Driven by Data
Accelerate innovation and competitiveness in a data-driven, multi-cloud world

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IBM Systems Flash Storage Offerings Portfolio

New! NVMe end-to-end

Storwize V5030F / V7000F
Entry / Mid-Range

FlashSystem 9100
Enterprise Class, NVMe accelerated Multi-Cloud Enabled

FlashSystem A9000
Cloud Service Providers

FlashSystem A9000R
High End Enterprise

IBM Elastic Storage Server
Big Data

Consolidate file, object & Hadoop workloads
Faster data analytics
Global sharing

DS888xF
Business Critical
z/OS / AIX
Power HA
Power i HA
Business critical, deepest integration with IBM Z
Superior performance and reliability
Three-site / Four-site replication
DS8888F, DS8866F, DS8844F, DS8822F

IBM FlashCore™ Technology Optimized

NVMe FlashCore Module
Superior endurance & better performance
- FIPS 140-2
- Hardware Compression

FlashSystem 900
Application acceleration
- Extreme performance
- Hardware Compression
- Targeting database acceleration

IBM Spectrum Virtualize
IBM Spectrum Accelerate
IBM Spectrum Scale

Simplified management
Flexible consumption model
Virtualized, flash-optimized, modular storage
Enterprise heterogeneous data services and selectable data reduction

Scale-out clustering
Simplified management
Flexible consumption model
Virtualized, flash-optimized, modular storage
Enterprise heterogeneous data services and selectable data reduction

Enhanced data storage functions, economics and flexibility with sophisticated virtualization
IBM FlashSystem 9100 – Enterprise NVMe Flash Array
NVMe-Accelerated and Multi-Cloud Enabled

NEW IBM FlashSystem 9100

- NVMe-Accelerated Enterprise Flash Array – 100% NVMe end-to-end
  - Industry Leading Performance and Scale - NVMe IBM FlashCore Modules and NVMe industry standard SSD
  - Agility, Availability and Security
  - Supports Physical, Virtual and Docker Environments
- IBM Storage Insights: AI-empowered predictive analytics, storage resource management, and support platform delivered over the cloud
- Includes Spectrum Storage Software for array management, data reuse, modern data protection, disaster recovery, and containerization
  - IBM Spectrum Virtualize
  - IBM Spectrum Copy Data Management
  - IBM Spectrum Protect Plus
  - IBM Spectrum Virtualize for Public Cloud
  - IBM Spectrum Connect

NEW IBM FlashSystem 9100 Multi-Cloud Solutions

- Solution blueprints for Data Reuse, Protection and Efficiency
- Solution blueprints for Business Continuity and Data Reuse
- Solution blueprints for Private Cloud Flexibility and Data Protection
IBM FlashSystem 9100
NVMe-Accelerated Enterprise Flash Array

- Unmatched NVMe performance
  - 2U array: 100 µs, 2.5M IOPS, 34GB/Sec
  - 8U cluster: 100 µs, 10M IOPS, 136GB/sec

- Consistent low latency with Peak IOPS for transactional workloads and massive bandwidth for AI/ML workloads

- 5X data reduction delivers 2PB in 2U and 32PB in a single system dramatically reducing CAPEX and OPEX

- Built in encryption and FIPS 140-2 compliance

- Built for 100% data availability for systems using HyperSwap
FlashSystem 9100 NVME – Client Insights

Delivers real value in our data driven enterprise

“We are a long time client of IBM’s FlashSystem solutions and have found them to be outstanding for delivering real value in our data driven enterprise. We are very excited about the new FlashSystem 9100 not only because of its blazing application performance, but also its panoply of included multi-cloud enabled storage software, which will provide even more business benefits.”

- ZE PowerGroup Inc, Nader El-Ramly Chief Product Officer
FlashSystem 9100 NVME – Client Insights

"IBM FlashSystem and IBM Spectrum Virtualize both have well-earned reputations as leaders in the marketplace"

"In our business, we need the very best technology available in order to keep pace with rapidly changing customer demands and increasing competition. IBM FlashSystem 9100 provides the reliability and quality we demand with the blazing performance of NVMe and all the new multi-cloud and flash innovations that IBM is continually introducing. Now, with one system, we can address data growth, efficiently solve application performance issues, and virtualize all of our existing storage infrastructure into one high performance, agile storage resource."

- John Pihl Mortensen, IT Solution Specialist of IBM Storage client and beta user B4Restore A/S

Minimal Risk

"The value and insights we gain from our data provide important advantages to our business. This means that high performance storage has always been a crucial part of our IT infrastructure,"

"We have intended to move toward NVMe-based storage, but needed to keep deployment risks low. The new IBM FlashSystem 9100 enables us to take advantage of NVMe technology and performance with minimal risk, thanks to the maturity and stability of the IBM FlashSystem platform. This new system is a big step forward for us."

- Tim Conley of The ATS Group and Galileo Performance Explorer, a longtime IBM Storage client
CTAC
Dutch Cloud provider uses IBM FlashSystem, IBM Spectrum Storage & IBM Storwize

Up to 1000x
performance improvements cost-efficiently

95% faster
deployment of in-memory platform cuts on implementation time for real-time business applications and increased responsiveness to fluctuating demands

Create new business opportunities
to grow operations by offering a scalable real-time analytics service to existing and new customers

Solution Components
- IBM® FlashSystem™
- IBM Storwize® V7000F
- IBM Storwize V5000
- IBM Spectrum Virtualize™
- IBM FlashCopy®
- IBM Spectrum Protect™

Business Challenge
Ctac wanted to support its customers’ business process innovations with a robust, in-memory cloud solution, helping them to benefit from real-time insights and gain new competitive advantages

Transformation
To support process innovations, Ctac deployed SAP® HANA® on IBM Storage with IBM® Power Systems™ according to the SAP Tailored Datacenter Integration concept, creating a new cloud offering for in-memory processing

Léon van den Bogaert, Manager Cloud Technology Ctac
Plenty of Fish  (A Match Group Company)
World’s largest dating site provides uninterrupted online dating with FlashSystems

Reduced image delivery latency by 500X

Over 150,000 IOPS per second

>60,000 batch requests processed per second

4 times lower cost than competition

Business challenge
POF helps 4M daily users find love online—but as the company outgrew its aging storage, resulting in delays in the user experience, it faced the risk of losing users to the competition.

Transformation
Implemented all-flash arrays from the IBM® FlashSystem® family, enabling it to push information to its customers at high speeds so that they could connect and interact almost in real time.

“Speed directly drives the user experience—and if any element of the experience falters, users will look elsewhere...We knew we needed faster storage to keep up.”  Owen Morley, Director of Infrastructure, Plenty of Fish.

Solution Components
•  IBM FlashSystem V9000
•  IBM FlashSystem 900
•  IBM FlashSystem 820
Gala Leisure Ltd.
Popular recreation company harnesses efficient IT FlashSystem

98 percent
reduction in required floor space

71 percent
cut in storage operational costs

57 percent
boost in application performance

Business challenge: #1 Retail and digital Bingo operator in the UK was beset with inefficiency and cost issues after a divestiture left it with suboptimal IT resources

The solution: IBM FlashSystem V9000 is implemented in a virtualized configuration with IBM SVC, Storwize V7000F, XIV and All-flash VersaStack

“With the IBM storage solution in place, we now have higher storage performance combined with lower operational and support costs - empowering Gala Leisure to continue on its next phase with a solid IT foundation.” – Daniel Askin, Solutions Architect, Gala Leisure IT

Solution Components
• IBM All-Flash VersaStack using IBM FlashSystem V9000
• IBM Storwize V7000F
• IBM SAN Volume Controller
• IBM Spectrum Virtualize
• IBM XIV
Awards and Recognition

IBM recognized in the below markets for our listed solutions:

IBM SSA Portfolio 2014 - 2018
A Leader:
Magic Quadrant for Solid State Arrays (July 2018)

IBM Cloud Object Storage 2016
Critical Capabilities for Object Storage\(^1\)
Highest Scores In All Use-cases:
Analytics, Archiving, Backup, Content Distribution, Cloud Storage
(January 2018)

IBM Storwize, XIV, DS8000 2013 - 2017
A Leader:
Magic Quadrant for General-Purpose Arrays\(^1\)
(October 2017)

IBM Spectrum Scale & IBM Cloud Object Storage 2016 - 2017
A Leader:
Magic Quadrant for Distributed File Systems & Object Storage (October 2017)

IBM Spectrum Protect 2011 - 2017
A Leader:
Magic Quadrant for Data Center Backup & Recovery Solutions (July 2017)\(^2\)

IBM Cloud Object Storage 2016, 2018
A Leader in Object-Based Storage by IDC
MarketScape\(^2\)

IBM Spectrum Storage 2014 - 2017
#1 Software-Defined Storage Controller Software\(^2\)

IBM Tape 2006 - 2017
#1 Branded Tape Revenue\(^3\)

IBM FlashSystem 2015 - 2016
A Major Player in All-Flash Array by IDC
MarketScape\(^4\)

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IBM Storage

Driven by Data