IBM Storage Ready Nodes

Building-block infrastructure to accelerate deployment of software-defined storage –
for IBM Storage Ceph, IBM Storage Defender, and IBM Cloud Object Storage

Highlights

A flexible and cost-effective way to deploy IBM Storage Defender, IBM Storage Ceph, or IBM Cloud Object Storage

Hardware and software maintained and supported by IBM

Optimized, tested, and certified to work with IBM storage software

Organizations can start small and scale with additional capacity as required

Software-defined storage has become an important option for many organizations recently, attracted by the cost advantages of using industry-standard hardware in on-premises data centers rather than storing their data in the public cloud.
In fact, a recent analyst report noted that "software-defined storage solutions are simplifying storage management, driving scale, automating operations, and driving Opex savings."[1]

IBM's software-defined offerings include:

– IBM Storage Ceph, a massively scalable storage platform that consolidates block, file, and object storage to provide a cloud-like experience while retaining the cost benefits and data sovereignty advantages of on-premises IT.

– IBM Storage Defender, which provides data resilience across primary and secondary storage systems, helping organizations detect threats early and respond quickly in the event of an attack.

– IBM Cloud Object Storage, which provides a highly scalable and resilient customer-managed on-premise object data service, with encrypted data dispersed across multiple geographic locations to help safeguard data.

But what about organizations that want the benefits of software-defined storage without having to grapple with hardware and software maintenance and support?

That's where IBM Storage Ready Nodes fit in. Storage Ready Nodes are optimized hardware and software configurations maintained and supported by IBM, with versions available for IBM Storage Ceph, IBM Storage Defender, and IBM Cloud Object Storage.

Storage Ready Nodes provide companies with a simple, flexible, and cost-effective way to deploy IBM storage software on purpose-built servers. They're designed to streamline the entire storage consumption experience, with IBM taking responsibility for maintenance and support and offering optional services for hardware and software installation.

Some benefits of Storage Ready Nodes include:

– A variety of configurations that have been carefully optimized, tested, and certified to work with IBM storage software;

– A cloud-like experience combined with the economic and data sovereignty advantages of on-premises infrastructure;

– The flexibility that organizations need so they can start with a configuration that meets their current needs and simply scale out with additional nodes as required;

– A way for companies to accelerate the modernization of their storage infrastructure while minimizing their financial risk;

– Helping organizations optimize their internal IT resources at a time when skilled IT personnel are scarce and expensive.

IBM Storage Ceph
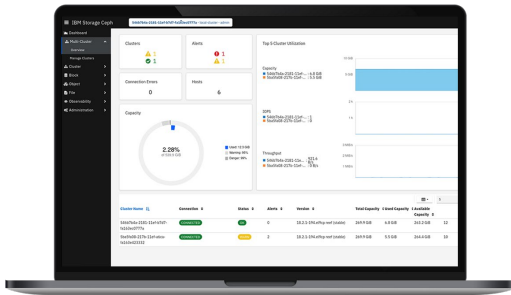
IBM Storage Ceph is a software-defined storage platform designed to help organizations deal with the challenges posed by explosive data growth, increasing complexity, and rising storage costs. It's based on a scale-out architecture with an autonomous, distributed object store that is self-healing and self-managing, providing a highly elastic and reliable storage experience with minimal user intervention. Storage Ceph is massively scalable – it's engineered with no single point of failure and can scale to support petabytes of data and tens of billions of objects.

Storage Ceph consolidates support for block, file, and object storage protocols to help organizations eliminate data silos and deliver a cloud-like experience while retaining the cost benefits and data sovereignty advantage of on-premises IT. Data stored in Storage Ceph can be accessed via block protocols (for structured data), AWS S3 compatible REST APIs (for unstructured data), and file storage protocols, making it ideal for both application storage and as back-end storage for data lakehouses.

Table of Specifications: IBM Storage Ceph Ready Nodes

	Ceph Ready Node 16G w/ NVMe	Ceph Ready Node 16G w/ SATA
Processors	Intel® Xeon® Gold 6438N	Intel® Xeon® Silver 4416+ 2GHz
Number of processors	2	2
RAM	16x32GB RDIMM	16x 16GB RDIMM
OS Disk	2x M.2 480GB (RAID 1)	2x M.2 480GB (RAID 1)
Data Acceleration Disk	N/A	2x3.84TB SSD
Rack height	2U form factor	2U Form Factor
Width	482 mm (18.97 in.)	482.0 mm (18.98 in)
Depth	772.11 mm (30.39 in.)	816.7 mm (32.15 in)
Height	86.8 mm (3.41 in.)	86.8 mm (3.42 in) | 2U
Weight	35.3kg (77.82 lb) max	29.55 kg (65.14 lbs) / Fully pop'ed 46.3 kg (102.07 lbs)
Capacity disks	24	24
NVMe disk sizes	3.84TB, 7.68TB, 15.36TB	N/A
SATA disk sizes	N/A	8TB, 16TB, 20TB, 24TB
Network Ports	2x 1GbE Management, 2x 10/25GbE, 2x 100GbE	2x 1GbE Management, 4x 10/25 GbE, 2x 100GbE
Options / upgrades	India power cords x2, 1x 100GbE, 1x 10/25GbE, 2x3.84TB SSD, Dual Port 32Gb Fibre Channel HBA, 32GB DDR5 RDIMM	India power cords x2, 1x 100GbE, 1x 10/25GbE, Dual Port 32Gb Fibre Channel HBA, 16GB DDR5 RDIMM

IBM Storage Ready Nodes Data Sheet

IBM Storage Defender

IBM Storage Defender Data Protect software proactively protects an organization's primary and secondary storage systems against hardware failures, ransomware, human error, disasters, sabotage, and other risks. It provides multiple layers of data resilience, including data protection, data immutability, and data isolation.

Storage Defender Data Protect presents IT operators with a "single pane of glass" to improve visibility across the entire storage estate, and leverages AI-driven intelligence to help detect threats and identify the safest recovery points. Storage Defender Data Protect integrates with existing security software to help SecOps and Storage teams work together to protect data and accelerate recovery.

Table of Specifications: IBM Storage Defender Ready Nodes

	Storage Defender Data Protect Small Cluster R6625XL 16G	Storage Defender Data Protect Large Cluster R760XL 16G	Storage Defender Data Protect ROBO R6625XL 16G
Processors	AMD EPYC™ 9124 3.0GHz, 16C/32T	Intel® Xeon® Gold 6426Y 2.5G, 16C/32T	AMD EPYC™ 9124 3.0GHz, 16C/32T
Number of processors	2	2	2
Minimum required Nodes	4 (Cluster)	4 (Cluster)	1 (Single-node)
RAM	8x 16GB 5600MT/s DDR5 RDIMM	8x 16GB 5600MT/s DDR5 RDIMM	8x 16GB 5600MT/s DDR5 RDIMM
OS Disk	2x M.2 480GB (RAID 1)	2x M.2 480GB (RAID 1)	2x M.2 480GB (RAID 1)
Rack height	1U Form Factor	2U Form Factor	1U Form Factor
Width	482.0 mm (18.98 in)	482.0 mm (18.98 in)	482.0 mm (18.98 in)
Depth	748.0 mm (29.45 in)	834.6 mm (32.86 in)	787.05 mm (30.99 in.)
Height	42.8 mm (1.68 in)	1U	86.8 mm (3.42 in)	2U	42.8 mm (1.68 in)	1U
Weight	15.4 kg (33.95 lbs)	22.0 kg (48.5 lbs)	20.4 kg (44.97 lbs)
Storage Capacities	16TB, 32TB, 48TB, 64TB	96TB, 192TB	16TB, 32TB, 48TB
# Capacity Disks	4	12	2
Capacity Disks (SAS)	4TB, 8TB, 12TB, 16TB	8TB, 16TB	8TB, 16TB, 24TB
# Data Acceleration Disks	2	2	2
Data Acceleration Disks (NVMe)	E3.S 3.84TB NVMe	3.2TB 2.5" NVMe 6.4TB 2.5" NVMe	1.92TB 3.5" NVMe
Network Ports	1x Dual Port 1GbE LOM (Broadcom 5720), 1x Quad Port Mixed media 10GbE/25GbE, SFP28, OCP NIC 3.0 (Broadcom 57504)	1x Dual Port 1GbE LOM (Broadcom 5720), 1x Quad Port Mixed media 10GbE/25GbE, SFP28, OCP NIC 3.0 (Broadcom 57504)	1x Dual Port 1GbE LOM (Broadcom 5720), 1x Quad Port Mixed media 10GbE/25GbE, SFP28, OCP NIC 3.0 (Broadcom 57504)
Power Supply	Hot-Plug Power Supply 1100W Titanium (Dual, Redundant)	Hot-Plug Power Supply 1100W Titanium (Dual, Redundant)	Hot-Plug Power Supply 1100W Titanium (Dual, Redundant)
Options / upgrades	Dual Port 32GbE Fibre Channel HBA, PCIe Low Profile (Dell QLogic® 2772)	Dual Port 32GbE Fibre Channel HBA, PCIe Low Profile (Dell QLogic® 2772)	Dual Port 32GbE Fibre Channel HBA, PCIe Low Profile (Dell QLogic® 2772)

IBM Storage Ready Nodes Data Sheet

IBM Cloud Object Storage
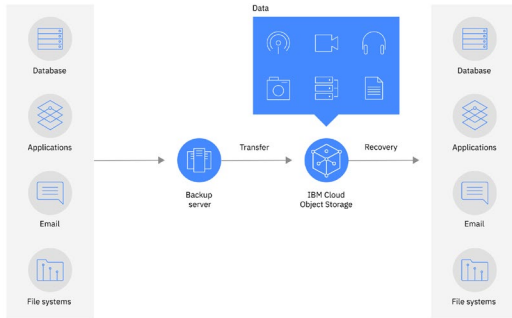
IBM Cloud Object Storage software is designed to help organizations store data in any format, anywhere, with scalability, resilience, and security. It's especially well suited to analytics, AI, data lakehouses, and other workloads operating on large data sets where low cost and data durability are important considerations.

Cloud Object Storage offers a variety of storage tiers to meet the requirements of different use cases. Cloud Object Storage supports industry-standard S3 APIs and is compatible with many widely used backup and data archiving solutions.

Table of Specifications: IBM Cloud Object Storage Ready Nodes 15G

	Accesser 15G	Manager 15G	Slicestor SATA 15G	Slicestor Capacity SAS 15G
Processors	Intel® Xeon® Silver 4314	Intel® Xeon® Silver 4314	Intel® Xeon® Silver 4314	Intel® Xeon® Silver 4314
Number of processors	2	2	2	2
RAM	16x16GB RDIMM	16x16GB RDIMM	16x16GB RDIMM	16x16GB RDIMM
OS Disk	2x M.2 240GB (RAID 1)	2x M.2 240GB (RAID 1)	2x M.2 240GB (RAID 1)	2x M.2 240GB (RAID 1)
Rack height	1U form factor	1U form factor	2U form factor	6U form factor
Width	482 mm (18.97 in.)	482 mm (18.97 in.)	482 mm (18.97 in.)	482 mm (18.97 in.)
Depth	772.11 mm (30.39 in.)	772.11 mm (30.39 in.)	772.11 mm (30.39 in.)	772.11 mm (30.39 in.)
Height	42.8 mm (1.7 in.)	42.8 mm (1.7 in.)	86.8 mm (3.41 in.)	265.4 mm (10.45 in.)
Weight	21.2 kg (46.7 lbs)	21.2 kg (46.7 lbs)	35.3kg (77.82 lb) max	391.2 kg (463.7 lbs) max
Capacity disks	N/A	N/A	12	28
NVMe Disk Sizes	N/A	N/A	N/A	N/A
SATA/SAS Disk Sizes	N/A	N/A	4TB, 8TB, 12TB, 16TB	4TB, 8TB, 12TB, 16TB
Network Ports	2x1GbE, 2x10GbE	2x1GbE	2x1GbE, 2x10GbE	2x1GbE, 2x10GbE
Options	India power cords x2, 1x25GbE dual-port NIC adapter	India power cords x2, 1x25GbE dual-port NIC adapter	India power cords x2, 1x25GbE dual-port NIC adapter	India power cords x2, 1x25GbE dual-port NIC adapter

	Slicestor NVMe 16G	Accesser 16G	Manager 16G	Slicestor SAS 16G	Slicestor Capacity SAS 16G
Processors	Intel® Xeon® Gold 6438N	Intel® Xeon® Gold 4416+ 2GHz	Intel® Xeon® Gold 4416+ 2GHz	Intel® Xeon® Gold 4416+ 2GHz	Intel® Xeon® Gold 4416+ 2GHz
Number of processors	2	2	2	2	2
RAM	16x32GB RDIMM	16x32GB RDIMM	16x32GB RDIMM	16x16GB RDIMM	16x32GB RDIMM
OS Disk	2x M.2 480GB (RAID 1)	2x960GB SSD SATA	2x960GB SSD SATA	2x M.2 280GB (RAID 1)	2x960GB SSD SATA
Rack height	2U form factor	1U Form Factor	1U Form Factor	2U Form Factor	6U Form Factor
Width	482 mm (18.97 in.)	482.0 mm (18.98 in)	482.0 mm (18.98 in)	482 mm (18.97 in.)	482 mm (18.97 in.)
Depth	772.11 mm (30.39 in.)	834.6 mm (32.86 in)	834.6 mm (32.86 in)	772.11 mm (30.39 in.)	772.11 mm (30.39 in.)
Height	86.8 mm (3.41 in.)	42.8 mm (1.69 in) | 1U	42.8 mm (1.69 in) | 1U	86.8 mm (3.41 in.)	265.4 mm (10.45 in.)
Weight	35.3kg (77.82 lb) max	13.64 kg (30.1 lbs)	13.64 kg (30.1 lbs)	35.3kg (77.82 lb) max	391.2 kg (463.7 lbs) max
Capacity disks	24	N/A	N/A	24	84
NVMe Disk Sizes	3.84TB, 7.68TB, 15.36TB	N/A	N/A	N/A	N/A
SAS Disk Sizes	N/A	N/A	N/A	8TB, 12TB, 16TB, 20TB	8TB, 12TB, 16TB, 20TB
Network Ports	2x1GbE, 2x10GbE, 2x100GbE Populated	2x1GbE populated, 6x10/25 GbE not populated	2x1GbE populated, 6x10/25 GbE not populated	2x1GbE populated, 6x10/25 GbE not populated	2x1GbE populated, 6x10/25 GbE not populated
Options	India power cords x2, 3.84TB, 7.68TB, 15.36TB 8 pack drive sets.	2xSFP+ SR Optical Modules, 2x SFP28 SR Optical Modules, dual port 10/25GbE NIC	2xSFP+ SR Optical Modules, 2x SFP28 SR Optical Modules, dual port 10/25GbE NIC	2xSFP+ SR Optical Modules, 2x SFP28 SR Optical Modules, dual port 10/25GbE NIC, 8TB, 12TB, 16TB, 20TB 12 pack drive sets.	2xSFP+ SR Optical Modules, 2x SFP28 SR Optical Modules, dual port 10/25GbE NIC , 8TB, 12TB, 16TB, 20TB 28 pack drive sets.

IBM Storage Ready Nodes Data Sheet

For more information

To learn more about IBM Storage Ready Nodes, contact your IBM representative or IBM Business Partner, or visit:

IBM Storage Ceph: https://www.ibm.com/products/ceph

IBM Storage Defender: https://www.ibm.com/products/storage-defender

IBM Cloud Object Storage: https://www.ibm.com/products/cloud-object-storage

1. Enterprise Strategy Group, "Research Brief: Modern Storage Platforms Are Optimizing for Flash, Software-defined, and Cloud-native Technologies", May 2024.