wasabi®

MARKET VISION

Cloud Storage 2.0 The Birth of the Next Great Global Utility

Breakthrough Economics, Performance and Simplicity Pave the Way for the Great Migration to Cloud Storage.

Executive Overview

Digitalization is fundamentally changing the way we live, work and play. The world is becoming increasingly instrumented, interconnected and automated. As digital transformation takes hold, growing numbers of intelligent endpoints and connected devices are generating an ever-increasing volume and variety of data.

By transforming this wealth of data into meaningful business information, enterprises can improve decision-making, accelerate the pace of innovation and boost financial results. But most organizations simply can't afford to store massive datasets using expensive on-site storage platforms or costly first-generation cloud storage services.

Now a new generation of commoditized cloud storage has arrived that promises to turn cloud storage into a standardized utility much like bandwidth or electricity. **Cloud Storage 2.0** is extremely affordable, fast and reliable cloud storage, for any purpose. It lays the foundation for big data and advanced analytics, helping enterprises gain a competitive edge in the digitally connected world.

Introduction – Transforming Raw Data into Business Insights

The world is awash in data. Every day more data is produced than the day before. Every second, vast and ever-increasing numbers of mobile devices, embedded systems and smart endpoints generate massive volumes of raw data containing a treasure trove of business information. IDC forecasts annual global data generation to grow from 16 zettabytes[1] in 2016 to 163 zettabytes in 2025 as connected devices and smart systems proliferate.[2]
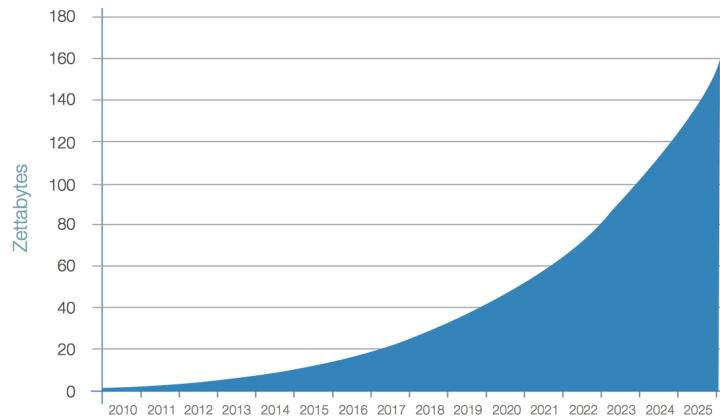
Annual Global Data Growth Forecast

By turning this sea of data into meaningful and actionable insights, enterprises in every industry can accelerate the pace of business, increase productivity and streamline operations. Corporations can improve decision-making, optimize business processes and boost financial results. Governments and utilities can improve public safety and services, optimize transportation and energy systems, and reduce expense and waste. And researchers and scientists can improve our understanding of the universe, accelerate cures for diseases, and advance weather forecasting and climate modelling.

As digitalization and the Internet of Things (IoT) become commonplace, big data has the potential to transform business processes and reshape entire industries. But antiquated and expensive data storage solutions stand in the way. The fact of the matter is most organizations simply can't afford to maintain massive amounts of data for extended periods of time using conventional on-premises storage solutions or first-generation cloud storage services. In practice, most enterprises store only essential data required to support fundamental business functions or regulatory requirements. Historical data containing valuable insights into customer behavior, market trends and system tendencies is simply discarded.

But all of that is about to change. A new generation of cloud storage has arrived, bringing breakthrough pricing, performance and simplicity. Cloud Storage 2.0 delivers storage as an inexpensive and plentiful utility, so you no longer have to make difficult decisions about which data to collect, where to store it and how long to retain it.

With Cloud Storage 2.0 you can cost-effectively store any type of data, for any purpose, for any length of time. This new generation of cloud storage lays the groundwork for big data and advanced analytics, and will ultimately disrupt industries and revolutionize business practices in unforeseen ways.

[1] One zettabyte equals one trillion gigabytes
[2] Data Age 2025, IDC, April 2017

Take a Lesson from the Networking World Radical Price-Performance Improvements Can Transform Industries

The networking industry serves as an excellent example of how radical price-performance improvements can shake up industries and spawn new business opportunities. Over the past several decades network connectivity speeds have increased dramatically, while the price of bandwidth has declined precipitously. Today's consumers and businesses can choose from a wide range of high-speed internet access services, wide area network connectivity solutions and mobile broadband services, with data rates and pricing unimaginable at the beginning of the century.

The advent of cheap and plentiful bandwidth has changed the world in profound and unanticipated ways, reforming entire industries and reshaping business models. In the music industry, compact disc sales evaporated as the public embraced online stores like iTunes, and later, streaming services like Spotify.   In the publishing world, thousands of newspapers and magazines ceased operations and book sales plummeted as readers moved to online properties and adopted e-readers and tablets. In the video world, streaming services like Netflix put movie rental companies like Blockbuster out of business and are now threatening traditional broadcasters and content providers. In retail, small businesses and major chains across the globe shut down, furloughing millions of workers, as shoppers flocked to Amazon and other online sites. The examples go on and on.

Cloud Storage 2.0 will have an equally profound effect on society. Radical improvements in cloud storage pricing and performance will give enterprises an abundant supply of data to analyze and act upon, fundamentally changing the way businesses operate, disrupting industries in unforeseen ways.

Traditional Storage Solutions are Too Expensive for the Big Data Era

Conventional storage solutions are far too costly and complex for the era of big data and digital transformation. Today, most enterprises store data locally using HDD/SSD[3] storage arrays from vendors like Dell EMC, HPE and NetApp, or in the cloud using services like Amazon Simple Storage Service (S3), Google Cloud or Microsoft Azure. Each approach has distinct advantages and disadvantages. Neither meets the increased price-performance requirements of big data and analytics.

On-Premises Storage Solutions are CAPEX and OPEX Intensive

On-premises storage solutions offer superior performance (low latency, fast read/writes) for data hungry, delay-sensitive applications like high-performance computing. But on-site storage solutions are notoriously costly and complex to procure, maintain and extend.

Disadvantages include:

- **High CAPEX –** significant upfront equipment costs lead to poor ROIs with long payback periods.

- **High OPEX –** recurring power, cooling and rack space expenses; expensive monthly hardware and software maintenance and support fees; and excessive system administration cost and complexity all lead to high ongoing operations expenses.

- **Obsolescence concerns –** storage vendors regularly retire products and discontinue support plans, often subjecting customers to costly and disruptive upgrades.

- **High risk –** ensuring business continuity (replicating live data to a secondary data center) is an expensive proposition beyond the reach of most organizations.

- **Complex operations –**legacy storage solutions are difficult to configure and administer, and require special training and expertise.

Cloud Storage 1.0 Services Can't Meet Stringent Big Data Price-Performance Demands

First-generation cloud storage services (aka Cloud Storage 1.0) improve economics and accelerate time-to-market by eliminating equipment expense and complexity, and enabling pay-as-you-grow scalability. Cloud-based services also offer inherent resiliency, enabling more cost-effective disaster

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[3] A conventional mechnical hard-disk drive (HDD) or a newer solid-state drive (SSD)

recovery and business continuity. They also protect against obsolescence—new features and capabilities are introduced in the cloud, with minimal imposition to the customer.

While first-gen cloud storage services offer cost and operational advantages over traditional on-premises storage solutions, they are still too expensive, complicated and slow-performing for many applications.

Limitations include:

- **Costly and confusing service tiers –** legacy cloud vendors sell several different types (tiers) of storage services. Each tier is intended for a distinct purpose—primary storage, backup storage or long-term retention. Each has unique performance and resiliency characteristics, SLAs and pricing schedules. Complicated fee structures with multiple pricing variables make it difficult to make educated choices, forecast costs and manage budgets.

- **Poor performance –** first-generation cloud storage services deliver significantly slower read/write speeds than traditional on-premises storage platforms (it takes much longer to move data in and out of the cloud) and are not well suited for data hungry, delay-sensitive applications like advanced analytics.

- **Vendor lock-in –** each service provider supports a unique, proprietary API. Switching services is an expensive and time-consuming proposition—you must rewrite or swap out your existing storage management tools and apps.

Cloud Storage 2.0 Eliminates Cost and Complexity

Cloud Storage 2.0 represents a new breed of cloud storage services, designed from the ground up for the era of big data and digitalization. Most Cloud Storage 1.0 services are simply implemented on top of Windows or Linux, and aren't engineered to optimize disk utilization and read/write performance. Cloud Storage 2.0 services are specifically designed to make optimal use of storage capacity and to maximize read/write speeds. Rather than leveraging native OS functionality, these next-generation services take direct control of the heads on the disks to pack data in ways that are radically different from traditional operating systems.

Cloud Storage 2.0 services deliver groundbreaking pricing, performance and simplicity, eliminating the cost and complexity of both conventional on-premises solutions and first-gen cloud-based storage services. With Cloud Storage 2.0, you purchase storage just like any other common metered utility—electricity, natural gas, water. You consume what you need, on-demand, and pay the bill at the end of the month. You no longer have to think about which data you want to collect and which tier you want to store it in.

The differentiating attributes of Cloud Storage 2.0 include:

- **Commodity pricing –** unlike traditional cloud storage services with confusing storage tiers and complex pricing schemes, next-generation cloud storage services are incredibly easy to understand and extraordinarily economical to scale. One product, with straightforward and ultra-low pricing, supports a wide range of applications.

- **Superior performance –** Cloud Storage 2.0 services deliver significantly faster read/write speeds than legacy cloud storage services and are better suited for data intensive, delay-sensitive applications like advanced analytics.

- **Compatibility –**Cloud Storage 2.0 services are compatible with legacy cloud storage services so you can avoid vendor lock-in and continue to use your existing management tools and practices.

The table below compares on-premises, first-generation cloud and second-generation cloud storage solutions.

|	On-Prem	Cloud 1.0	Cloud 2.0
Financial Attributes			
No capital equipment outlays		✓	✓
Pay-as- you-grow, on-demand scalability		✓	✓
No recurring power, cooling, and rack space expenses		✓	✓
No equipment maintenance, admin and support burden		✓	✓
Easy-to understand, universal storage solution (no tiers)			✓
Commodity pricing			✓
Functional Attributes			
Strong security and control	✓	✓	✓
Rapid read/write speeds	✓		✓
Inherent resiliency		✓	✓
Eleven 9s data durability		✓	✓
Configurable data immutability	✓	✓	✓
Vendor independence (no lock-in)			✓

Comparison of On-Premises, Cloud 1.0 and Cloud 2.0 Storage Solutions

[4] Support varies by vendor and tier. For example, Amazon only offers data immutability for its Glacier service.

Cloud Storage 2.0 Brings Advanced Analytics to the Masses

The science of analytics is constantly evolving. Gartner's Analytic Ascendancy Model identifies four increasingly powerful categories of analytics:

- **Descriptive analytics** answers basic questions about what happened in the past; i.e. which types of customers purchased which types of products.

- **Diagnostic analytics** provides insights into why things happened; i.e. the root cause of a system failure.

- **Predictive analytics** examines historical data to speculate what could happen in the future; i.e. a system component is likely to require maintenance or replacement after a certain period of use.

- **Prescriptive analytics** uses machine learning to determine how to achieve a desired outcome; i.e. intelligently adjust inventory levels and product prices to align supply with demand and optimize financial results.
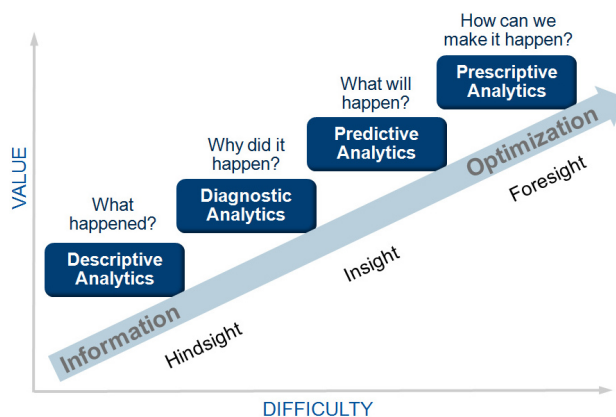
Gartner's Analytic Ascendancy Model

Enterprises typically start out with descriptive analytics and introduce more sophisticated types of analytics over time. Each category brings more business value, but is increasingly more difficult to implement. Today, in part because of the high cost of storage, most enterprises only make use of descriptive and diagnostic analytics—if they use analytics at all.

Cloud Storage 2.0 radically reduces the cost of storage, laying the foundation for deeper and more advanced analytics. By analyzing massive datasets, and employing machine learning and artificial intelligence, enterprises can solve complex problems, automate workflows and optimize business processes.

CLOUD STORAGE 2.0 REVOLUTIONIZES ARCHIVAL STORAGE

Until now, businesses have had to make difficult decisions about archiving data. There's a cost-benefit tradeoff with archival storage. All data has some value. But with conventional on-premises storage solutions or first-generation cloud storage services the costs of storing data for long periods of time often outweighs the benefits.

Today most organizations retain only data required to support essential business needs or regulatory requirements. Historical data containing valuable insights into customer behavior and market trends is often discarded. Cloud Storage 2.0 transforms storage economics, letting you retain a larger variety and volume of historical data. The more data you can archive, the more data you have for future analysis, and the more insights you can gain into your business.

Introducing Wasabi Hot Cloud Storage – One-Size-Fits-All Commodity Cloud Storage at Dramatically Lower Prices

Wasabi offers the industry's leading Cloud Storage 2.0 solution. Wasabi hot cloud storage is extremely affordable, fast and reliable cloud object storage—for any purpose.

Storage Market Landscape

Straightforward, Disruptive Pricing

Specifically conceived to provide storage as a commodity, Wasabi hot cloud storage is easy to understand, easy to order and incredibly cost-effective to scale. With Wasabi there are no confusing storage tiers to decipher and no complicated fee structures to decode.

Wasabi hot cloud storage costs a flat $.0059/GB/month.[5] Wasabi can also be purchased in advance in 1, 3, or 5 year installments for even greater savings.

Compare that to $.023/GB/month for Amazon S3 Standard, $.026/GB/month for Google Multi-Regional and $.046/GB/month for Azure RA-GRS Hot.
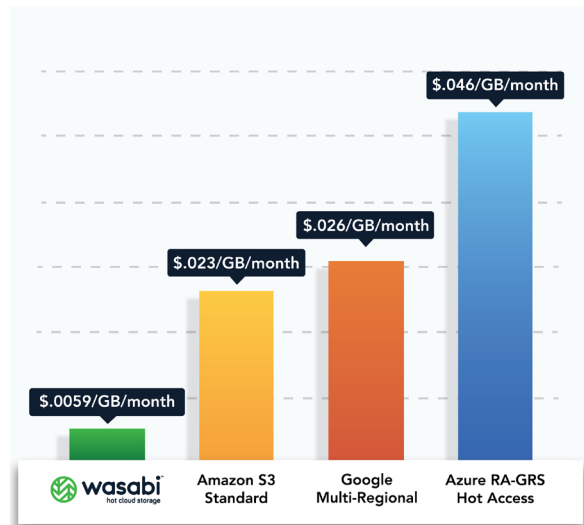
Unlike Amazon, Google and Azure Wasabi does not impose extra fees to retrieve data from storage (egress fees) and does not charge extra fees for PUT, GET, DELETE or other API calls.

Groundbreaking Performance

Wasabi's pioneering highly parallelized system architecture delivers a read/write performance advantage over Amazon S3, with significantly faster time-to-first-byte speeds. Wasabi is markedly faster than S3 even for Amazon Elastic Compute Cloud (EC2) customers.[6]

Robust Data Durability and Protection

Wasabi hot cloud storage is designed for extreme data durability, integrity and security. Wasabi is engineered to withstand hardware failures and media errors, providing eleven 9s object durability.[7] An optional data immutability capability prevents accidental deletions and administrative mishaps; protects against malware, bugs and viruses; and improves regulatory compliance.

[5] For full details on Wasabi's pricing please visit wasabi.com/pricing
[6] For more information download the Wasabi Performance Benchmark Report
[7] Data durability refers to the ability to protect data in the event of component failures. Wasabi's data durability is 99.999999999%. To put that in perspective, if you stored one million 1 GB files on Wasabi, you could expect to lose one file every 659,000 years.

Amazon S3 Compatible

Wasabi supports a simple, standards-based REST API that is 100% bit-compatible with Amazon S3. That means all S3 storage management applications will work seamlessly with Wasabi. It also means if you are ever dissatisfied with Wasabi for any reason, you can move your data to S3 with minimal disruption.

The chart below compares Wasabi hot cloud storage with conventional on-premises storage solutions and first-generation cloud storage services.

Cost vs. Speed Comparison
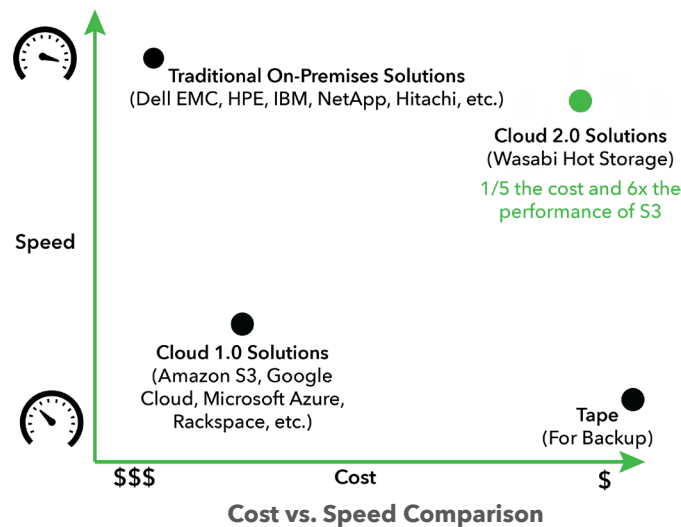
What Can Wasabi Do for Your Business?

Wasabi makes cloud storage an affordable and plentiful commodity. With Wasabi you no longer have to make arbitrary decisions about which data to collect and where to store it.

What if you had years of detailed sales, marketing, supply chain and distribution data at your disposal? What business insights could you gain? What new possibilities could you unlock?

By turning bulk data into business knowledge you can:

- Streamline business processes, improve employee productivity and reduce costs

- Improve customer satisfaction and retention, expand markets and revenues, and boost margins and profitability

- Increase business agility, accelerate the pace innovation and improve time-to-market

- Improve decision-making, optimize operations and mitigate risks

Summary

Legacy on-premises storage solutions and first-gen cloud storage services are too costly and complex for the era of big data and digitalization. Cloud Storage 2.0 commoditizes cloud storage with groundbreaking pricing, performance and simplicity. The next generation of cloud storage lets you cost-effectively store any type of data, for any purpose, for any length of time. By unleashing a virtually endless supply of data, Cloud Storage 2.0 will fundamentally transform the way businesses operate and compete.

Next Steps

- **CONTACT WASABI TODAY.** Learn more about our price, performance and protection benefits.

- **TRY WASABI FOR FREE.** Get up to 1 TB for 30 days.

About Wasabi

Wasabi is the hot cloud storage company delivering disruptive storage technology that is 1/5th the price of Amazon S3 and faster than the competition with no fees for egress or API requests. Unlike first generation cloud vendors, Wasabi focuses solely on providing the world's best cloud storage platform. Created by Carbonite co-founders and cloud storage pioneers David Friend and Jeff Flowers, Wasabi is on a mission to commoditize the storage industry. Wasabi is a privately held company based in Boston, MA.

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