

High-speed Data Transfer and Storage Service in the IBM Cloud



A robust SaaS solution powered by IBM Aspera and IBM Cloud Object Storage

Benefits

- Transfers large data sets directly to cloud storage from virtually anywhere and up to hundreds of times faster than normal TCP transfers
 - Distributes large data sets with high speed concurrently to thousands of recipients in near-real time
 - Stores and manages virtually unlimited data with compelling cloud economics and enterprise-class availability
 - Helps alleviate security concerns with rich, built-in security capabilities for data at rest and in motion
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With shrinking timelines for digital production and the growing size of high-definition digital assets, organizations are looking for an integrated high-speed, secure, scalable, cost-effective data transfer and storage solution that can ingest, distribute and store any size and any number of files and data sets to enable collaboration over any distance in real time.

Conventional data transfer and storage solutions are not designed to handle the increasing demands in storage capacity or to provide high-speed data movement, especially when working with large data sets in the slow, inefficient wide area networks (WANs) outside the data center. In today's work-from-anywhere culture, developers and enterprise architects rely on public cloud services and internet connections to build, test and run applications and workflows. They need solutions that can integrate high-speed, easy-to-use data transfer technologies with flexible, scalable storage to meet their needs.

IBM provides a robust, scalable software-as-a-service (SaaS) solution in the IBM® Cloud that enables high-speed upload and download of large files and large data sets directly into IBM Cloud Object Storage. This all-IBM solution is highly secure, flexible, scalable, quick and easy to deploy, and simple to manage. Taking advantage of the patented IBM Aspera® FASP® high-speed transfer protocol, it can move data of virtually any size over any distance at line speed more reliably. Using IBM Cloud Object Storage, it can flexibly store virtually unlimited number of files and data sets with regional or cross-region resiliency to match your business needs.



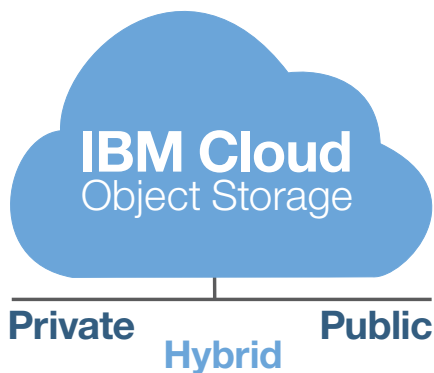


Figure 1: IBM Cloud Object Storage

IBM Cloud High-Speed Transfer Service

The IBM Cloud High-Speed Transfer Service offers an ideal solution for quick reliable and secure ingest and distribution of large data sets directly to and from IBM Cloud Object Storage. The service uses an IBM Aspera Software interface to initiate an Aspera FASP protocol session, which directly interoperates with the underlying IBM Cloud Object Storage application programming interfaces (APIs). The service is designed to provide maximum speed regardless of distance, robust security, predictable transfer times and a rich set of transfer management features. This distinctive direct-to-cloud capability integrates with the underlying IBM Cloud Object Storage to implement fast file uploads and downloads while adding key transfer management features such as pause, resume, reporting and encryption over the wire and at rest. The service fully manages and optimizes IBM Cloud bare metal clustered servers to achieve aggregate scale-out transfer speeds of many gigabits per second per cluster. You can access and use the service either as a stand-alone platform or as part of an IBM Aspera Files solution to connect an application with IBM Cloud Object Storage.

IBM Cloud Object Storage

IBM Cloud Object Storage is designed to provide the flexibility, scalability and simplicity you need to store, manage and access rapidly growing unstructured data on-premises, in the cloud or in a hybrid deployment model. Highly scalable capacity and flexible deployment options help lower storage costs while improving management and efficiency. By supporting cloud deployments with RESTful APIs such as Amazon Simple Storage Service (Amazon S3), the solution provides the flexibility you need to handle growing unstructured data storage capacity requirements without disrupting business processes.

Key IBM Cloud High-Speed Transfer Service features

- **Speed:** Single-stream transfers at line speed independent of network round-trip delay (up to 500 ms) and packet loss (more than 30 percent), which can be tens to hundreds of times faster than TCP transfers.
- **Predictability:** Unlike TCP-based transfers, which are highly variable, FASP transfer times are highly predictable and scale linearly with increases in bandwidth.
- **Concurrency and scale:** Concurrent transfer support with extreme scaling to many thousands of sessions per bare metal server cluster in multiple IBM Cloud regions.
- **Large file and directory sizes** Support for single transfer sessions of files and data sets up to 5TB, the largest object size supported by the IBM Cloud Object Storage, and directories containing nearly any number of individual files, even for very large numbers of very small files.
- **Robust data security and integrity:** Built-in over-the-wire encryption in transit and encryption-at-rest with client and server-side controlled options; data integrity verification for individual transmitted blocks; automatic retry and checkpoint-resume for single files and directories from the point of interruption on failure.

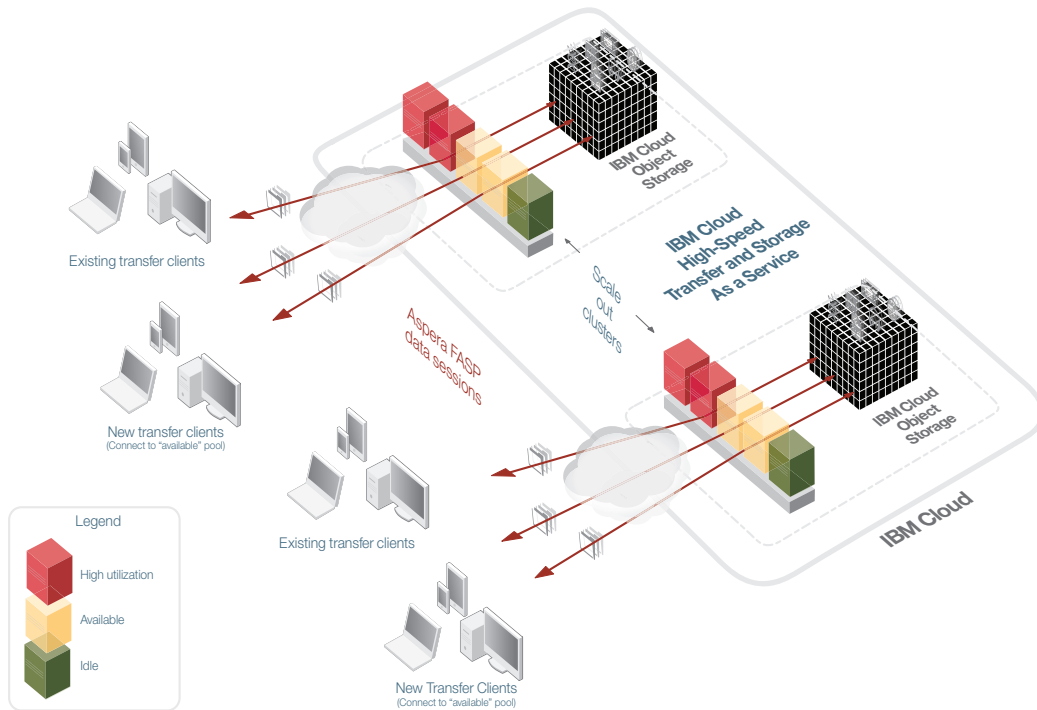


Figure 2: IBM Cloud High-speed Data Transfer and Storage as a Service

Solutions for common cloud use cases

Data ingest and distribution

Aspera software is an ideal solution for fast, large-volume, highly secure data ingest to and distribution from IBM Cloud Object Storage. Using Aspera software, users can transfer files at the maximum line speed available directly to IBM Cloud Object Storage, where the data is accessible by analytics, cognitive and other applications running in the IBM Cloud.

Data migration

Organizations use the IBM Cloud High-Speed Transfer Service to migrate large volumes of unstructured data to cloud storage. The transfer service includes a desktop and command-line client and can be used to initiate, automate and monitor data moving to cloud storage. In addition to the included Aspera software client, many other transfer initiation options are supported, including the Aspera Node REST APIs and the Aspera FASP SDKs. Data migration scenarios supported include on-premises to cloud, cloud to on-premises, and cloud-to-cloud migrations.

Extending existing cloud solutions

Clients that have existing cloud applications and SaaS services can now more easily extend those solutions to capitalize on the IBM Cloud High-Speed Transfer Service in the cloud through the simpler, easier-to-use REST APIs of the Aspera Node application. The many benefits of embedding a high-speed transfer service into existing SaaS applications include high-speed transfers, more reliable and predictable transfer times, more secure authentication, authorization and data encryption, and better manageability.

Supporting high-speed collaboration

IBM Aspera Files application users can seamlessly connect their IBM Cloud Object Storage buckets directly into their Files organization and workspaces. Files administrators simply add a service access key as their Files Node credential, and the corresponding storage bucket is immediately available to house new workspaces or to create and share new shared folders. All Files operations are seamlessly supported from the configured storage location enabling high-speed collaboration.

Industry recognition for IBM Cloud Object Storage

IBM Cloud Object Storage is built on technology from object storage leader Cleversafe®, which was acquired by IBM in 2015. Some of the world's largest repositories rely on IBM Cloud Object Storage.

Industry recognition:

Gartner has awarded IBM Cleversafe dsNet (now IBM Cloud Object Storage) the highest scores in the Analytics, Archiving and Cloud Storage use cases in its March 2016 Object Storage Critical Capabilities report.¹

Cleversafe storage solutions are 72 percent less expensive than the equivalent Redundant Array of Independent Disks (RAID) solutions.²

Take the next step

To sign up for a free trial please visit ibm.biz/BdifIK.

IBM Cloud Object Storage

IBM Cloud Object Storage solutions support the data infrastructure needed to efficiently capture, deliver, manage and protect unstructured data with superior availability and economics. Optimizing data storage with IBM Cloud Object Storage helps your business access the right data at the right time, providing the data foundation to propel your organization into the cognitive era with confidence. To learn more about IBM Cloud High Speed Data Transfer and Storage As a Service, please visit:

ibm.com/cloud-computing/products/high-speed-data-transfer
ibm.com/cloud-computing/products/storage/object-storage

Endnotes:

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2. Davison, D., Forrester Research, Inc.: The Total Economic Impact™ Of Cleversafe, an IBM Company, March 2015. (ibm.com/common/ssi/cgi-bin/ssialias?htmlfid=TSL03266USEN)



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Route 100
Somers, NY 10589

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