



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 Hybrid Services

Unleash the power of your data with innovative hybrid storage solutions

Cloud, mobility, Internet of Things (IoT), social media and analytics are transforming industries and creating new ones. The challenge for your organization? Keeping pace with an unprecedented amount 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 This unstructured data is the intellectual capital of your business, and it presents important challenges. How do you manage, store, access and secure it? How do you make this data work for you? How do you position workloads to best deliver on business objectives?

If you want to use cloud services, open communities and emerging technologies to achieve digital transformation—while still retaining control and sovereignty over your data—consider the IBM® Cloud Object Storage (COS) Hybrid Services options. These solutions extend your on-premises data storage into the IBM Cloud facilities—to create an effective hybrid storage deployment that achieves business value. It builds on your existing IT investments and delivers a scalable, flexible and simplified platform that can handle unstructured data at petabyte and exabyte scale, without the need for replication. In fact, a recent survey shows that 85 percent of leaders say a hybrid approach to cloud is accelerating digital transformation in their organization.³ The value is not just in cost and speed, which are cloud givens, but also in the ability to realize new insights and innovation.



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

IBM COS Hybrid Services are customizable to help meet your unique unstructured data needs. The solutions can be configured to meet the data growth, availability and accessibility requirements of workloads—think active data from cloud native applications like Internet of Things (IoT), social and mobile—or less frequently accessed data from backup, archiving and content repositories. This helps you optimize storage costs while maintaining control of data in your system. Additionally, the services help provide security-rich access to your unstructured data across regions.

IBM's dedicated onboarding team can design, deploy and set up your hybrid system with isolated, dedicated and fully customized configurations, including your choice of which IBM Cloud facility can best meet your specific needs. A *self-managed* hybrid storage solution lets your IT team take charge of day-to-day operations such as monitoring, reporting and access control through either a simplified management portal or RESTful application programming interfaces (APIs) that are compatible with OpenStack Swift and S3-compatible APIs. IBM COS Hybrid Services also offer a *managed* option that is designed to provide a cloud-storage like user experience. These security-rich, highly flexible and scalable solutions may also be more easily integrated with other IBM Cloud platform services like compute, analytics and cognitive.

These hybrid systems can be deployed using a combination of your own facilities and IBM Cloud facilities around the world. IBM COS Hybrid Services can deliver high availability with reduced downtime during hardware or software maintenance, power outages and site failures. The ability to deploy IBM hybrid cloud services in cross-regional facilities helps you maintain availability during region-wide outages, for example, due to a natural disaster.

Streamlining data storage with compelling cloud storage economics and simplicity

IBM COS Hybrid Services are designed to optimize your capital expenditure (CAPEX) and operating expenditure (OPEX) budgets. You can use your CAPEX funds to purchase hybrid system components that are resident in your facilities. Then you can use OPEX funds to make monthly payments for the rest of the hardware, software and other service components that are assigned to you in the IBM Cloud, and bandwidth beyond an established threshold that comes at no cost with the hybrid services.

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, creating a truly hybrid cloud solution. 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.

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 Hybrid 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.

Why IBM?

IBM COS Hybrid 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.⁴
- Cleversafe storage solutions are 72 percent less expensive than equivalent Redundant Array of Independent Disks (RAID) solutions.⁵
- IBM is ranked as the overall leader in hybrid cloud by TBR.⁶

IBM COS Hybrid Services

Security-rich hybrid 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
- Each object is divided into a number of slices, with no copy of the data residing in any single disk, node or location

* For data availability and resiliency, IBM COS Hybrid Services can be deployed across two facilities in two copy mirrored configuration and across three or more facilities in single copy sliced and dispersed configuration.

For more information

To learn more about IBM COS Hybrid 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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IBM Cloud
Route 100
Somers, NY 10589

Produced in the United States of America
November 2016

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