



Highlights

- Manages large volumes of unstructured data with flexible enterprise-class data availability
 - Streamlines data storage with compelling cloud storage economics and simplicity
 - Helps alleviate security concerns with built-in rich data security capabilities
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IBM Cloud Object Storage Dedicated Services

*Unleash the power of your data with innovative
dedicated cloud storage solutions*

Your organization is generating unprecedented volumes of data. In fact, 90 percent of all data was created in the last two years.¹ And 80 percent of all data created, replicated and transmitted today is unstructured.² Unstructured data, handled properly, can be pure gold. In fact, unstructured data could be considered the intellectual capital of your business. But how do you unlock its valuable insights? How do you manage, store, access and secure it? How do you make this data deliver on business objectives?

If you require specific performance levels for a cloud-based solution, or have a compliance or data isolation requirement for a single-tenant offering, consider IBM® Cloud Object Storage (COS) Dedicated Services. These offerings provide clients with a single-tenant model in the many IBM Cloud facilities worldwide. Of the major cloud providers, IBM is one of the few to offer a dedicated model, which allows clients or IBM to manage the system, for ultimate flexibility and control. And the dedicated model offers an operating expenditure (OPEX) business framework that may be attractive to large clients.

Managing large volumes of unstructured data with flexible enterprise-class data availability

IBM COS Dedicated Services are delivered on a single-client dedicated storage infrastructure as part of IBM's global network of cloud facilities, eliminating the need for any infrastructure footprint in your on-premises IT facilities. These customizable services are security-rich, highly flexible and scalable, and can be accessed from anywhere in the world through RESTful OpenStack Swift or S3 compatible application programming interfaces (APIs). If clients use IBM Cloud facilities for compute, analytics or other services, these offerings provide them with direct connectivity to object storage and integration with other IBM Cloud platform services.



IBM COS Dedicated Services management options

Management features	IBM-managed	Self-managed
Dedicated onboarding with a team of IBM specialists to help with initial design, deployment and setup	✓	✓
Requires power, cooling and rack space infrastructure in your IT facilities	X*	X*
Isolated storage infrastructure that gives you complete data access control	✓	✓
Requires your IT team for day-to-day operations and management	X**	✓
Storage Consumption Monitoring Portal integrated into the IBM Cloud Object Storage System	✓	✓

Table 1: A summary of various management features aligned with IBM-managed and self-managed options.

*Power, cooling and rack space infrastructure are provided by IBM Cloud facilities. **Day-to-day operations and management are provided by IBM.

IBM COS Dedicated Services deliver high availability with customizable design options including cross-regional deployments to help maintain resiliency during large-scale power outages and site failures due to natural disasters.

A dedicated team of IBM specialists helps with the initial design and deployment of your customized storage system, including your choice of which IBM Cloud facilities can best meet your specific business needs. IBM COS Dedicated Services are available in two management options. The *IBM-managed* option includes a dedicated team of IBM specialists to operate your system, providing you a user experience similar to a public cloud. Or, the *self-managed* option lets your IT team take charge of the day-to-day management of the IBM COS system with a simpler, easier-to-use web-based portal.

IBM-managed option

Allowing IBM to manage your IBM COS Dedicated Services solution provides you with a public-hosted cloud user experience for workloads that require an isolated but managed object storage infrastructure. This service can be deployed across multiple regions based on the specific data access and resiliency requirements of your workload.

In addition to the dedicated storage hardware, software networking, power, cooling and rack space in the IBM Cloud, this service includes a dedicated team of IBM specialists to handle day-to-day operations and change management such as provisioning, access control credentials and health management. IBM specialists can be accessed through phone, email or an online ticketing system. Using the IBM-managed option frees up your in-house IT personnel to focus on driving innovation in other areas.

Self-managed option

The IBM COS Dedicated Services self-managed option allows your IT team to handle the day-to-day operations and change management of your system, such as system monitoring and providing access control credentials to users and applications.

This object storage system is deployed on a dedicated, isolated infrastructure in the IBM Cloud. Your team will have full operational control of the system through a simple management portal, including the ability to create reports for current and historical usage. This solution can be deployed across multiple regions based on the specific data access and resiliency requirements of your workloads.

What's best for you: IBM-managed or self-managed option?

Choose the best IBM COS Dedicated Services option to help optimize storage costs and manage your unique workload performance and management control requirements. See Table 1 for a snapshot of how the IBM-managed and self-managed options align to various business requirements.

IBM COS with Spectrum Scale Transparent Cloud Tiering

IBM Spectrum Scale Transparent Cloud Tiering provides a transparent cloud transfer of content both to and from IBM COS. When combined with Spectrum Scale Transparent Cloud Tiering, IBM COS can deliver cost-effective cloud storage for cold data that is taking up space in your Spectrum Scale system. This combination is also effective for active data in your IBM COS that can be transferred to Spectrum Scale for analytics and other applications that require high throughput. This solution is available in public, dedicated or hybrid IBM COS configurations and can be hosted either in the cloud or in your on-premises facility.

Streamlining data storage with compelling cloud storage economics and simplicity

IBM COS Dedicated Services work with your organizational budget and goals. The solutions provide customizable designs based on your capacity, performance, durability and resilience requirements, as well as your choice of deployment facilities. Note that the services do not require on-premises facility space. They involve a dedicated, single-tenant deployment, fully segregated from public cloud infrastructure. The services support a range of use cases including data storage for cloud-native active applications such as Internet of Things (IoT) and mobile, or migrating less frequently accessed unstructured data to the cloud to create content repositories and backup compliance data.

By using these services, you can start at a minimum storage capacity and scale up to virtually unlimited capacity as your needs increase. These services are designed to help reduce costs when compared to traditional storage options. Services are priced based on your assigned IBM cloud infrastructure and paid on a monthly basis using operating expenditures (OPEX), without any capital expenditures (CAPEX).

Helping alleviate security concerns with built-in data security

In this era of high-profile breaches, the security of your data is a critical concern. Accordingly, IBM COS Dedicated Services are designed with a high level of security in mind. Features of IBM's carrier-grade security include:

- Data at rest is encrypted, specifically with automatic provider side Advanced Encryption Standard (AES) 256-bit encryption and Secure Hash Algorithm (SHA)-256 hash
- Data in motion is secured by using built-in carrier grade Transport Layer Security/Secure Sockets Layer (TLS/SSL) or SNMPv3 with AES encryption.
- When it's time for data access, credentials are generated and managed for each user, and digital certificates are issued to each node, helping to protect data against unauthorized user access and network connections against rogue node attacks.
- Each object written into the system is divided into a number of slices, with no copy of the data residing in any single disk, node or location. Each object can be read bit-perfectly by using a subset of those slices. As a result, even if one location is physically breached, it will be virtually impossible to crack the data using algorithmic computation.

IBM COS Dedicated Services

Security-rich dedicated storage options for your organization's unique needs

Flexible

- Offers multiple availability and resiliency options to match your workload requirements
- Accommodates cloud-native applications like IoT and mobile
- Enables moving on-premises data such as backup, archiving and content repositories to the cloud

Scalable

- Start with as low as approximately 250TB usable storage
- Add or remove capacity, paying only for what you use
- Priced based on your assigned system configuration and paid on a monthly basis

Security-rich

- Delivers carrier-grade security: data encryption while at rest or in motion, as well as user credentials and digital certificates to help regulate access
 - Uses Intelligent Disk Arrays (IDAs) that divide each object into a number of slices, with no copy of the data residing in any single disk, node or location
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Why IBM?

IBM COS Dedicated Services provide robust solutions that clients have used to turn storage challenges into business advantages. These offerings help reduce storage costs while reliably supporting both traditional and emerging cloud-born workloads for enterprise mobile, social, analytics and cognitive computing. IBM COS is built on technology from object storage leader Cleversafe®, acquired by IBM in 2015. Some of the world's largest repositories rely on IBM COS.

Industry recognition:

- Gartner has given IBM Cleversafe dsNet (now IBM COS) the highest scores in the Analytics, Archiving and Cloud Storage use cases in the March 2016 Object Storage Critical Capabilities report.³
- Cleversafe storage solutions are 72 percent less expensive than equivalent Redundant Array of Independent Disks (RAID) solutions.⁴

For more information

To learn more about IBM COS Dedicated Services, please contact your IBM representative or IBM Business Partner, or see the following website:

ibm.com/cloud-computing/infrastructure/object-storage



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The client is responsible for ensuring compliance with laws and regulations applicable to it. IBM does not provide legal advice or represent or warrant that its services or products will ensure that the client is in compliance with any law or regulation.

Actual available storage capacity may be reported for both uncompressed and compressed data and will vary and may be less than stated.

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- 1 Bringing big data to the enterprise. ibm.com. ibm.com/software/data/bigdata/what-is-big-data.html
- 2 IDC. “Data Explosion Drives Need for Object Storage.” Video featuring Laura DuBois, IDC Research Vice President, Enterprise Storage, Servers and Software Infrastructure. www.youtube.com/watch?v=DVSiyBXgfzU
- 3 Gartner. *Critical Capabilities for Object Storage 2016*. ID G00271719. March 31, 2016. www.cleversafe.com/register?redirectTo=/documents/private/critical-capabilities-for-object-storage.aspx
- 4 *The Total Economic Impact™ of Cleversafe, an IBM Company: Cost Savings and Business Benefits Enabled by Cleversafe Object Storage*. A commissioned study conducted by Forrester Consulting on behalf of Cleversafe. March 2015. www.cleversafe.com/documents/public/Forrester-TEI.pdf



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