

THE HOT
STORAGE
MANIFESTO

5 Immutable Laws for Storing **ALL** Your Data in the Cloud



1 Make it as simple as buying electricity

Are you confused by all the different tiers and pricing models in the cloud storage industry? S3 Standard, Infrequent Access, Glacier, Nearline, Coldline, Reduced Redundancy, Redundant Redundancy (ok, we made up that last one). The point is, it shouldn't be that complicated.

The power outlets in your home or office don't serve up different qualities of electricity, right? Why should cloud storage be any different?

It's time to say goodbye to these silly, artificially priced storage tiers.



We believe that cloud storage should be as simple and ubiquitous as a utility: **One price. One speed. Pay for what you use.** In order for one universal storage product to meet the needs of nearly every application, it would need to be faster than the fastest tier available today, cheaper than the cheapest, and more reliable than all of them combined.

One price: **BARGAIN!** / One speed: **BLAZING!** / One level of reliability: **BULLETPROOF!**

2 Don't let price determine what data you save, and what you throw away.

The cost of cloud storage is holding back the true potential of Big Data. Whether it's the massive amount of scientific data from the Large HADRON Collider, or video feeds from the burgeoning number of surveillance cameras, we all know there's gold in that data. And we're getting better at mining it. Sadly, much of it gets thrown away because storing it is simply too expensive. How many discoveries lay hidden due to tossed data? How many crimes are left unsolved because critical evidence was deleted simply due to the prohibitive cost of keeping it?

These same cost pressures are also stifling innovation in the commercial sector, whether it's buyer behavior data from retail and e-commerce platforms, or safety data collected from sensors on jet engines, automobiles, and factory floors. Think of all those free social and mobile applications that require large communities of users before ever realizing a dime in advertising revenue—especially storage-intensive ones, like photo and video-sharing services. How many great apps are only in the minds of their creators because today's storage prices don't give them the runway they need to turn a profit, if they can at all? In an era where anyone with an idea and some coding experience can become the next digital economy millionaire, it doesn't seem right that the cost of big data storage should dash an entrepreneur's big data dreams.

The high price of cloud storage is forcing us to literally delete opportunities...and cash. By driving down costs, data-intensive applications will make more economic sense, and the promise of Big Data will finally be fulfilled.

Wasabi is 6x faster and 1/5 price of Amazon S3.

Visit wasabi.com for pricing and performance comparison details.

3 Rethink the meaning of fast.

Money's no object? That's great. We're happy for you. But if you can't get your data in and out of storage fast enough, it doesn't matter what the price is. If you're generating 10 terabytes of data per day, but your database can only write 5 terabytes per day, you're up the creek.

Big data requires big speed. Problem is, the definition of "big" has changed considerably in the last ten years. When Amazon launched S3 in 2006, no one could imagine that generating and storing a petabyte of data would be considered routine a decade later. Moving that much data into and out of storage quickly requires an entirely different approach to object storage.

Wasabi uses a totally new, highly parallelized storage architecture that is designed for extremely high throughput. Out of the starting blocks, we're about six times faster than S3. Over time, our architecture will allow us to pull even further ahead, so large data sets can be written and retrieved faster than ever.



Wasabi's time to first byte is <15ms. Way faster than Amazon S3.

4 Counting nines won't prevent data loss.

Amazon S3 and Wasabi Hot Storage both boast 99.999999999% of durability. That's a lot of nines. Eleven, to be exact. If you stored 1 million one megabyte files, you could expect to lose one file every 659,000 years. Given these numbers, you'd think people would never lose data. But it happens every day.

Just making ever-more-reliable and redundant storage servers will never solve the problem. That's because it's not a technology issue... it's a human one. Today, the vast majority of data loss is due to dumb mistakes, "fat fingers," accidental overwrites, sabotage and cyberattacks. The recent fiasco at Amazon that took down a large portion of the web was the result of human error⁽¹⁾. The Oakland, Calif., police department managed to accidentally delete 25 percent of its body cam videos⁽²⁾. Hundreds of companies have been hit with ransomware attacks, making their data inaccessible until they paid a handsome price to get it back. Ransomware was up 400 percent in 2016 and is projected to double again in 2017⁽³⁾. A cloud-based storage system could have a million nines of durability and it wouldn't prevent any of these losses.



Immutability is real-world data protection

Wasabi Hot Storage solves for these problems with something called "immutability." Immutability means that any data, once written, cannot be deleted or modified by anyone. Not by you, not by a hacker, not even by one of our employees. It means that no matter what happens, or who breaks into your network with bad intentions, your data is always safe.

With immutability, once you decide to store something, it stays stored for the predetermined life of that data. Amazon doesn't have this option of creating immutable buckets. Wasabi does because our roots are in the backup industry, where all we thought about was real-word data protection.

5 Embrace open standards and avoid vendor lock-in.


The cloud storage industry is experiencing a standards war reminiscent of the VHS vs. Betamax wars in the early days of home video. Amazon, Google, and Microsoft each have their own competing APIs, but it's inevitable that a standard will emerge. Standards create open markets, where products compete on an equal playing field by offering the best value. Open competition forces performance improvements, and drives down costs for the consumer. Standards also free developers from vendor lock-in, enabling them to easily switch from one cloud storage vendor to another without having to rewrite their applications.

Amazon is far and away the market leader, and their S3 API is rapidly becoming the de facto standard. Products like OpenStack and Google's API are already quite similar to Amazon's, though far from plug-compatible.

Wasabi's API was purpose-built to be 100 percent bit-compatible with the S3 API. We run compatibility tests with third-party applications designed to store data in S3, including backup products and various gateways, to make sure that you can literally unplug Amazon and plug in Wasabi, and everything still works without rewriting any code.

Of course, this compatibility means you could just as easily switch back to Amazon (but for 6x the speed at 1/5 the cost, we're not sure why you would want to.)

Another way that vendors try to lock you into their proprietary storage is through punitive pricing. The most notorious of these is Glacier, where the amount of data you can withdraw each day is severely limited. Consequently, if you store your data in Glacier, it could be prohibitively expensive to move to another cloud storage vendor. Consider the following post from a Y Combinator blog:

 **WARNING: Retrieval Fee**

“Beware that retrieval fee! The retrieval fee for 3TB could be as high as \$22,082 based on my reading of their FAQ. The math would work as follows:

After uploading 3TB (3 x 2x40 bytes) as a single archive, your retrieval allowance would be 153.6 GB/mo (3TB x 5%), or 5.12 GB/day (3TB x 5% / 30). Assuming this one retrieval was the only retrieval of the day, and as it's a single archive you can't break it into smaller pieces, your billable peak hourly retrieval would be 3072 GB - 5.12 GB = 3066.88 GB.

Thus your retrieval fee would be **3066.88 x 720 x .01 = \$22,081. (719x your monthly storage fee).**”⁽⁴⁾

We're opposed to vendor lock-in of any kind. Wasabi charges a flat egress fee of \$.04/GB. This is lower than the lowest of Amazon's variable S3 egress fees, which can reach as high as \$.09/GB based on monthly volume. However, if you decide to download all your data and close your Wasabi account, we'll reimburse you for whatever amount you were charged for migrating your data out of Wasabi. Why should anyone have to pay to stop using someone's service? We hate that.

“You can't have everything. Where would you put it?”
–Steven Wright

Store it all with **Wasabi Hot Storage**

We think the days of a handful of industry giants battling it out to lock customers into their proprietary storage systems is limited. As it should be. Virtually every application requires storage, and the world's storage needs are only increasing.

Big data analytics and the Internet of Things (IoT) promise a new era of business insight, automation, safety, and productivity. But not if the price and speed of cloud storage prevents us from storing the vast amounts of data these connected devices will produce.

At Wasabi, we believe that storage should be simple, inexpensive, interchangeable, reliable, and readily available to anyone who needs it. Just like bandwidth or electricity. **Oh, and blazing fast.** Like melt-your-eyeballs fast.

Try it for Free

Try storing up to 1 terabyte of your data for free for 30 days on Wasabi.
Create an account today for a 30-day free trial.

We're cloud storage specialists.

Wasabi was co-founded by cloud storage pioneers David Friend and Jeff Flowers, the founders of Carbonite, the world's leading provider of simple and affordable backup. Unlike other vendors who want your whole data center in their cloud, cloud storage is all we do.

**We're not interested in changing the world.
Just the way the world stores its data.**

www.wasabi.com



Footnotes

- 1) <https://www.rt.com/usa/359584-oakland-policy-camera-delete/>
- 2) <https://www.recode.net/2017/3/2/14792636/amazon-aws-internet-outage-cause-human-error-incorrect-command>
- 3) <https://www.scmagazine.com/ransomware-attacks-will-double-in-2017-study/article/634560/>
- 4) <https://news.ycombinator.com/item?id=4412886>