

## IBM Storage Ceph for Cloud Scale and Data Consolodation

### Highlights

- Single efficient, unified platform for object, block, and file storage
- Integrated with the IBM global data platform for a comprehensive data strategy
- Use off the shelf servers and hardware as you deploy with speed and lower costs on your resources
- Open Source, massively scalable, software defined storage for investment protection

Optimize the enterprise with flexibility and accelerate your cloud native data modernization

As data requirements outpace current storage resources and the cost of storing the data continues to grow, organizations need reliable and flexible software-defined storage that can deploy quickly on any server and be flexible for multiple applications. Unstructured data brings challenges to an organization and 95% of business cite managing unstructured data as a problem.<sup>1</sup> Legacy storage technologies cannot keep up with demand. The problem of managing costs while maintaining performance at scale is exacerbated by dwindling storage specialist skills. Organizations need a way to scale their storage without increasing cost, head count, or security issues while adapting to modern data management modalities that accelerate time to value.

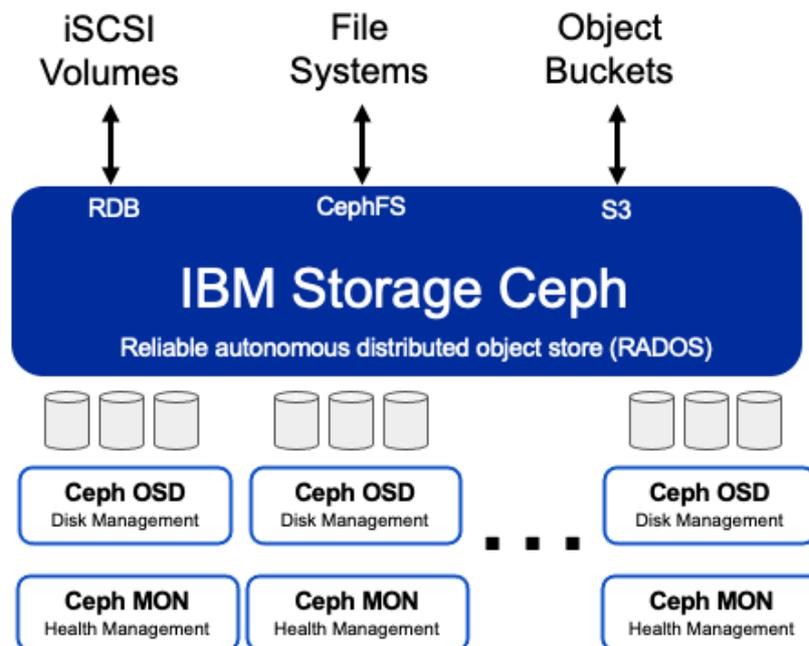
IBM Storage Ceph provides an open, scalable and software defined multi-protocol storage solution designed to consolidate data anywhere and with the global data platform consolidate data everywhere.

Efficiently scaling to support petabytes of data and tens of billions of objects<sup>2</sup>, the storage platform is designed to be self-healing and self-managing for many tasks and is also engineered with no single point of failure. IBM Storage Ceph is object storage optimized for enterprise, unified for simplicity, and software defined for flexibility.

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<sup>1</sup><https://techjury.net/blog/big-data-statistics/#gref>

<sup>2</sup><https://www.redhat.com/en/resources/data-solutions-overview>



*Software defined storage that can be deployed on your server resources*

IBM Storage Ceph offers the option to start small, but it can cope with massive installations. It is simple to use and increasingly self-managed, so existing IT teams can manage more storage without needing to add more staff.

With its new object front end and BlueStore (a high-performance storage architecture) back end, IBM Storage Ceph delivers up to double the performance of previous versions.<sup>2</sup> IBM Storage offers a range of reference architectures based on IBM Storage Ceph that are optimized for reliability, cost, and performance to meet any business's needs—even as demands change.

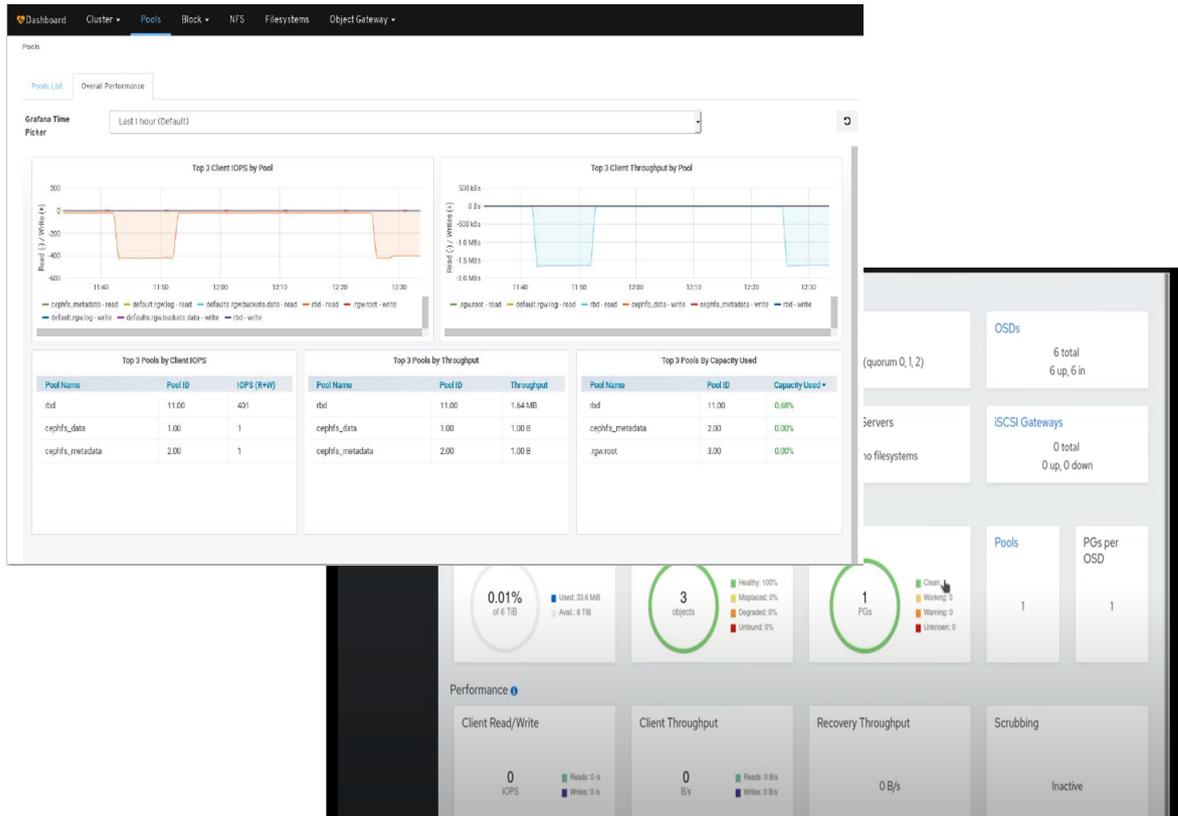
The integrated monitoring dashboard offers graphical visualizations of entire clusters or single components. Users can maintain quality of service with new features like noisy neighbor monitoring, which can help you visualize IOPS, throughput, and latency outliers to pre-emptively identify issues and mitigate them.

## IBM Storage Ceph capabilities

### Scalability

Businesses need to store more data than ever, but they cannot afford to compromise on performance. IBM Storage Ceph offers reliable performance and improved utilization of cluster hardware built on industry- standard servers and disks.

- Increases scalability, [tested with more than 1 billion objects](#)
- Improves performance with BlueStore back end with automatic re-balancing
- Automates workload redistribution as you expand your cluster
- Offers user-enabled dynamic block device expansion
- Provides rolling expansion and hardware updates without requiring downtime



Software defined and easy to manage

## Simplicity

IBM Storage Ceph offers improved monitoring and management tools to reduce the administrative burden. Power users can delegate tasks, enhancing skill development of junior users and increasing operational efficiency.

- Maintains compatibility with existing IBM Storage Ceph or previous Red Hat Ceph installations
- Makes startup quicker and easier with a new install cockpit and lower base configurations
- Accelerates deployment with [Red Hat Ansible® Automation Platform](#)
- Monitors entire clusters or single components with ease
- Provides actionable insights with an integrated, on-premises monitoring dashboard
- Cuts deployment time and cost-to-performance ratio with recommended reference architectures

## Security

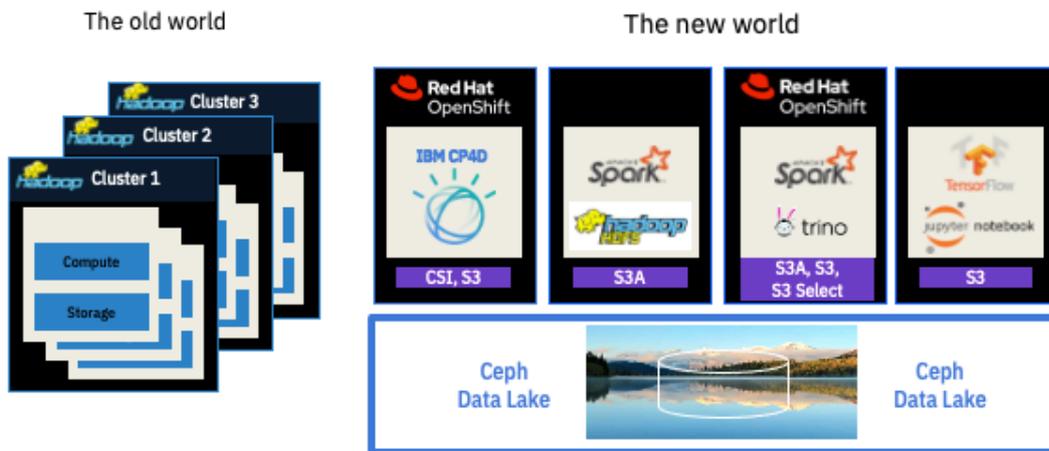
IBM Storage Ceph has features to protect data from malicious and accidental threats, including hardware failures, employee errors, and cyberattacks.

- Provides a continuum of resiliency and data durability options from erasure coding to replication
- Supports at-rest and end-to-end encryption, including National Institute of Standards and Technology (NIST)-approved cryptography

## Where can I use IBM Storage Ceph?

**Data analytics and artificial intelligence machine learning (AI/ML)** As a cloud native data lake, with massive scalability and high availability to support demanding multitenant analytics and AI/ML workloads that require the S3 API interface.

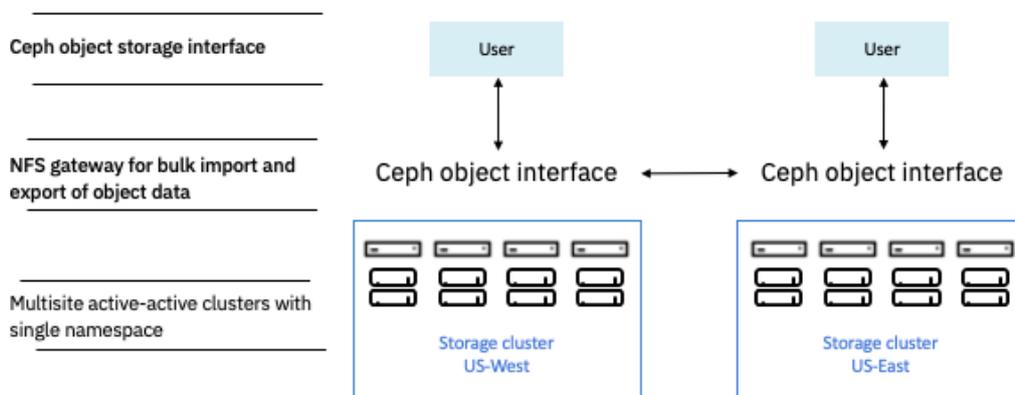
### Multi-tenant workload isolation with shared data lake and S3 Select support



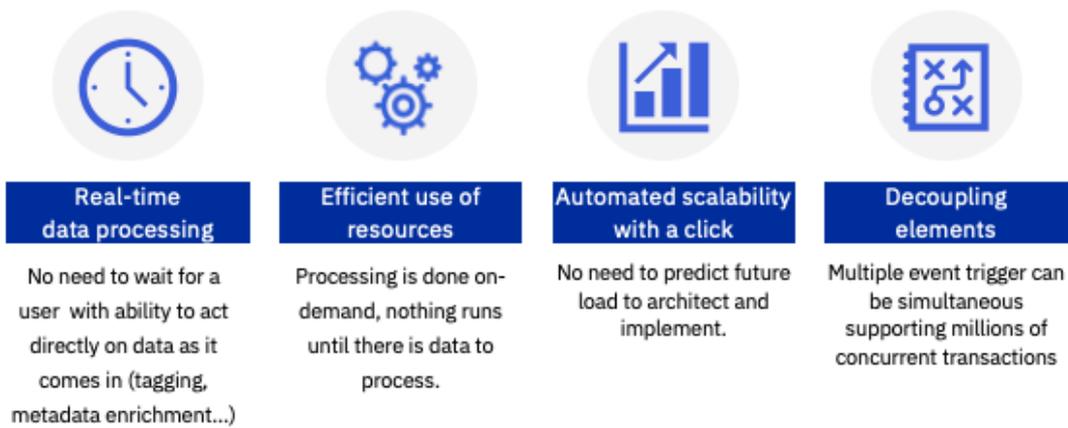
<sup>1</sup> <https://www.redhat.com/en/blog/why-spark-ceph-part-1-3>

**Object storage as-a-service** Implementing an object storage service, with proven scalability and performance for both small and large object storage. IBM Storage Ceph is ideal for implementing an object storage service, with proven scalability and performance for both small and large object storage.

### Enable follow-the-sun model of data availability for geographically dispersed sites

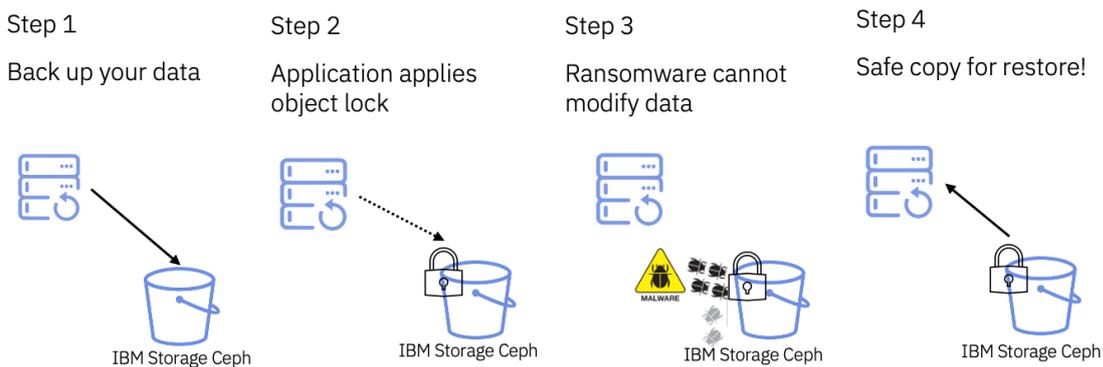


**Cloud native applications** Applications can access their storage with the same application API, in public, private, or hybrid clouds. As a data lake, IBM Ceph Storage delivers massive scalability and high availability to support demanding multitenant analytics and AI/ML workloads. With support for the Amazon AWS S3 interface, applications can access their storage with the same application API, in public, private, or hybrid clouds.



**Disaster Recovery and Backup** A growing list of software vendors have certified their backup applications with IBM Storage Ceph, to serve a wide variety of performance-optimized workloads.

## Safely Store Backups and Protect from Ransomware





## Why IBM?

Data matters. When planning high performance infrastructure for new or existing applications it's easy to focus on compute resources and applications without proper planning for the data that will drive the results for the applications. Our products are all about solving hard problems faster with data. IBM helps customers achieve business value with a clear data strategy. Our strategy is simple, unlock data to speed innovation, de risk data to bring business resilience and help customers adopt green data to bring cost and energy efficiencies. Value needs to be delivered by connecting the multiple organizational data sources with business drivers to create business value that mean something to the organization. Many organizations focus on a single driver with a storage solution, but the best solution is driven by an infrastructure strategy than can accomplish most if not all the drivers for maximum benefits. Our story is not just about another storage product but is about innovation and a storage portfolio that is powered by our global data platform.

## For Further Information

For further information on IBM Storage file and object products please visit <https://www.ibm.com/ai-storage>

## Next steps

Contact your IBM Representative or your IBM Business Partner

<https://www.ibm.com/partnerworld/bpdirectory/>

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