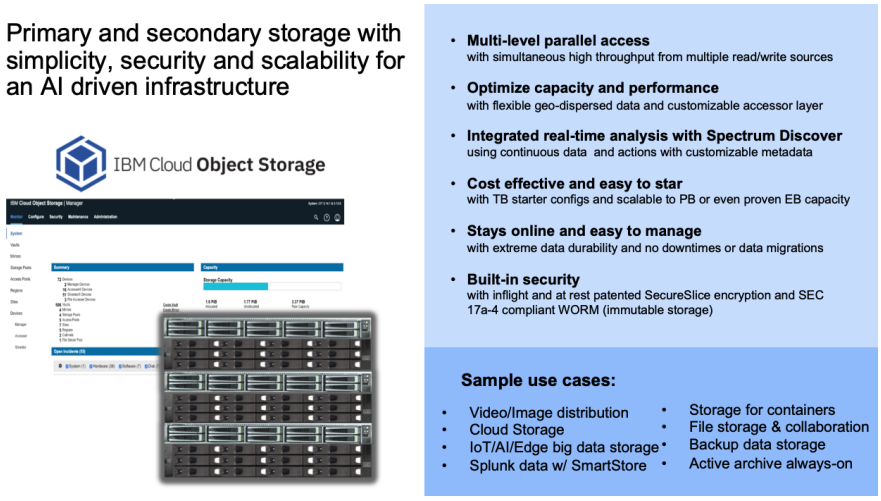
IBM Cloud Object Storage

Cloud native object storage for the data center

Highlights

- Industry-leading and #1 ranked object storage platform
- Easy to start with 3 nodes and easy to scale with investment protection
- Native S3 API with over 100 validated applications to get started
- Leverage expertise with the world's largest object storage deployments
- Patented local and geo-dispersed technology for flexibility and efficiency
- Customers receive an average of 255 percent ROI and 8 months payback
- Lockable WORM buckets that are compliance enabled with object expiration
- Built-in inflight and at rest encryption
- Always on data with up to 8 nines availability and 15 nines reliability
- Multiple success stories for primarty and secondary storage solutions

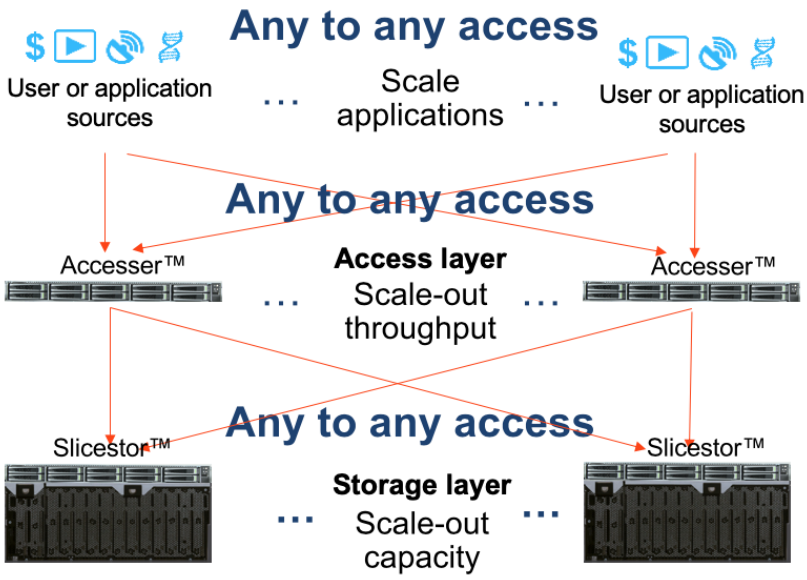


IBM Cloud Object Storage

IBM Cloud Object Storage is a market-leading object storage solution for primary and secondary AI and big data workloads. Our solution is grounded in Dispersed Storage™ and a flexible Information Dispersal Algorithm (IDA) and is proven for new AI and big data solutions as well as offloading traditional storage workloads to object storage. IBM Cloud Object Storage is easy to start small and can grow seamlessly with investment protection from TB to EB of capacity.

IBM Cloud Object Storage is a parallel storage system and provides concurrent access from anywhere with an any-to-any-to-any architecture. There are no single points of failure or bottlenecks, and our system is balanced throughout our architecture making it easier to meet demanding SLAs. Any application can access any Accesser (through an IP address) and writes are spread to multiple Slicestor nodes and reads

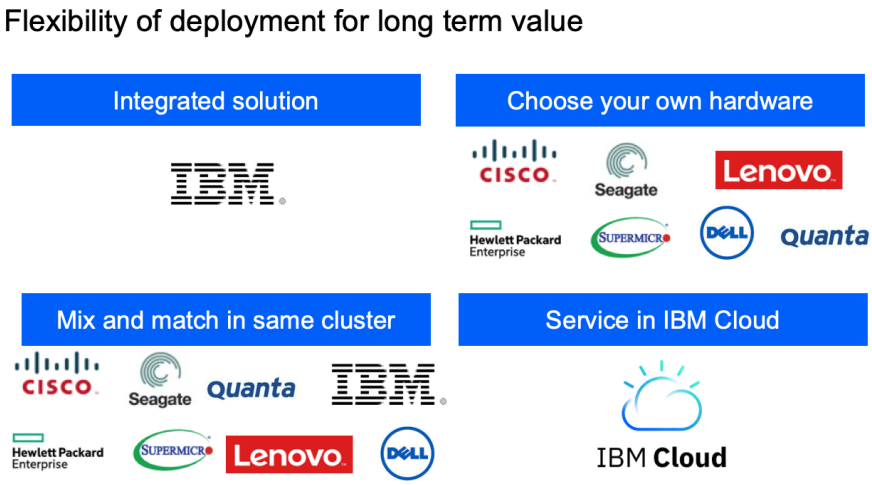
are accessed from multiple Slicestor nodes concurrently. Multiple applications can access multiple or the same Accesser at the same time and each access reads or writes the data concurrently across the Slicestors. This access also occurs across geographical boundaries so we have global concurrent any-to-any-to-any access.



Extreme scale and high throughtput architecture

Each Cloud Object Storage System has at least one Manager node (can be physical, virtual or containerized), which provides out-of-band configuration, administration and monitoring capabilities. There is also one or more Accesser nodes, (can be physical, virtual or containerized) which provide the storage system endpoint for applications to store and retrieve data. Finally there are three or more Slicestor nodes, which provide the data storage capacity for the Cloud Object Storage System. The Accesser is a stateless node that presents the storage interface of the Cloud Object Storage System to client applications (via an IP address) and transforms data using an information dispersal algorithm (IDA). Slicestor nodes receive data to be stored from Accesser nodes on ingest and return data to Accesser nodes as required by reads

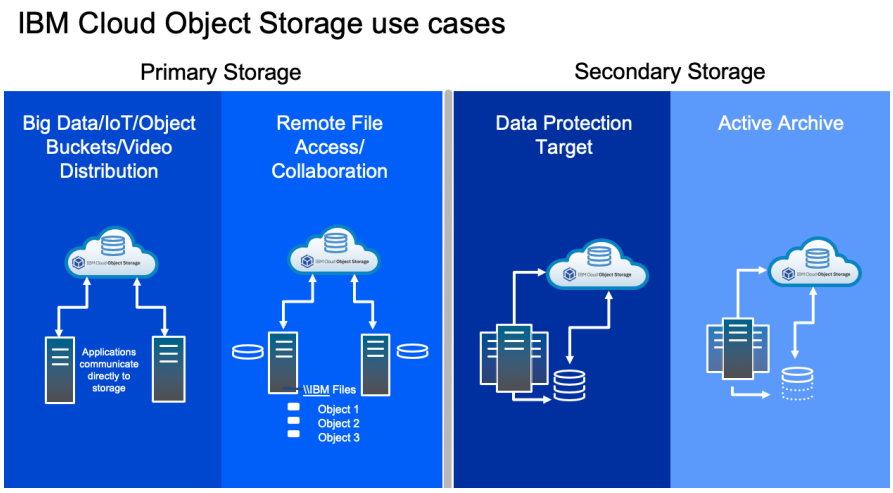
IBM Cloud Object Storage is Software defined. Software defined does two things: Number one, it allows customers to leverage their hardware resources or hardware vendor of choice to leverage the software of IBM Cloud Object Storage. Number two, it means that IBM can create a lower cost solution that is fully supported by IBM. A unique differentiator is that IBM has validated each and every hardware configuration we support and we have value added software that leverages information for each of our solutions to create the most efficient platform no matter what the hardware choice is from the customer.



Software-defined storage options

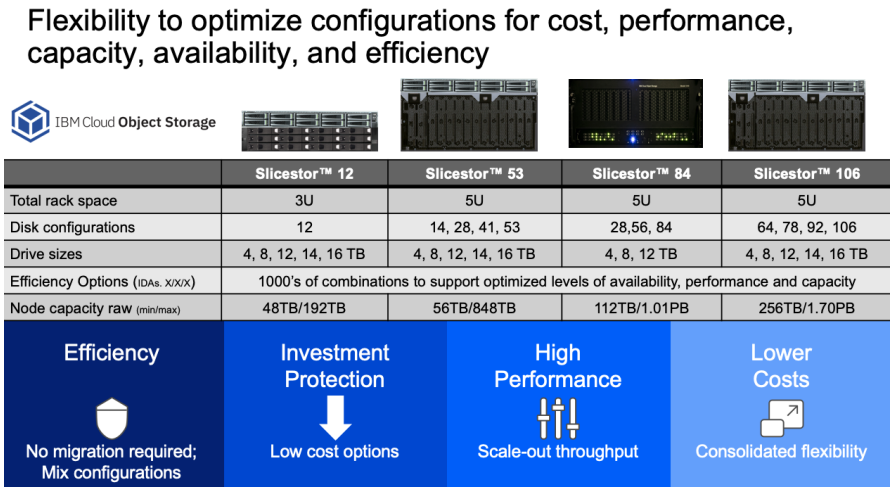
IBM Cloud Object Storage has two primary use cases. The first is primary storage for remote file services or file collaboration and cloud native object storage. Remote file services allow for consolidation, new efficiencies, and cost savings of traditional file shares and remote file services and collaboration environments. Cloud native object storage enables organization or cloud service providers to modernize applications and workloads with storage built for the next generation of applications. These applications may include AI, machine learning or analytics workloads, IoT or big data workloads, large video, DVR or image repositories, or even container environments such as Red Hat OpenShift environments.

The second is secondary storage which includes backup storage repositories and archive storage to lower the cost and create new efficiencies for expensive primary storage. Using object storage as secondary storage is easy to start because customers can focus on traditional storage issues and help modernize storage for AI analysis, always-on availability, ease of scalability and overall storage efficiencies.



Multiple supported use cases and solutions

IBM Cloud Object Storage systems are driving more customers to rethink their storage for multiple workloads with scale-up and scale-out capacity bringing multiple workloads to a single storage platform.



	Slicestor™ 12	Slicestor™ 53	Slicestor™ 84	Slicestor™ 106
Total rack space	3U	5U	5U	5U
Disk configurations	12	14, 28, 41, 53	28,56, 84	64, 78, 92, 106
Drive sizes	4, 8, 12, 14, 16 TB	4, 8, 12, 14, 16 TB	4, 8, 12 TB	4, 8, 12, 14, 16 TB
Efficiency Options (IDAs. X/X/X)	1000's of combinations to support optimized levels of availability, performance and capacity			
Node capacity raw (min/max)	48TB/192TB	56TB/848TB	112TB/1.01PB	256TB/1.70PB

Multiple capacity nodes for maximum flexibility

IBM Cloud Object Storage Spec Table

	SliceStore 12	SliceStore 53	SliceStore 84	SliceStore 106	Accesser	Manager
Server						
Processor	Intel Xeon Silver 4110 or Xeon Gold 6126	Intel Xeon Silver 4110 or Xeon Gold 6126	Intel Xeon E5-2618L v2 2.0 GHz	Intel Xeon Silver 4110 or Xeon Gold 6126	Intel Xeon Silver 4110 or Xeon Gold 6126	Intel Xeon Silver 4110
Number of processors	1 or 2	1 or 2	1	1 or 2	1 or 2	1
RAM	96GB - 384GB	96GB - 384GB	64GB	96GB - 384GB	192GB - 384GB	96GB
OS Disks	2x120GB SSD	2x120GB SSD	2x150GB SSD	2x120GB SSD	2x120GB SSD	2x960GB SSD
Width	437mm/17.2in	437mm/17.2in	See Storage	437mm/17.2in	437mm/17.2in	437mm/17.2in
Depth	762mm/30in	762mm/30in	See Storage	762mm/30in	762mm/30in	762mm/30in
Height	44mm/1.75in	44mm/1.75in	See Storage	44mm/1.75in	44mm/1.75in	44mm/1.75in
Network						
2x1GbE	X	X	X	X	X	X
2x10GbE	X	X	X	X	X	X
2x40GbE						
Capacity						
Number of Drives	12	14, 28, 41, 53	28, 56, 84	64, 78, 92, 106		
Storage Trays						
# of Storage Enclosures	1	1	included	1		
Width	443mm/17.44in	443mm/17.44in	443mm/17.44in	443mm/17.44in		
Depth	630mm/24.8in	1139mm/44.8in	933mm/36.75in	1139mm/44.8in		
Height	87.9mm/3.46in	176.4mm/6.95in	220mm/8.65in	176.4mm/6.95in		
Weight w/Drives	32kg/71lb	106.6kg/235lb	135kg / 298 lb	150kg/330lb		
included 2x1GbE	X	X	X	X		
Max Throughput	3.5GB/s	18GB/s	7GB/s	36GB/s		

Why IBM?

IBM COS customers have lowered the cost of their storage and received 255 percent ROI and an 8 month payback on their investment. Storage solutions can start with only TBs of storage and grow online to exabyte scalability with mixed configurations and no forklift upgrades enabling investment protection and long-term cost savings. Applications can access storage from any location using geo-dispersed protection and efficiency and concurrent and secure cloud native accessibility. Using a patented technology data is encrypted in flight and at rest with automated or customer provided keys and a RESTful API air-gapped solution to protect against physical breaches. Data remains available with exabyte scale that is easy to manage without replication, snapshots, complex upgrades or complex expansions. Leveraging IBM Spectrum Discover, users can quickly and easily search and analyze data with ease. With over 800 technology patents driving innovation, our architecture is designed for customers demanding workloads today and a foundation for the growing requirements of modern applications in the future. IBM Cloud Object Storage is turning storage challenges into business value.

Next steps

→ Learn more about the value of IBM Cloud Object Storage

→ IBM COS Redbook Concepts and Architecture

→ IBM COS Redbook Product Guide

For more information

For more information visit IBM Cloud Object Storage

For more information on use cases and solutions see **IBM Cloud Object Storage Solutions Guide**

For information on the value customers have seen download **Business Value of IBM Cloud Object Storage**

For information how IBM Cloud Object Storage has brought **object storage to the edge**