

# The Hot Cloud Storage Guide to Stretching your Higher Education IT Budget

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## Doing more with less: higher education's new normal

Higher educational institutions have long had to balance budget limitations with their goals of delivering superior learning experiences, attracting and retaining top-tier talent, and meeting governing boards' demands for outstanding fiscal and academic outcomes.

With the recent chaos and uncertainty caused by the COVID-19 pandemic, the balance has tipped increasingly toward budget shortfalls due to drastically reduced revenues and state funding, and increased expenses in IT infrastructure and services to introduce or expand remote learning capabilities in the era of social distancing.

Rutgers University recently spent \$50 million to refund students of unused campus services such as dining, housing, and parking as a direct result of the pandemic.<sup>1</sup> Rutgers medical centers lost an additional \$60 million from canceled surgical procedures.<sup>2</sup> All of this lost revenue was exacerbated by a loss of another \$73 million in state appropriations due to a state spending freeze to compensate for severe tax revenue shortfalls.

Public colleges across the country are dealing with the same dire finances. Add to that the fact that more than two-thirds of universities feel that institutional IT funding hadn't even fully recovered from the sharp budget cuts caused by the 2008 recession<sup>3</sup> and one thing becomes painfully clear: doing more with less will be the new normal for many years to come.

**Now more than ever, IT leaders in higher education will be forced to find creative ways to stretch their budgets. We believe that substantial money can be found by taking a closer look at how these organizations store their data.**



## Where are your IT dollars going?

With increasing pressure to do more with less, IT professionals in higher education must be extremely deliberate about how they spend their shrinking budgets. A recent survey revealed that the majority of an institution's general budget goes toward teacher and administrator salaries and the costs of operating its physical facilities. Less than 3% is typically allocated to technology investment and operations.<sup>4</sup> And with the astronomical amount of data that people and machines generate in today's digitized world, nearly half of a university's IT budget can be consumed by data storage.

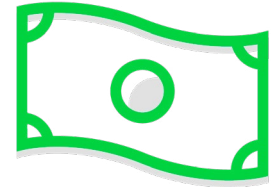
*"The amount of data created over the next three years will be more than all the data created over the last 30 years."*

—GLOBAL DATASPHERE FORECAST, IDC, MAY 2020

As you can see in Figure 1, data storage requirements and their associated costs are going nowhere but up, so now is the time to make storage a priority.

**FIGURE 1** Global datasphere to hit 175 zettabytes (ZB) by 2025





## Skyrocketing data drives institutional growth (and costs!)

Just like enterprises in every industry across the world, higher education institutions are being deluged with a massive, increasing volume of digital data. Universities and colleges must store not only student records and transcripts, but health and financial data, employment information, research, BYOD data, and video surveillance footage. The Covid-19 pandemic has added to this growing need with a dramatic increase in recorded course content, video lectures, and other online learning materials and applications.

It's not just the amount but the size of files that is growing as well. Many schools save decades of video footage of student presentations, recitals, and sporting events—making them available to students and staff in active digital archives. High-resolution surveillance video for campus security is often stored for months if not years. Large medical and research universities, in particular, grapple with storing petabytes and exabytes of research data, much of which must be stored indefinitely.

All of that data has become the lifeblood of the university. It's the information that drives your administrative and educational decisions, that helps you see which initiatives are working, and that powers the future growth of the institution. It's no wonder, then, that educational institutions are using a lot more storage space than they did just a few years ago.

The growing importance of storing ever more data is the reason why storage is taking a larger share of your shrinking budget—which is exactly why making storage a priority now can pay dividends for years to come. With the right data storage strategy, you can centralize your technology, manage infrastructure more efficiently, free up limited resources, improve performance across the entire ecosystem—and stretch your budget dollars even further.

**Let's take a deeper look at the various storage options available.**

## The hidden (and not-so-hidden) costs of on-premises storage arrays



On-premises storage arrays have improved in both performance and capacity. Even their upfront acquisition costs continue to decline. However, this initial capital expense (CAPEX) represents only a portion of your total cost of ownership (TCO). The majority of expense comes after the initial purchase, in the form of hidden hard and soft costs.

### Hard costs:

- **Data center resources** – Substantial power, heating, and cooling costs for storage arrays get buried in your overall data center operations expenses. Other costs come by way of additional floor space used and physical security measures required.
- **Storage networking** – Additional network infrastructure expenses, including Ethernet or Fibre Channel switches, router ports, rack space, and cabling.
- **Overprovisioned storage** – Overprovisioning is a standard practice when acquiring new storage arrays since capacity must be sufficient to last you until your next purchase. This seems logical. However, you are paying today's prices for storage capacity that typically decreases in price over time, essentially locking yourself into hardware that may be obsolete before you finish amortizing your total costs.

### Soft costs:

- **Acquisition and installation** – The people resources required to evaluate, procure, and install the solution—along with the necessary network infrastructure.
- **Storage array management** – IT resources required for ongoing management, from allocating server capacity, load balancing, monitoring performance, and installing bug fixes, patches, and firmware upgrades. These hidden costs include the losses incurred by not being able to focus on more strategic IT initiatives.
- **Data migrations** – Migrating data from old to new storage arrays takes time, additional software tools, and a level of expertise your organization may or may not possess. It also comes with potentially costly risk, such as data loss or application downtime.

Before you invest another penny into your existing on-premises storage infrastructure, consider the following:

1

### **On-premises storage is expensive**

A decent on-premises storage server will run you about \$344K in capital investment for 1 petabyte of storage. But a server does not a system make. On average, physical storage represents about 60% of total costs. Add in supporting gear like switches, routers, racks, cables, power and cooling costs, staffing, and yearly maintenance fees (another 18%), and you're looking at approximately 2.3 cents per gigabyte (GB) per month on storage over a five-year period.<sup>5</sup> (See [Appendix](#) for cost analysis comparison between on-premises and cloud storage solutions.)

2

### **Locked-in obsolescence**

That five-year period is an important data point to consider because that's how long you are typically bound to an on-premises service contract. With the rapid pace of innovation, five years is an eternity in IT. Sure, you can benefit from incremental improvements with software upgrades, but slick new high-speed, high-capacity hardware won't come often, and won't come cheap. You are essentially locked into an investment that is losing value as it ages.

3

### **Doesn't scale easily or cheaply**

You will be generating and amassing more data. That's a fact. You know what else is a fact? Physics.

There is only so much physical space inside a server—and only so much room in your facility. Scaling capacity means more boxes, more electricity for power and cooling, and less space in your facility for other important things...like staff and students.

## The rise of cloud storage for higher education

Cloud object storage is a growing and enticing alternative to on-premises storage. A 2020 study by IT experts at Spiceworks showed that growth in cloud storage infrastructure (at 20%) is outstripping all other media types, including on-premises all-flash arrays.<sup>6</sup> At face value, cloud storage appears to be the ideal solution. There are usually no upfront costs with cloud: it's typically priced as a pay-as-you-go service. The cloud is infinitely scalable. You can take advantage of the latest innovations immediately. And from a cost standpoint, you benefit from the cloud's economies of scale—at least in theory.

As it turns out, there's a reason most of the world's data is still stored in on-premises data centers—we'll explain why shortly. Before we do, let's take a look at some of the most popular cloud storage use cases in higher education.

## USE CASE #1

### Exponential growth in online learning

As the world continues to face the uncertainties caused by the novel coronavirus pandemic, the demand for online learning will remain high. Industry experts HolonIQ estimate that the market for online program management (OPM) systems will more than double—from \$7 billion today to \$15 billion—by 2025.<sup>8</sup>

A recent survey by Bay View Analytics revealed that a large majority of instructors relied on their institution's learning management system (83%) and synchronous video technology (80%) to make the transition online. Sixty-five percent of instructors recorded their own lectures on video and 51% said they used videos from third-party sources.<sup>9</sup>

Hot cloud storage is ideal for storing large amounts of video content affordably, while still making it readily accessible at a moment's notice.



## USE CASE #2

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**Find out how an international team of researchers was able to perform “high-speed” genomics research on a budget with Wasabi for storage and Wasabi partner, Packet, for on-demand compute. [Read the case study.](#)**

### Large Research Projects

Large research projects in science, medicine, and other important fields represent a significant portion of many college and university IT budgets. Scientific instruments such as high-resolution microscopes, spectrometers, and sequencers generate massive amounts of unstructured data at increasingly faster rates—all of which must be stored for longer periods of time. Institutions are not only challenged with how to retain petabytes of information more affordably, but how to store it in a way that is easily accessible by research teams and colleagues that may be distributed across the globe.

Traditionally, institutions used massive clustered disk solutions to store research data, but they tended to be slow, unstable, and difficult to scale. Cloud object storage is not only more secure and stable, and infinitely more scalable, it can free up research data by eliminating silos and inviting more collaboration. With cloud object storage, unstructured data can be tagged with relevant metadata, such as project, researcher name, instrument settings, sample type, and so on. With data catalogued in this manner, it can be published and shared, giving researchers the ability to query relevant data from past projects.

While cloud object storage is an ideal solution for research data, first-generation cloud storage from Amazon, Microsoft, and Google is not only expensive, overall costs are unpredictable due to extra fees for egress and API requests. These challenges place researchers in the unenviable position of having to choose which data to keep, which to discard, which should remain in active archives, and which should be stored offline.

**Low-cost, unfettered access to all of your data enables researchers to make new discoveries without breaking the bank.**



## USE CASE #3

### Big data analytics and artificial intelligence (AI)

By analyzing vast amounts of data, higher education institutions can improve teaching and learning experiences, enhance student success and retention rates, better target prospective students, and identify administrative issues before they escalate. Perhaps that is why both AI and analytics are a top priority for today's educators.

In a recent [EDUCAUSE survey](#), two of the top 10 strategic technologies of interest to higher education were "technologies for improving analysis of student data" and "predictive analytics for student success." Both AI and data analytics require high-performance compute and high-speed access to that all-important data. Data is no good to educators and researchers if they can't access it quickly. That means it can't be stored away offline or in glacially slow inactive archives.

**Near-infinite scalability plus immediate accessibility to datasets equals a wealth of data-driven insights that can revolutionize administrative and educational decision making.**



## USE CASE #4

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**Learn how Catawba College was able to store more security video longer, while avoiding all those annoying cloud-storage transaction fees.**

**[Read the case study.](#)**

## Active Archives and Repositories

Universities and colleges not only need to store vast amounts of unstructured data—video, audio, and images—they also want to make them available to students, teachers, and the public. The Berklee College of Music in Boston, for example, has petabytes of performances from students and faculty spanning decades that make incredible learning tools for today’s aspiring musicians. Storing this type of data and making it easily accessible to students simply wasn’t affordable with traditional data center storage or first-generation cloud storage. To control costs, schools would provide access to smaller collections using more expensive storage tiers, such as AWS S3. The bulk of their archives would be locked away on tape or in inactive archive cloud storage like Amazon Glacier.

With Wasabi hot cloud storage, institutions no longer have to make the hard decisions about what content to jettison or lock away in cold, inactive cloud storage. It can all be stored inexpensively and made easily available to students and faculty anytime they need it without incurring egress or transaction fees. That’s active archiving.

Now you can store—and access—potentially decades of archived lectures, performances, audio recordings, and more to enhance student learning, bring old data to life for new applications, and even find modern ways to monetize your older data.

**Super-low-cost active archival storage that’s easy to manage and search allows universities to keep vast amounts of data and content to enrich learning and enhance on-campus experiences.**



## USE CASE #5

### Video surveillance

In addition to storing multimedia performances and lectures, many universities and colleges are gathering and storing massive volumes of video data for another critical reason: safety. The use of video surveillance in schools can help keep students and campuses safe and can be instrumental in bringing perpetrators and bad actors to justice.

Machine learning and artificial intelligence are significantly improving the value of surveillance video with the ability to parse huge volumes of information quickly and deliver advanced insights, such as identifying behavioral trends and benchmarks so it's easier to identify suspicious or unusual activity.

Unfortunately, high-definition video can eat up storage space fast—many campuses are only able to keep footage for a couple of weeks before they need to erase their drives to make more room. The ability to retain more data for much longer periods of time could be critical to reducing crime or solving cases faster. Analysis of video data over time has the potential to unlock unprecedented value for users of digital video surveillance solutions, but only if there is an affordable way to store all that data.

With Wasabi hot cloud storage, you can store more video for longer periods of time. That means larger datasets for video analytics systems to work with and more historical data to refer to if the need arises.

Campuses don't have to delete potentially critical video footage just to make room for tomorrow's recordings—which ultimately can lead to greater safety overall.

**Store more video surveillance footage for as long as you need it to significantly improve campus safety awareness, prevention, and response.**



## USE CASE #6

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**"Being able to back up our entire IT infrastructure under a single pane of glass is huge, but being able to tell leaders in the business college that we can recover their data almost instantly and maintain business continuity is even better."**

**Find out how [Cornell University](#) saves [\\$50,000](#) each year with [Wasabi-based backup](#).**

## Backup and recovery

School records, lectures, and research data are too precious to lose. When you're dealing with petabytes of data, however, on-premises primary storage can use a majority of your IT storage budget. The exponentially lower cost of Wasabi hot cloud storage makes it an ideal solution as a second or third backup for those already heavily invested in traditional primary storage.

Use Wasabi with third-party backup applications to provide cost-effective, fast, and reliable data protection. The hot cloud storage solution allows you to back up and protect: data and content stored on on-premises storage arrays, on servers with internal storage, or on other cloud storage services like Amazon S3; applications and workloads running in your institution's data centers, in remote campuses, or in cloud compute services like Amazon EC2; and applications, data and content on desktops, laptops, and mobile devices scattered across the entire university ecosystem.

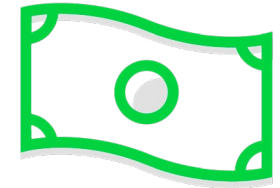
For full disaster recovery, you can even use Wasabi together with cloud compute services such as Amazon EC2. If a natural disaster or malware attack takes your data center down, you can speedily restore production services in the cloud.

**Ensure that institutional data is backed up and available to those who need it, anytime, with cost-effective, reliable backup and recovery from Wasabi.**



## The high (and unpredictable) costs of first-generation cloud storage

The 2019 Campus Computing Survey showed that almost three fifths (57%) of higher education respondents reported that migration to the cloud was an important part of their institutional plan “to help reduce IT costs.”<sup>7</sup> It’s true that the cloud can help universities cut certain costs—by reducing the need to acquire and maintain storage hardware, for instance, or by reducing energy costs in large data centers or automating specific processes and system management so fewer personnel are needed. However...



## First-generation cloud storage is expensive and complicated

### **Costs can rise quickly as volume of data grows**

While initial cost-per-GB of data stored in first-generation cloud object storage from the big three vendors (Amazon, Microsoft, and Google) seems low, overall costs can add up fast as your data grows. Exacerbating this problem are the number of additional costs and transaction fees placed on the data owner (see Appendix for cost analysis).

### **Transaction fees make total costs unpredictable and difficult to calculate**

Beyond the capacity-based charge for storing your data, depending on the tier of service you choose, these cloud storage providers make you pay to access, move, or change your data. Those hidden fees not only add substantially to your overall costs, they make it impossible for you to plan and predict your total cost of storage.

### **Complicated tiers require substantial data lifecycle planning and automation**

Most cloud storage companies have structured their offerings in tiers of service designed to give you price/performance options for active, short-term, and long-term storage. However, this forces IT to come up with policies and procedures for determining how best to classify data and invest in software or services for automating data tiering.

### **Vendor lock-in**

To get the most out of a cloud service provider's offerings, it's almost a necessity to go "all in" with that vendor's services. While many institutions choose to use multiple cloud service providers, they can run into trouble because one provider requires a specific configuration or customization that is incompatible with another provider's platform. Every school wants the flexibility and agility to pivot quickly if it needs to. Being locked in with one cloud service provider for your data storage can limit your ability to do that.

## Introducing Wasabi: a new approach to cloud object storage

In 2015, Carbonite co-founders and cloud storage pioneers David Friend and Jeff Flowers set out on a mission to make cloud storage a simple commodity and utility, just like electricity. Leveraging the latest advances in storage technology and designing an innovative new file system that made use of all the available space on every disk drive platter, they were able to significantly increase performance, maximize capacity, and lower operating costs. The result was Wasabi hot cloud storage, an enterprise-class, tier-free, instantly available cloud storage service that is 1/5th the price of AWS S3 Standard Service. They call it Wasabi hot cloud storage because all data is treated equally and made readily accessible regardless of how you classify it: hot, cool, or cold.

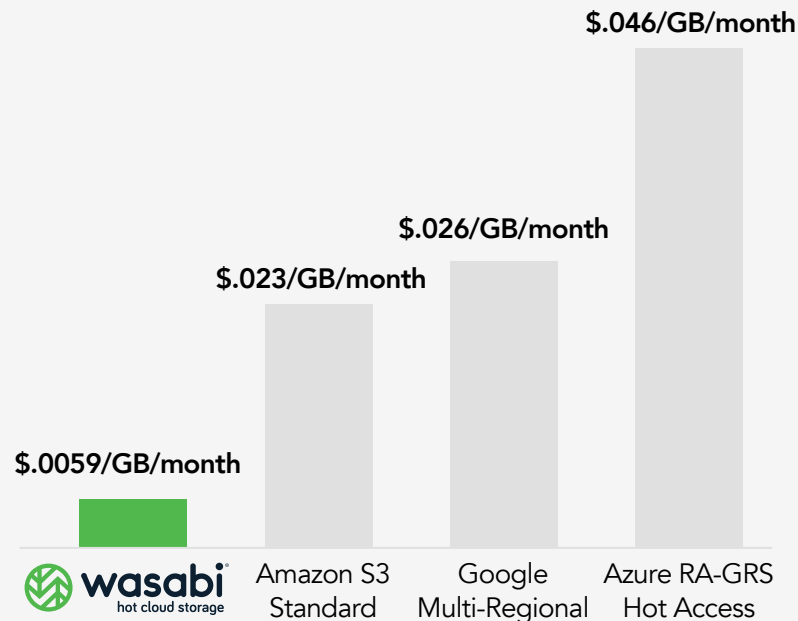
## What puts the sizzle in Wasabi hot cloud storage?

### Ultra-low commodity pricing

Wasabi hot cloud storage pricing is straightforward and doesn't include any hidden fees: those small-but-relentless charges for retrieving data, getting a list of stored objects, creating or accessing objects in an application, or copying data from the cloud to other clouds or on-premises systems.

Wasabi doesn't have tiers or fee structures that require specialty consultants to help you make sense of it all. Costs are based on a simple, low-priced per-terabyte fee per month for object storage (see Figure 2). That's it. Scale up or down as needed without hassle.

**FIGURE 2** Wasabi Pricing Compared to Other Leading Cloud Storage Providers



### Save even more with Reserved Capacity Storage

Customers who prefer to purchase storage capacity up front can save even more on data storage costs with Wasabi’s Reserved Capacity Storage (RCS) pricing model. RCS delivers true price predictability and simple one-time billing and is ideal for organizations that prefer to pay with a purchase order instead of a credit card. You can commit to fixed-price terms of up to five years and cut your storage costs by up to an additional 27% compared to Wasabi’s pay-as-you-go pricing, depending upon the capacity and duration of the storage you reserve. And you still won’t be charged for data egress or API requests.

Figure 3 (below) demonstrates how much money you can save when storing 100 TB over five years with Wasabi RCS compared to the typical on-premises storage solution

**FIGURE 3** Cost Comparison of Wasabi RCS Plan vs. Standard Pricing of Typical On-Premises Solution

	Wasabi RCS	Vendor X
Volume	100 TB	100 TB
Duration	5 years	5 years
Price	Less than \$40,000	\$130,000 list price*
Conditions	Includes technical support	Doesn't include costs for maintenance, data center, or personnel
* Price increases to more than \$240,000 when maintenance costs over five years is included.		

Source: Wasabi

## What puts the sizzle in Wasabi hot cloud storage?

### Superior performance

As technology advances, so does the need for increased cloud storage performance. The read/write speed of Wasabi hot cloud storage is measured in single-digit milliseconds and Wasabi's superior performance has been consistently proven in the laboratory as well as in real-world enterprise applications.

Their hot cloud storage excels even in the most data-intensive, delay-sensitive environments, such as those that support advanced analytics. Even for Amazon Elastic Compute Cloud (EC2) customers, Wasabi proved faster than AWS S3, as shown in the [Wasabi Performance Benchmark Report](#).

### Uncompromised reliability

On-premises and first-generation cloud storage providers achieve high durability by replicating data across multiple drives using various RAID (Redundant Array of Independent Disks) schemes. Next-generation cloud object storage services such as Wasabi achieve the same level of reliability, but far more efficiently, through the use of advanced erasure coding algorithms. With erasure coding, each object is transformed into a series of codes that are distributed across independent drives in separate storage servers. In the event of hardware failure or data corruption, the original data object can be reconstructed using a subset of these codes. This more effective use of storage capacity enables Wasabi to deliver "eleven nines" of durability (or 99.999999999%) at a lower cost than traditional RAID schemes—a savings that is passed along to customers in the form of lower prices.

### Protection from ransomware and human error

Backing up your data to the cloud adds an additional layer of protection. However, your backup in the cloud can still be vulnerable to cybercriminals and human error. While the vast majority of attacks are initiated on-premises, bad actors have been known to gain access to a victim's cloud credentials and use them to delete previous backups or download them to servers under their control. In other less-malicious cases, misconfigured cloud object buckets (the containers that hold your data) have left private data open to the public and vulnerable to cybercriminals.

## What puts the sizzle in Wasabi hot cloud storage?

When you create a storage bucket in Wasabi, you have the option of making it immutable, which means that any data written to that bucket cannot be deleted or altered in any way—not even by a systems administrator. Wasabi is one of the few cloud service providers capable of providing this immutability feature. It not only prevents encryption by crypto ransomware but can help your institution comply with your state’s data privacy and security regulations, as well as other government and industry regulations such as HIPAA, CJIS, the Financial Industry Regulatory Authority (FINRA), and Markets in Financial Instruments Directive (MiFID), and many others.

### **Support for advanced analytics**

As educational institutions realize the value of advanced analytics, some still aren’t capitalizing on that value because it’s too expensive to store huge volumes of data to feed into analytics systems. With Wasabi, you get fast, inexpensive storage that affordably scales. You no longer have to make the hard decisions about which collections of data to keep, where to store it, or how long to hold on to it.

Wasabi hot cloud storage makes it simple and cost-effective to store all your data, for any purpose, for as long as you need it. It sets the stage for you to take advantage of AI and big data analytics to turn your data into valuable, actionable business information.

What insights could you glean from three decade’s worth of detailed student dropout statistics or course feedback data? How about extensive campus safety incident reports? With the ability to parse massive datasets, you could improve administrative processes, reduce overhead costs, improve student success rates, identify new revenue possibilities, and much more.

### **Revolutionary archival possibilities**

Much like it allows you to store all your data for purposes of analytics, Wasabi hot cloud storage is also revolutionizing archival storage. Now, all your data has value and you no longer have to decide which data to jettison to keep costs low. You can store it all.

## What puts the sizzle in Wasabi hot cloud storage?

### **Rich partner ecosystem**

One of the great things about Wasabi hot cloud storage is that they have partnered with over 3,500 managed and cloud service providers, technology companies, and systems integrators to provide almost every storage-related service you can imagine, from data protection technologies to backup and recovery specialists to file management and data analytics.

Some cloud storage companies are trying to become all-in-one solutions that deliver it all. But no one can be the best at providing everything. With so many channel partners providing best-of-breed solutions for specific cloud storage use cases, you have the flexibility to choose the right solution for you while Wasabi concentrates on delivering the best cloud storage foundation possible to support those solutions.

### **Compatibility with legacy systems**

With Wasabi hot cloud storage, you can avoid vendor lock-in because it is compatible with legacy cloud storage services and most common management tools and practices. Wasabi hot cloud storage was designed to be 100% compatible with AWS S3 through a simple, standards-based REST API—so all of your existing S3 storage management apps work seamlessly with Wasabi hot cloud storage.

## Wasabi hot cloud storage will save you money

- ✓ **Simple**
- ✓ **Predictable**
- ✓ **Affordable**
- ✓ **Always Available**

**Sign up in Seconds—  
click through to Free Trial**

With increasing pressure to do more with less, IT professionals in higher education must be extremely deliberate about how they spend their shrinking budgets. At the same time, they need an affordable way of storing more of the data and information that is increasingly becoming the lifeblood of their institutions.

Wasabi hot cloud storage makes it simple to cost-effectively hold on to more data, longer—so you can rest easy knowing that the future of your college or university is safe and protected.

# Appendix

## A COMPARISON BETWEEN ON-PREMISES, AWS AND WASABI CLOUD STORAGE

	On-Prem	Cloud 1.0	Cloud 2.0
<b>FINANCIAL ATTRIBUTES</b>			
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			✓
<b>FUNCTIONAL ATTRIBUTES</b>			
Strong security and control	✓	✓	✓
Rapid read/write speeds	✓		✓
Inherent resiliency		✓	✓
Eleven 9s data durability		✓	✓
Configurable data immutability	✓	✓	✓
Vendor independence (no lock-in)			✓

# Appendix

## Additional Resources

### *Does it Pay to Move from On-Premises to Public Cloud Storage?*

A simple cost analysis: On-premises storage vs. AWS S3 Standard

### *The Future of On-Premises Storage: Not So Hot*

A look at the total cost of ownership over a 5-year period

### *Why Cloud Storage Hasn't Killed LTO Tape*

The real total cost of ownership of LTO tape storage vs. Cloud 1.0 storage tiers

## Endnotes

- <sup>1</sup> [Coronavirus: Rutgers will lose \\$200 million in revenue due to pandemic – mycentraljersey.com, April 2020](#)
- <sup>2</sup> Ibid
- <sup>3</sup> <https://www.campuscomputing.net/content/2019/10/15/the-2019-campus-computing-survey>
- <sup>4</sup> <https://www.toptal.com/finance/market-research-analysts/edtech-trends-2020>
- <sup>5</sup> Kevin L. Jackson, CEO and founder of GovCloud Network.
- <sup>6</sup> <https://www.spiceworks.com/marketing/state-of-it/report/>
- <sup>7</sup> <https://www.campuscomputing.net/content/2019/10/15/the-2019-campus-computing-survey>
- <sup>8</sup> [The \\$7B Global OPM and Academic PPP Market — HolonIQ](#)
- <sup>9</sup> [How Teaching Changed in the \(Forced\) Shift to Remote Learning – Inside Higher Ed, April 2020](#)

## About the Author

### **David Boland, Product Marketing Director, Wasabi**

As Wasabi's Director of Product Marketing, David plays an integral role in communicating their mission of making saving data simple, affordable, fast and secure. He has served in various sales, marketing, and product management roles at companies at all stages of growth from startup to Fortune 100, including NetApp, Juniper Networks, Lucent Technologies, and Cabletron Systems.

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