



wasabi[™]
hot storage

TECH BRIEF

The New Economics of Cloud Storage

How Wasabi Hot Storage Compares With
The Economics of Amazon, Google and
Microsoft



Executive Overview

Wasabi is fundamentally transforming the economics of cloud storage with the industry's most affordable and highest-performing storage solution.

Based in Boston, MA, Wasabi is no ordinary startup. Our founders are David Friend and Jeff Flowers, the founders of Carbonite, recognized pioneers in cloud storage. Our mantra is open standards, an end to vendor lock-in, and a new benchmark for price, performance, and protection for all the world's data.

At Wasabi, we believe in keeping storage simple. Unlike legacy cloud storage services from Amazon, Google and Microsoft, which all have confusing storage tiers and complex pricing schemes, we provide a single product, with predictable and straightforward pricing, which satisfies nearly all cloud storage requirements and transforms the economics of cloud storage.

This paper provides an overview of the new economics of cloud storage and compares Wasabi's affordable, simple hot storage service with complicated tiered storage offerings from Amazon Web Services, Google Cloud Platform and Microsoft Azure.

Wasabi Hot Storage Overview

Wasabi hot storage is extremely affordable, fast and reliable cloud object storage—for any purpose. The best of both worlds, Wasabi’s universal storage service is significantly less expensive and markedly faster than “frequent-access storage” services like Amazon S3, Google Cloud Multi-Regional and Microsoft Azure Hot Access.

Hot storage

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noun

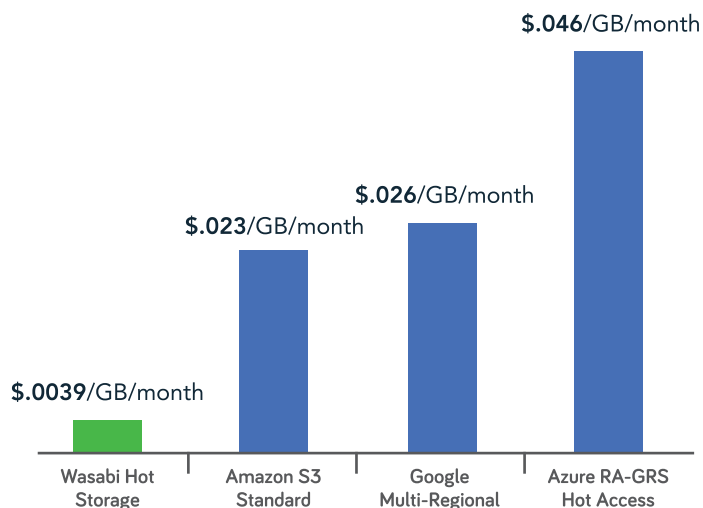
A universal, one size fits all cloud storage service that eliminates confusing storage service tiers and satisfies nearly all storage performance requirements. Hot storage costs less than traditional cold storage services and is significantly faster than traditional frequent-access storage services.

Engineered for extreme data durability, integrity and security, Wasabi provides eleven 9s object durability and supports configurable immutability to protect against accidental deletions, malware and viruses. The Wasabi service is fully compatible with Amazon S3 APIs so it works seamlessly with existing storage management applications like backup and recovery tools.

Wasabi’s mission is to make cloud storage a simple, open-standard utility, just like electricity. To that end we offer a single product that is easy to understand, easy to order and cost-effective to scale. With Wasabi there are no confusing storage tiers to decipher and no complicated fee structures to decode.

Wasabi hot storage costs a flat \$.0039/GB/month¹. Compare that to \$.023/GB/month for S3 Standard, \$.026/GB/month for Google Multi-Regional and \$.046/GB/month for Azure RA-GRS Hot.

The only other fee Wasabi charges is for data out to the internet or to AWS Direct Connect. Unlike Amazon, Google and Azure we don’t impose extra fees for PUT, GET, DELETE and other API operations.



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For full details on Wasabi’s pricing, please visit wasabi.com/pricing

Amazon Simple Storage Service (S3)

Amazon S3 is a cloud-based object store service from AWS. Amazon offers four different storage tiers, each with distinct performance and resiliency characteristics and pricing schedules:

- **Amazon S3 Standard** - a general-purpose object storage service for frequently accessed data.
- **Amazon S3 - Infrequent Access** - a lower-cost storage service for less frequently accessed data.
- **Amazon Glacier** - a long-term data archival service for rarely accessed data.
- **Amazon S3 Reduced Redundancy Storage (RRS)** - S3 Standard with lower data durability commitments.

Amazon S3 Pricing

Amazon's pricing model is usage-based and includes a storage component and an access component. You pay a monthly per GB storage fee, which varies across Amazon S3 data centers. The pricing is based on a tiered schedule. **Unlike Wasabi, Amazon's monthly fee structure is complex and involves a number of variables (many of which are often difficult to predict).**

Storage Pricing

Amazon monthly storage fees are based on:

- **Baseline storage fees** - per GB storage fees based on a tiered pricing model. Amazon charges a fixed per GB fee for the first 50 TB of data, a slightly lower per GB fee for the next 450 TB of data, and a slightly lower per GB fee for over 500 TB of data.
- **Storage tier** - each storage class (S3 Standard, S3 Infrequent Access, Amazon Glacier and S3 RRS) is covered by a different pricing schedule.
- **Location where data is stored** - Amazon pricing varies from region to region.

Access Pricing

Amazon charges separately for:

- **Data request fees** - separate transactional fees for accessing cloud storage (PUT, COPY, GET, POST, LIST, etc.)
- **Data transfer fees** - separate, individual fees for transferring data:
 - From S3 to other Amazon sites.
 - From S3 to the internet.
- **Transfer acceleration fees** - separate, individual fees to accelerate performance when transferring data:
 - From the internet into S3.
 - From S3 to other Amazon sites.
 - From S3 to the internet.

Wasabi Hot Storage vs. Amazon S3 Storage

The table below compares Wasabi's hot storage service with Amazon's various cloud storage offerings.



| GENERAL | | |
|--|----------------------------------|---|
| One, universal storage service (hot storage) | Yes | No. Four different storage tiers with distinct price, performance and resiliency characteristics. |
| Predictable, easy-to-understand pricing | Yes. Flat GB/month storage fees. | No. Many pricing variables. |
| DATA STORAGE PRICING | | |
| Baseline storage fees | \$.0039/GB/month | \$.023/GB/month (for Standard) |
| Flat fee structure | Yes | No. Tiered schedule based on monthly volume. |
| Geo-independent pricing | Yes | No. Pricing varies per region. |
| DATA ACCESS PRICING | | |
| Data transfer out (egress) fees | \$.04/GB | Up to \$.09/GB |
| Additional transaction fees | No additional fees | Yes. Additional per-instance fees for certain operations including PUT, COPY, GET, POST and LIST. |
| Additional transfer acceleration fees | No additional fees | Yes. Additional, separate fees to accelerate transfer rates in/out/across AWS. |

Google Cloud Platform Storage

Google Cloud Platform offers a cloud-based object store service, available in four different classes, each with distinct performance and resiliency characteristics and pricing schedules:

- **Regional** - a general purpose object storage service for frequently accessed data, with resiliency restricted to a single region.
- **Multi-Regional** - a general purpose object storage service for frequently accessed data, with resiliency restricted to a single region geo-redundant storage.
- **Nearline** - a lower cost, intermediary-term storage service for data accessed less than once a month.
- **Coldline** - a long-term, low-cost option for data accessed less than once a year.

Google Cloud Storage Pricing

Google's pricing model is usage-based and includes a storage component and an access component. You pay a monthly per GB storage fee, which varies from region to region. **Unlike Wasabi, Google's monthly fee structure is complex and involves a number of variables (many of which are often difficult to predict).**

Storage Pricing

Google's monthly storage fees are based on:

- **Baseline storage fees** - flat per GB storage fees.
- **Storage tier** - each tier has a different per GB fee.
- **Location where data is stored** - Google pricing varies from region to region.

Access Pricing

Google charges separately for:

- **Data request fees** - separate transactional fees for reading cloud storage data (Nearline and Coldline tiers only).
- **Network egress fees** - separate tiered pricing fees, which vary by region and are imposed when a user or non-Cloud Storage service reads data from Google Cloud.
- **Data transfer fees** - separate, individual fees for transferring data from Google to the internet.
- **Data transfer fees between regional and multi-regional locations** - separate fees for transferring data across Google regions.
- **Transaction fees** - separate transaction fees, which vary per tier and operation, for accessing cloud storage (PUT, GET, POST, etc.).

Wasabi Hot Storage vs. Google Cloud Platform Storage

The table below compares Wasabi's hot storage service with Google's various cloud storage offerings.



| GENERAL | | |
|--|---|---|
| One, universal storage service (hot storage) | Yes | No. Four different storage tiers with distinct price, performance and resiliency characteristics. |
| Predictable, easy-to-understand pricing | Yes. Flat GB/month storage fees. | No. Many pricing variables. |
| DATA STORAGE PRICING | | |
| Baseline storage fees | \$.0039/GB/month | \$.0260/GB/month (for Multi-Regional) |
| Flat fee structure | Yes | Yes. |
| Geo-independent pricing | Yes | No. Pricing varies per region. |
| DATA ACCESS PRICING | | |
| Data transfer out (egress) fees | \$.04/GB | Up to \$.23/GB |
| Additional data read fees | No additional fees | Yes. Additional per-instance fees (Nearline and Coldline). |
| Additional transaction fees | No additional fees | Yes. Additional per-instance fees for certain operations including PUT, GET and POST. |
| Cross-region transfer fees | No additional fees | Yes. Additional fees for transferring data between regions. |

Microsoft Azure Blob Storage

Microsoft offers a cloud-based object store service called Azure Blob storage that is available in two different classes, each with distinct performance and resiliency characteristics and pricing schedules:

- **Hot Access Tier** – for frequently accessed data.
- **Cool Access Tier** – for less frequently accessed data.

Azure Blob Storage Pricing

Azure Blob storage pricing is usage-based and includes a storage component and an access component. **Unlike Wasabi, Microsoft's monthly fee structure is complex and involves a number of variables (many of which are often difficult to predict).**

Storage Pricing

Azure Blob monthly storage fees are based on volume, storage tier, redundancy and region:

- **Storage tier** – Microsoft charges a fixed per GB fee for cool storage. Hot access storage is covered by a separate, tiered pricing schedule. Microsoft charges a fixed per GB fee for the first 50 TB of data stored, a slightly lower per GB fee for the next 400 TB of data, a slightly lower per GB fee after 500 TB.
- **Redundancy** – Microsoft supports three levels of redundancy: locally redundant storage (LRS), Geo-redundant storage (GRS) and Read-access geo-redundant storage (RA-GRS). Hot access and cool access storage prices vary based on redundancy level.
- **Location where data is stored** – storage pricing varies from region to region.

Access Pricing

Microsoft charges additional fees for HTTP operations, reads and writes. Fees vary based on storage tier, redundancy level and region. Access fees include:

- **Put, list, create container operations fees** – separate transactional fees for a specific set of storage operations (more expensive operations).
- **Other operations fees** – separate transactional fees for other storage operations (less expensive operations).
- **Data retrieval fees** – separate transactional fees for reading cloud storage.
- **Data write fees** – separate transactional fees for writing cloud storage.

Wasabi Hot Storage vs. Microsoft Azure Blob Storage

The table below compares Wasabi's hot storage service with Microsoft's various cloud storage offerings.



GENERAL

| | | |
|--|----------------------------------|--|
| One, universal storage service (hot storage) | Yes | No. Two different storage tiers, each with multiple resiliency options and distinct pricing and performance characteristics. |
| Predictable, easy-to-understand pricing | Yes. Flat GB/month storage fees. | No. Many pricing variables. |

DATA STORAGE PRICING

| | | |
|-------------------------|------------------|--|
| Baseline storage fees | \$.0039/GB/month | \$.046/GB/month (for RA-GRS hot access) |
| Flat fee structure | Yes | No. Tiered schedule for hot access, based on monthly volume. |
| Geo-independent pricing | Yes | No. Pricing varies per region. |

DATA ACCESS PRICING

| | | |
|---------------------------------|--------------------|---|
| Data transfer out (egress) fees | \$.04/GB | Up to \$.01/GB |
| Data transfer in (ingress) fees | No additional fees | Yes. Extra fees. |
| Additional Transaction Fees | No additional fees | Yes. Additional per-instance fees for certain operations including PUT, LIST and CREATE CONTAINER |

Summary

At Wasabi, we think it's time for a new economic model for cloud storage. We don't believe in the need for multiple, complex storage tiers. By its own definition, we've created hot storage as a way to remove storage complexity and cost, with one product that satisfies nearly all cloud storage performance requirements. The best of both worlds, Wasabi hot storage is significantly less expensive and significantly faster than traditional frequent-access storage services.

Say goodbye to legacy cloud storage services with confusing storage tiers and complicated pricing schemes. Slash costs, boost performance and eliminate complexity with Wasabi hot storage.

Next Steps

- **CONTACT WASABI TODAY.**

Learn more about our price, performance and protection benefits.

(P) 844-WASABI-1

(E) info@wasabi.com

www.wasabi.com

- **TRY WASABI FOR FREE.**

Get up to 1 TB for 30 days.

Note: All pricing information presented in this paper was retrieved from cloud service provider websites as of July 2017.

About Wasabi

Wasabi is the hot storage company that delivers low-cost, fast and reliable cloud storage. Wasabi hot storage is 1/5th the price and 6x the speed of Amazon S3.

Created by Carbonite co-founders and cloud storage pioneers David Friend and Jeff Flowers, Wasabi is on a mission to make cloud storage a common utility, just like electricity.



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