

IBM DS8900F

The trusted storage foundation for mission-critical multcloud environments

Highlights

- 18 microseconds response time for mainframe environments
 - Enterprise resiliency with better than seven 9s availability
 - Seamless hybrid multcloud integration with Transparent Cloud Tiering
 - 3 and 4 site replication with 2 to 4 seconds RPO at more than 1,000 miles
 - Malware and ransomware protection with Safeguarded Copy
 - 100% data encryption, at-rest, in-flight and in the cloud
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More than 85% of enterprises around the world now operate in hybrid multcloud environments, and in the next few years nearly all will move to these architectures. At the same time, mainframe utilization has remained robust – IBM Z mainframes process 30 billion transactions each day, including 87% of all credit card transactions on the planet.¹

Mainframe technologies and environments are evolving vibrantly to meet ever-changing business and research requirements. This evolution is driving the need for storage solutions that can keep pace and even help accelerate innovation.



Built with the most advanced POWER9 processor technology, the IBM DS8900F enterprise data systems are designed for data intensive and mission-critical workloads, adding next-level performance, data protection, resiliency and availability across your hybrid multicloud environments through ultra-low latency, better than seven 9s availability, transparent cloud connectivity and advanced data protection against malware and ransomware.

The DS8900F family provides two flexible models to meet a wide variety of workloads for different business needs, the family includes:

- IBM DS8910F is designed to reduce complexity while addressing a wide variety of workloads at the lowest DS8900F family entry cost. This model can be delivered as a flexible, rack mountable solution or in a convenient single rack.
- IBM DS8950F provides superior performance and higher capacity. It is designed to consolidate all your mission-critical workloads for IBM Z, IBM LinuxONE, IBM Power Systems and distributed environments under a single enterprise storage solution.

Ultra-low application response times

Ultra-low latency helps organizations accelerate their core transaction processes while expanding their business operations into next-gen applications using AI to extract value from data. IBM DS8900F moves performance to the next level with storage latencies as low as 18 microseconds for IBM Z with zHyperLink technology, 90 microseconds for distributed environments and a 50% reduction in transaction time for Db2 workloads. In addition, IBM DS8900F can provide a 60% increase in IOPS and 150% increase in sequential throughput.²

Maximum system uptime

The IBM DS8000 family is the leader in the external storage market for mainframe environments; these proven data systems have been deployed in business-critical environments for more than two decades. Nine of the top 10 largest public banks in the world rely on IBM DS8000 storage.³

With more than “seven 9s” availability⁴ and multi-site data replication for disaster recovery, DS8900F provides continuous access to data for mission-critical environments. HyperSwap technology provides no-data-loss capabilities within metro distances, and at more than 1,000 miles, IBM Geographically Dispersed Parallel Sysplex enables the rapid recovery of business operations with two to four seconds RPO and less than 60 seconds RTO.⁵

In combination with DS8900F, IBM Copy Services Manager simplifies and automates the management of your replication solutions while providing high availability capabilities under a single point of control. IBM Copy Services Manager supports FlashCopy, Safeguarded Copy and

advanced disaster recovery functions with failover and failback operations across two, three and four sites.

Cyber resiliency

The unrelenting tide of data breaches is driving increased interest in providing secure authentication across multicloud environments. IBM provides a unique technology that ensures data is accessed only by authorized server and storage devices creating a trusted storage network that encrypts data both in-flight and at-rest without requiring application changes.

IBM DS8900F also offers the powerful data security functionality of IBM Safeguarded Copy. This new technology provides immutable points of data recovery that are hidden and protected from being modified or deleted due to user errors, malicious destruction, or ransomware attacks. These immutable copies are a trusted and secure source of data that can be used for a forensic analysis, or a surgical or catastrophic recovery. For increased security, Safeguarded Copy provides dual management control and can be integrated with different disaster recovery and high availability configurations.

The screenshot displays the IBM Copy Services Manager interface for session SGC1. The top navigation bar includes Overview, Sessions, Storage, Paths, Console, and Settings. The main content area shows session details:

- Session Actions:** Normal (checked), Target Available, Safeguarded Copy
- Status:** Normal
- State:** Target Available
- Session Type:** Safeguarded Copy
- Active Host:** H1
- Recoverable:** Yes
- Description:** (modify)
- Copy Sets:** 2 (view)
- Group Name:**

Backup Schedule: Every 1.5 hours
Last Recoverable Backup: 2018-09-25 09:14:43 CDT
Last Recovered To: 2018-09-25 09:13:39 CDT

Below the details is a table of backup information:

Backup Time	Backup ID	Recoverable	Copy Sets	Last Result
2018-09-25 09:14:43 CDT	1537884883	Yes	2	✓ WNR2800I
2018-09-25 09:14:20 CDT	1537884860	Yes	2	✓ WNR2800I
2018-09-25 09:14:09 CDT	1537884849	Yes	2	✓ WNR2800I
2018-09-25 09:13:53 CDT	1537884833	Yes	2	✓ WNR2800I
2018-09-25 09:13:39 CDT	1537884819	Yes	2	✓ WNR2800I

Safeguarded Copy

Hybrid multicloud integration

IBM DS8900F provides Transparent Cloud Tiering capabilities that allow organizations to introduce hybrid cloud as a new storage tier for data archiving, long term retention, and data protection in IBM Z environments through the integration with DFSMS. TCT does not require a

server or gateway; it is a software feature that leverages existing storage resources, avoiding the need for additional hardware infrastructure. TCT integrates with IBM Cloud Object Storage and can also provide transparent connectivity to IBM Cloud, Amazon S3 and an IBM TS7700 configured as an object storage target.

TCT offloads the data movement responsibility to the DS8900F without any impact on performance. Thanks to deep integration with z/OS, TCT provides up to 50% savings in mainframe CPU utilization when migrating large datasets as compared to other traditional archiving methods.⁶

AI-driven management and proactive support

As any storage administrator knows, managing large storage systems requires many hours of monitoring, analysis, decision-making and adjustment. When problems arise, troubleshooting complex storage infrastructure and implementing the most effective solutions can be problematic, to say the least.

To address these challenges and reduce both manual labor and mistakes, IBM DS8900F comes with Storage Insights, an enterprise-proven, AI, cloud-based system insights platform to help you better understand trends in storage capacity and performance and expedite resolution when support is required. Storage Insights monitors the health, capacity and performance under management on a single pane of glass, helping IBM customers understand and plan storage capacity and performance. The program provides proactive best practices and uses AI-based analytics to help identify potential issues before they become problems. When support is needed, Storage Insights helps speed resolution by simplifying opening tickets, automating log uploads to IBM, and providing configuration, capacity and performance information to IBM technicians.

¹ IBM: 2018 Annual Report

² Performance metrics based on internal IBM tests in a controlled environment

³ Based on the 2019 rankings

⁴ Better than seven 9's availability (99.999996%) with HyperSwap and multi-target PPRC in MGM environments

⁵ Based on real customer metrics with GDPS continuous availability environments

⁶ Results are based on internal IBM data measurements on an EC12 when migrating large data sets

DS8900F at a glance

Table of specifications			
Offering	DS8910F Rack Mounted	DS8910F Racked Solution	DS8950F
Controller model	993	994	996
Expansion model	N/A	N/A	E96
POWER9 cores per system (min / max)	16 / 16	16 / 16	20 / 40
System cache (min / max)	192 GB / 512 GB	192 GB or 512 GB	512 GB / 2,048 GB
Flash cards (min / max)	16 / 96	16 / 192	16 / 384*
Maximum physical capacity	1.5 PB	2.95 PB	5.9 PB*
Host ports (min / max)	4 / 32	4 / 64	4 / 128*
Number of frames (min /max)	N/A	1 / 1	1 / 2
Supported flash card sizes	800 GB, 1.6 TB, 1.9 TB, 3.2 TB, 3.84 TB, 7.68 TB and 15.36 TB		
Minimum response time	90 microseconds		
Minimum response time with zHyperLink	18 microseconds		
Host adapters	16 and 32 GFC encryption capable with IBM Fibre Channel Endpoint Security support		
RAID options	5, 6 and 10		
Dry bulb temperature	16°C - 32°C (60°F - 90°F)		
Relative humidity	20% - 80%		
Power frequency	50 Hz - 60 Hz		
Power phase options	Single phase or three phase		
Warranty	All models: onsite service, same day, 24x7 • 1 year on 5331 models • 2 years on 5332 models • 3 years on 5333 models • 4 years on 5334 models		
Supported systems	For details on supported servers, visit the IBM System Storage Interoperation Center (SSIC)		

* With an expansion frame

Why IBM?

Whatever the requirements, only IBM can help with end-to-end solutions that include data systems, application servers, software, services, support and equipment financing. The IBM DS8900F data systems deliver mission-critical availability, superior flash performance, unparalleled synergy with IBM servers and leading-edge hybrid multicloud capabilities for organizations looking to achieve a true competitive advantage.

For more information

To learn more about IBM DS8900F, please contact your IBM representative or IBM Business Partner, or visit:

ibm.com/marketplace/ds8000f

For information on specific function availability, please contact your IBM storage specialist.

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