

The FlashSystem Storage Platform



New in 25Q1



Capacity-Optimized Flash

— FlashSystem C200

**Guaranteed drive wear-out replacements
with no write endurance limits.**

All-flash enterprise storage everywhere, unlocking 5.5x the
endurance that you get with industry QLC.

FlashSystem Family

Clients need low-cost, high-capacity storage to replace spinning disk or repatriate data from the cloud....



FlashSystem 5300

Dense 1U entry level NVMe



FlashSystem 7300

Balanced performance and value



FlashSystem 9500

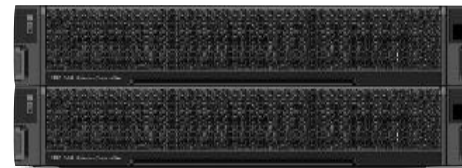
Extreme performance and scaling for mission critical workloads

Powered by IBM Storage Virtualize

with 4th gen FlashCore Module (FCM4) computational storage module



Fleet-wide monitoring and AI-enabled operations with Storage Insights



SAN Volume Controller (SVC)

Extend capabilities to more than 500 models of external storage

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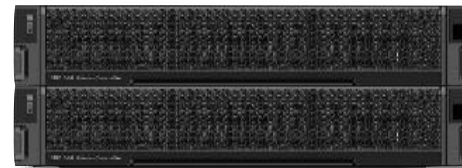
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FlashSystem Family

Introducing the NEW FlashSystem C200



FlashSystem C200

Capacity optimized, fixed config,
lower performance, lowest TCO



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Dense 1U entry level NVMe



FlashSystem 7300

Balanced performance and value



FlashSystem 9500

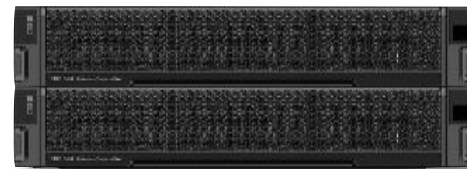
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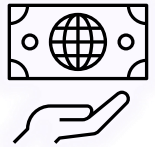
Fleet-wide monitoring and AI-enabled
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SAN Volume Controller (SVC)

Extend capabilities to more than
500 models of external storage

Why FlashSystem C200

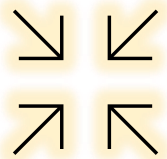
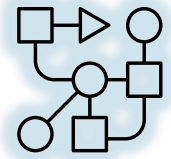


Cost-effective

Reduce operational costs with space, power, management and maintenance efficiency

FlashSystem grid Optimized

Move your colder data automatically and drive better utilization from your assets



Dense

Providing unmatched density with 1.1PB raw and up to 2.3PBe in 2U, helps consolidate HDDs to save 71% rack space on average

IBM FlashSystem C200

Enhanced QLC Everywhere

IBM FlashCore Modules with guaranteed durability, and always-on compression and ransomware threat detection



Sustainable

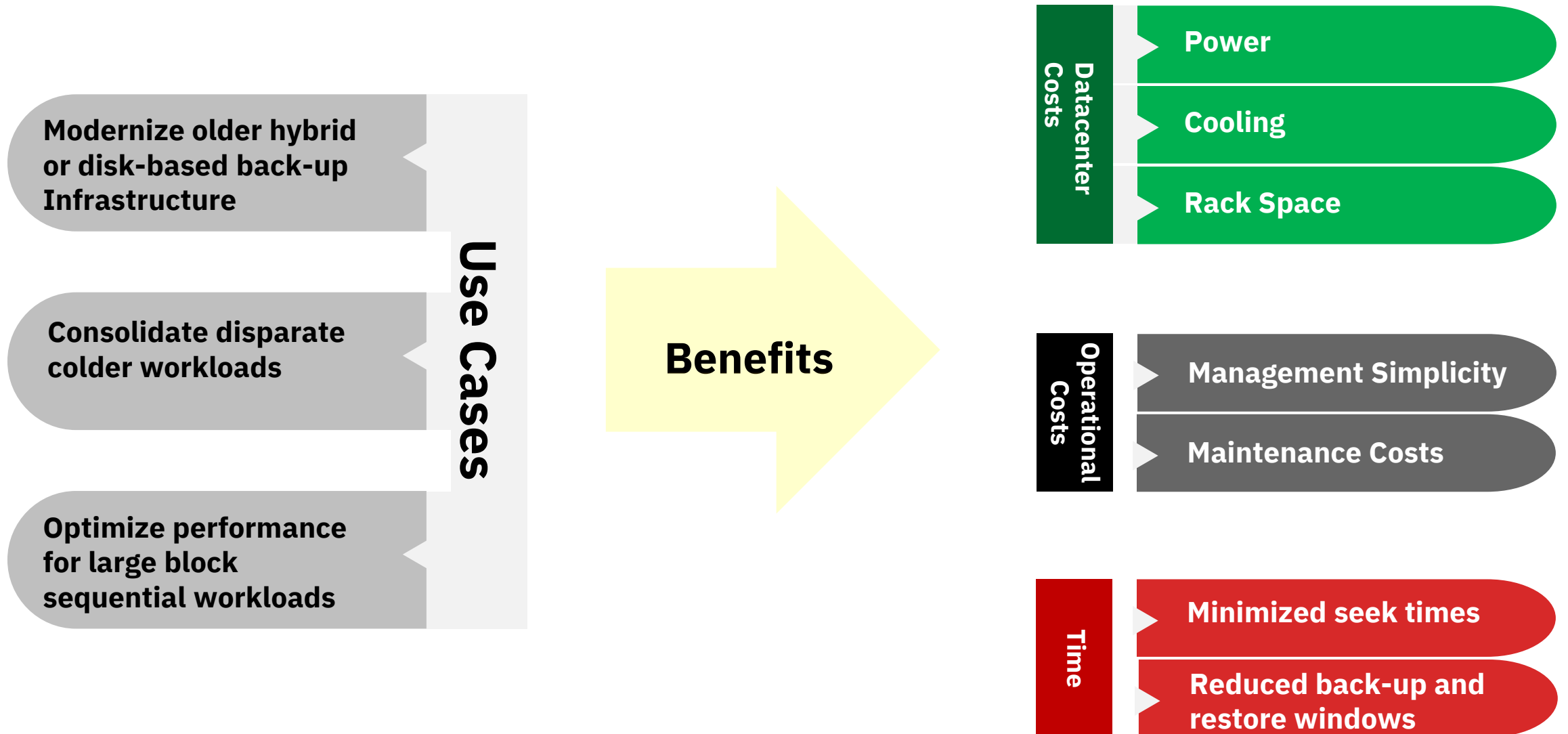
Fine-tuned power efficiency consuming ~1W per TB driving towards your ESG goals

Protected

With guaranteed 60 second recovery, and rapid, unmatched detection of ransomware



FlashSystem C200 Main Use Cases



New in 25Q1



Safeguard your data
consistently

—— Ransomware Threat Detection
Guarantee

**Guaranteed detection and alerting of
ransomware in under 60 seconds.**

60 second ransomware detection and alerting on top of our
existing 60 second recovery equate to enhanced resiliency.

Real Time, Inline Threat Detection

**Remember
Me?**



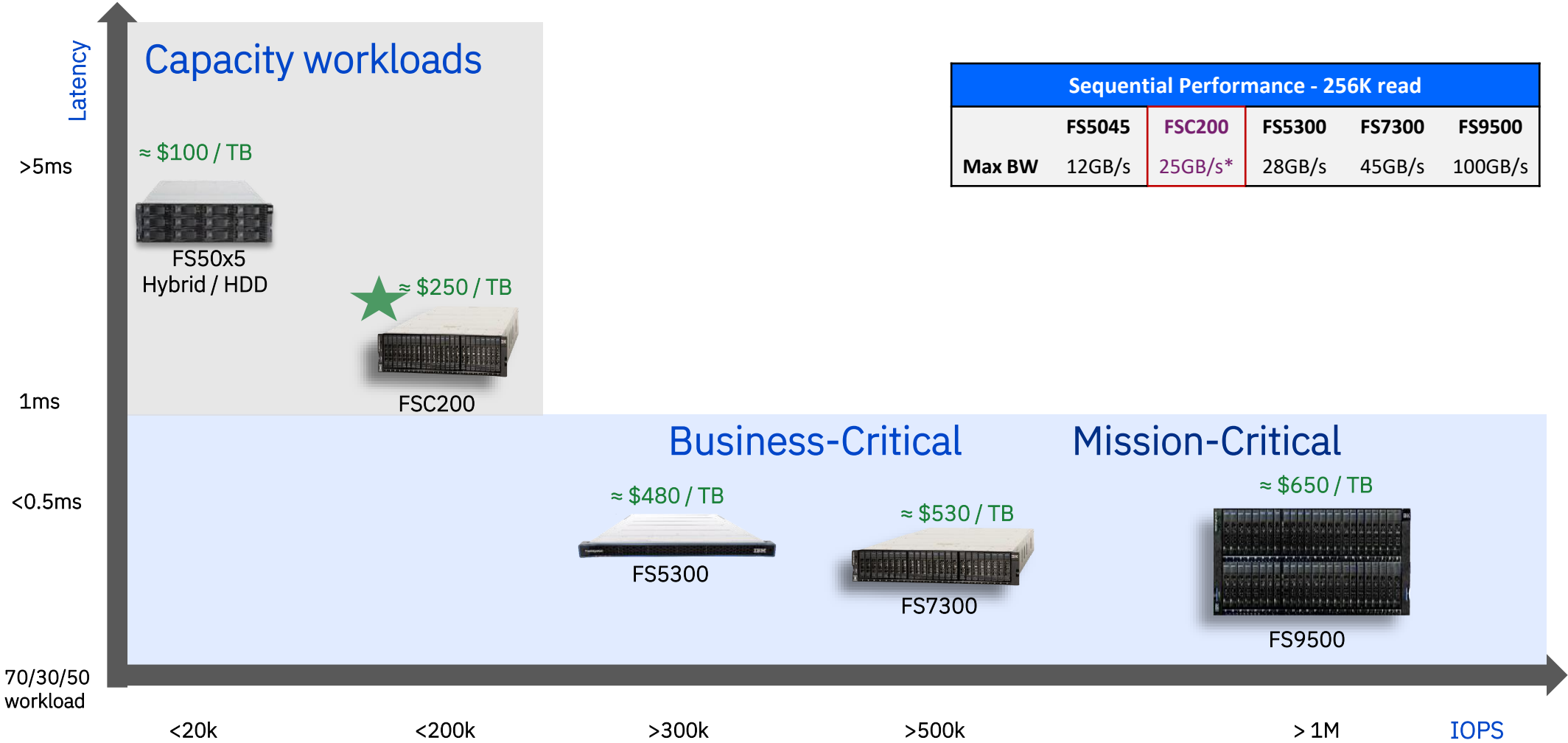
40+ data statistics analyzed in detection engine including:

- Shannon Entropy
- Compression Statistics
- Chi-Squared
- Changes in Read / Write Throughput
- LBA Addressing and Sequencing Patterns
- Encrypted payload detection

Processed on **EVERY** write with **ZERO** performance impact!

100% of the time Encryption Ransomware detection and alerting in under 60 seconds
Guaranteed

FlashSystem Performance Positioning

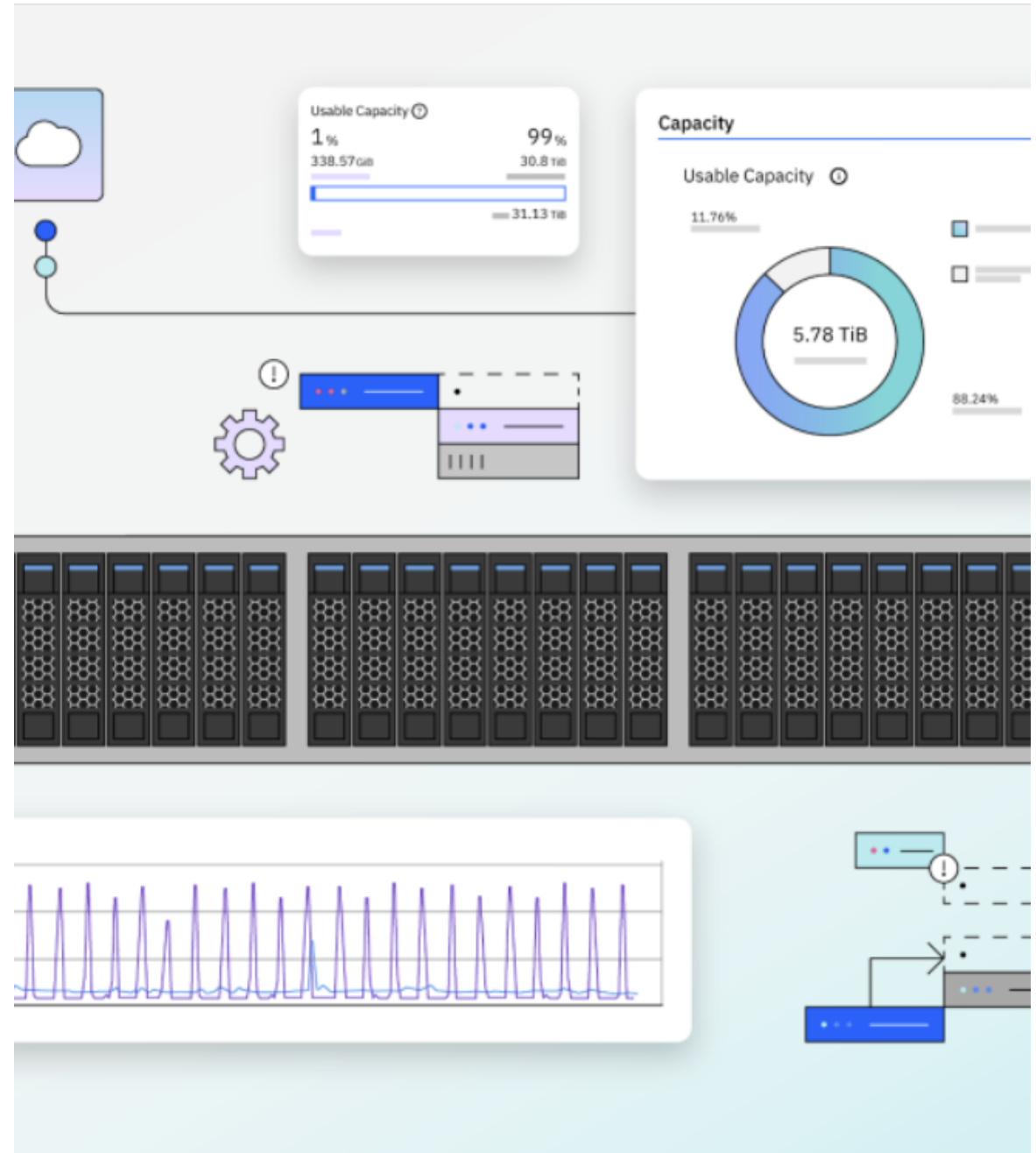


IBM and BP Internal

IBM FlashSystem

FlashSystem C200

Technical



IBM Storage FlashSystem C200 – MTM 5202-C25

FlashSystem offering that meets the needs of users looking for a **flash-based archival solution** to replace legacy nearline based solution.

- Is a single enclosure, dual node system.

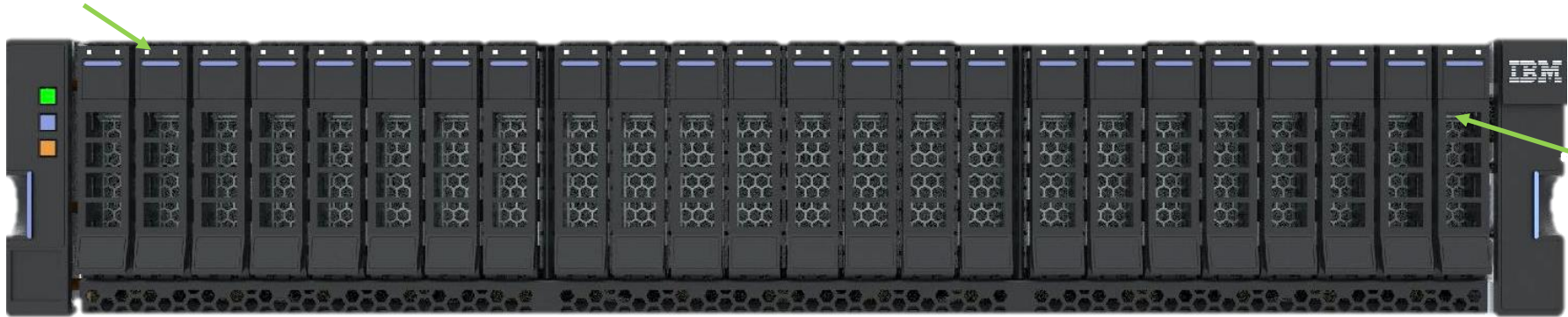
Primary uses are:

- Disaster Recovery
- Data Repositories
- Archive backup

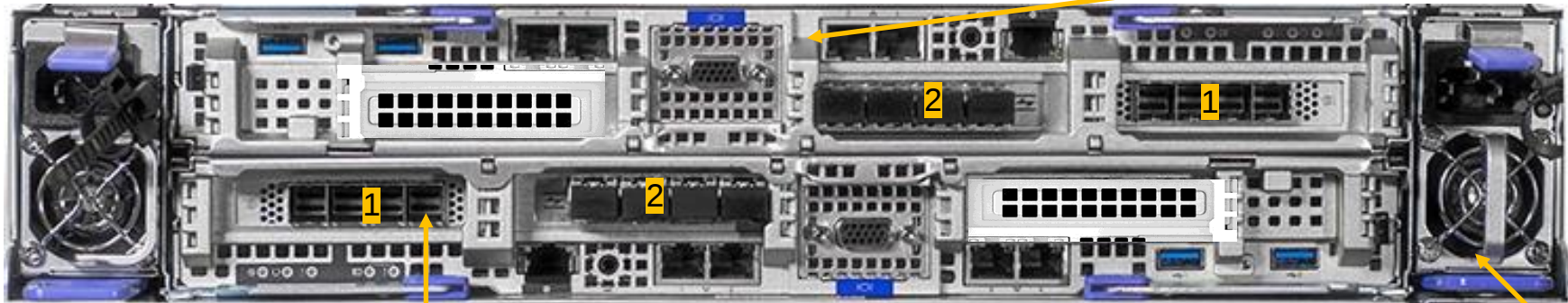


IBM Storage FlashSystem C200

256GB of Cache



24x46 raw TB FCM
Drives for total
raw capacity
of 1.1PB



Dual 8-core
1.7GHz Intel

Host Attach (1-2 per node)

2 KW PSU

IBM Storage FlashSystem C200 - Configuration

- Two node, single enclosure system with:
 - 128 GiB memory per node, 256 GiB per enclosure
 - 1.1PB of raw flash capacity
 - Max of 2 HBA's per node
 - Flash Grid or SVC scaling – All NVMe solution (no expansions)
- Flash drives are self-compressing and self encrypting
 - Fixed 24 drive DRAID-6 single array in a single standard pool
 - 46 TB RAW energy-optimized FCM4
 - Performance penalty free compression always on – No guarantee
 - No room to expand for remedy
 - One use case is backup and many backup products compress/dedupe/encrypt before sending to storage
 - Embedded Ransomware Threat Detection

IBM Storage FlashSystem C200 - Adapter Options

Adapter	Host Protocols	Replication Protocols	Supported Optics	Ports
32Gb Fibre Channel	SCSI (FCP) NVMe/FC	Fibre Channel (HA/async)	32Gb SW SFP 32Gb LW SFP	4
25Gb iWARP Ethernet	iSCSI	iWARP RDMA (HA/async) TCP/IP (async)	10Gb RJ45 SFP+ SFP28 and more*	2
25Gb RoCE Ethernet	iSCSI NVMe/TCP NVMe/RDMA (RoCE)	TCP/IP (async)	10Gb RJ45 SFP+ SFP28 and more*	2

* [Ethernet Connection Options](#)

IBM Storage FlashSystem C200 – Hardware Features

Features/Abilities	FlashSystem C200
Required rack units	2
Architecture	Dual Node Active-Active Enclosure
Power	AC (2x2000W PSU)
CPU	4x8 core 1.7 GHz Intel CPUs
Supported Capacity	1.1 PB Raw Up to 2.3 PB Effective
RAID	DRAID-6 14+P+Q+Spare
Data Reduction	Thin Provisioning Inline HW Based Compression
Encryption	Self Encrypting Drives
Ransomware Threat Detection	HW based
Number of HBA expansion card slots	4
Built in ports	4 x 10GbE and Technician

IBM Storage FlashSystem C200 – Software Features

Features/Abilities	FlashSystem C200
Supports Flash Grid	Yes
Supports PBR and PBHA	Yes – 2PiB
Simplicity	Single Pool Type, Single config
Storage Insights	Integrated with Cloud Call Home
Safeguarded Copy	Yes
Maximum Number and capacity of snapshots	32,100 / 20PiB
Host mappable volumes	16,050
Easy Tier	Single Tier only
Minimum Software Level	8.7.2.2
Expert Care	Basic, Advanced, Premium
Ecosystem Integrations	VMWare SRA, OpenStack, OpenShift,etc Comm with Storage Virtualize interop
Data Integrity Checking	T10-Diff and Data Scrubbing/Parity checking
Migration Options	Flash Grid Partition Migration, Replication, Virtualization

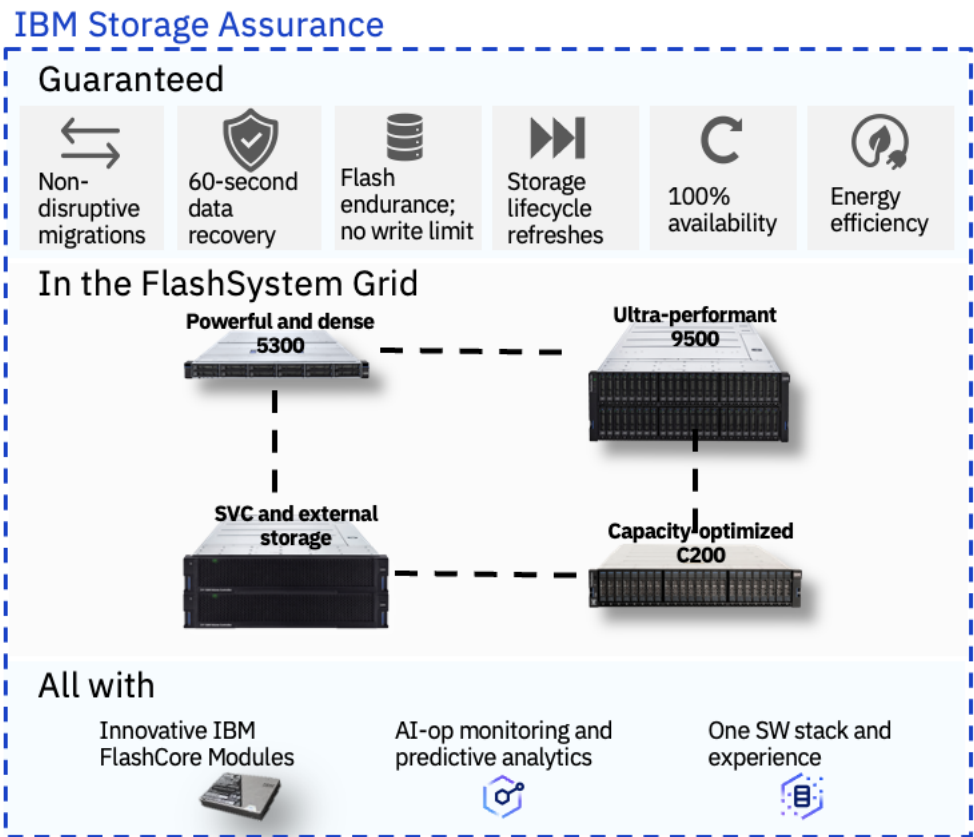
Reduce Rack Space: 6TB NL drive vs C200 use case

Capacity(TB)	Compression Rate	number of HDDs needed	Rack Space for Hybrid Config	# of C200s	Rack Space for C200	Reduction
500	1	108	11	1	2	81.8%
1000	1	216	18	2	4	77.8%
2000	1	431	29	3	6	79.3%
4000	1	861	57	6	12	78.9%
6000	1	1291	80	8	16	80.0%
500	1.4	108	11	1	2	81.8%
1000	1.4	216	18	1	2	88.9%
2000	1.4	431	29	2	4	86.2%
4000	1.4	861	57	4	8	86.0%
6000	1.4	1291	80	6	12	85.0%
500	2	108	11	1	2	81.8%
1000	2	216	18	1	2	88.9%
2000	2	431	29	2	4	86.2%
4000	2	861	57	3	6	89.5%
6000	2	1291	80	4	8	90.0%

Reduce Rack Space: 20TB NL Drive vs C200 Use Case

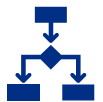
Capacity(TB)	Compression Rate	number of HDDs needed	Rack Space for Hybrid Config	# of C200s	Rack Space for C200	Reduction
500	1	33	8	1	2	75.0%
1000	1	65	7	2	4	42.9%
2000	1	129	15	3	6	60.0%
3000	1	193	14	4	8	42.9%
4000	1	258	17	6	12	29.4%
8000	1	515	34	11	22	35.3%
500	1.4	33	6	1	2	66.7%
1000	1.4	65	7	1	2	71.4%
2000	1.4	129	15	2	4	73.3%
4000	1.4	258	17	4	8	52.9%
8000	1.4	515	34	8	16	52.9%
500	2	33	6	1	2	66.7%
1000	2	65	7	1	2	71.4%
2000	2	129	15	2	4	73.3%
4000	2	258	17	3	6	64.7%
8000	2	515	34	6	12	64.7%

How does the FlashSystem Platform deliver this value in new ways in 1Q'25?



Optimize your data effortlessly

Native on prem FlashSystem grid management



Automate your data management

Storage Insights Enhancements



Safeguard your data consistently

Detect and Alert on ransomware in < 60 seconds.



Capacity-Optimized Flash

FlashSystem C200

