybrid cloud environment with private cloud infrastructure management. →



IBM Lab Services
Solve IT infrastructure challenges, gain new skills and implement best practices. →



IBM Technology Support Services
Optimize IT investments by reducing support costs and simplifying management. →



IBM Client Centers
Access technical experts and demo technologies to assist in your decision-making process. →



IBM solutions for server, storage, middleware and service management
Assess, plan and design a more consolidated, flexible and resilient server, storage and middleware environment by implementing, migrating and optimizing your IT infrastructure. →



IBM Global Financing
Accelerate acquisitions of the latest technologies and services, and make your infrastructure more affordable by providing competitive, customized financing. →

“During breakfast one morning at Think, one of IBM’s customers provided some telling insight into IBM’s allure.

‘We seriously considered buying from one of the storage industry’s hot upstarts,’ they said, ‘But it goes beyond technology. We have factories in hard-to-reach parts of the world. Downtime stops our business. It’s about choosing a technology partner who both has the right technology and can also take care of our needs, today and into the future. *IBM has never let us down.*’ ”

— **Steve McDowell**

Senior Technology Analyst covering storage technologies at Moor Insights & Strategy



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