SEAGATE LYVE™ Cloud | VEEAM

White Paper

# DESIGNING AND BUDGETING FOR SEAGATE AND VEEAM SOLUTIONS

Optimize backup and recovery costs by understanding how Seagate storage solutions compare with those of other providers.

SEAGATE

# CONTENTS

## Introduction: The Cost of Exponential Data Growth

For enterprises across industries, exponential data growth has created several cost and complexity challenges when it comes to storing and accessing backup data.

These organizations must retain backup copies of their data—sometimes for months or even decades—to demonstrate regulatory compliance. In the event of a cyberattack, ransomware, or natural disaster, these organizations rely on backups to ensure business continuity with as little downtime as possible. And with a growing recognition of the unrealized value of enterprise data, these organizations are seeking solutions that will enable them to mine insights from massive unstructured data sets.

Whether on premises, in the cloud, or both, these factors are driving a need for lower-cost data storage that can integrate seamlessly with backup, recovery, and monitoring software. Seagate® Lyve™ Cloud's simple, capacity-based pricing without extra charges for ingress, egress, or API calls makes it an attractive option for enterprises that are looking to establish a cloud-based disaster recovery plan.

A cloud-based backup strategy is becoming an increasingly attractive option for enterprises of all sizes because it accelerates data retrieval for restores. With backups in the cloud, enterprises have access to infinite backup storage capacity and can demonstrate compliance with ease. Unlike tape and disk, cloud storage technologies will never become obsolete, which means enterprises can avoid costly migrations and technology updates. On-premises solutions are capable of securing backup data for disaster recovery purposes, but what happens if that disaster affects onsite systems? Storing backups in the cloud protects that data from the looming threat of natural or manmade calamities while providing nearly instantaneous recovery in the event of primary data failure.

It's a similar story for organizations that rely on secure archival storage. By migrating backup and archive data stored on physical media such as tape and disk to the cloud, these organizations can ensure that data's protection against floods, fires, and other destructive forces that are completely outside of their control. And while security is a primary motivator for moving backups and archives to the cloud, organizations are also discovering the opportunities that come with having instantaneous global access to massive data sets that were previously trapped in physical storage silos.

### Building a Foolproof Data Protection Strategy

When configuring cloud storage with backup and recovery software, it's important to understand how the backup application will function and interact with it. Cloud storage pricing can quickly grow out of hand if the backup strategy is poorly designed. It's straightforward to work out storage capacity used, but it's somewhat harder to predict monthly bills and the impact of transaction charges. This can grow exponentially when you consider how many backup data copies it is recommended for organizations to store.

Most IT teams are familiar with the concept of a *3-2-1 backup strategy*. This Industry best practice for data protection encourages organizations to maintain three copies of data (including the original) on two different kinds of storage media with one being stored offsite. This safeguards against media- and site-specific threats.

Ideally, a 3-2-1 backup strategy should reduce backup storage total cost of ownership (TCO) while also meeting recovery time objectives (RTO) and recovery point objectives (RPO) for how quickly data can be restored and how far back data can be recovered.

There's nothing wrong with 3-2-1, but there's also room to take it a step further. The 3-2-1-1-0 backup strategy calls for the same approach as 3-2-1 with the additional task of storing one copy offline so it's out of reach for hackers in a write-once-read-many format with immutable data objects. Of course, no strategy is going to be effective unless it's verified, so the final step of the 3-2-1-1-0 approach is to perform restore tests and ensure the backup strategy is reliable and ready to activate if needed.

In this paper, we examine Seagate solutions for cloud and on-premises backup, how they compare, and how they interact with the Veeam Availability Suite. Detailed examples with estimated costs will be included to help you predict your own costs.

This paper will guide you to:

- Explore industry-leading backup solutions from Seagate and Veeam
- Compare Seagate's backup storage solutions with those of other providers
- Learn how to estimate costs for Seagate storage on premises and in the cloud with Veeam software

## Modern Backup Solutions: On Premises, in the Cloud, or Both

Modern backup challenges call for modern backup solutions. Seagate storage solutions are Veeam Ready certified and integrate seamlessly with the Veeam Availability Suite to provide scalable and cost-effective storage for secure backup, fast recovery, and unified analytics. This includes Seagate's enterprise storage systems for primary and archive storage on premises and Seagate Lyve Cloud for always-on storage as a service that delivers elastic scalability and predictable capacity-based pricing.

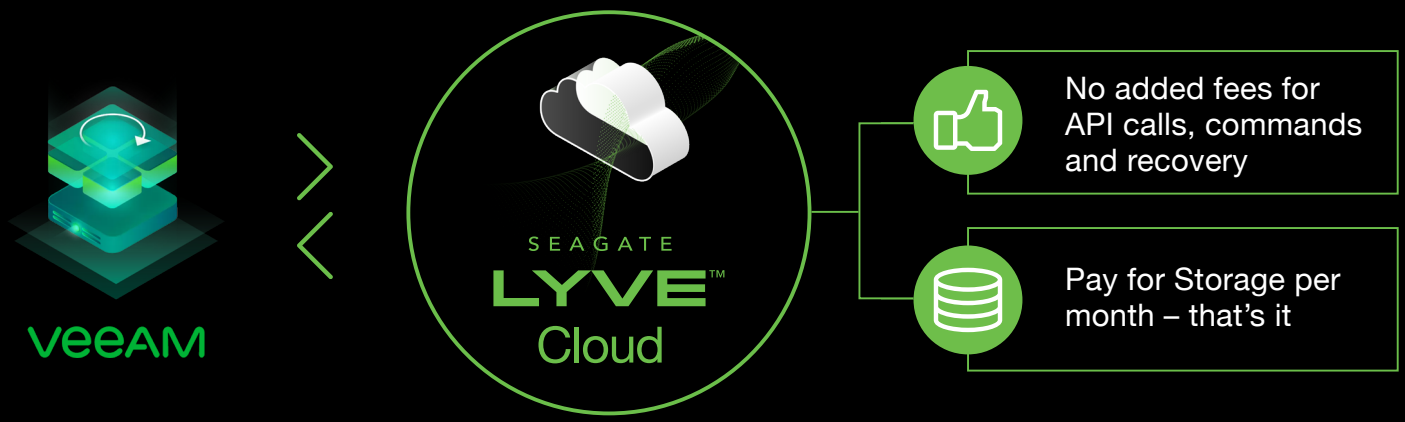
### Seagate Lyve Cloud

A highly available backup repository with predictable storage costs.

Designed for use with the most common backup applications, Seagate Lyve Cloud is an S3-compatible cloud storage solution without nested storage tiers and costly additional fees. With zero charges for API calls or data egress, Lyve Cloud's simple pricing structure supports limitless scalability without running up a cost-prohibitive cloud storage bill. Enterprises pay only for the storage they need for however long they need it. With lower costs than typical cloud storage solutions, Lyve Cloud reduces overall backup storage TCO.

All data stored within Lyve Cloud is resilient and secure, with end-to-end encryption at rest and in flight. Multi-regional availability means data is always on and available without costly delays. Lyve Cloud is also carefully crafted for four nines of availability and 29 nines of data durability. Seagate's adherence to the most stringent, globally recognized security standards helps organizations streamline verifiable compliance while meeting RTOs and RPOs with ease.

World-class security features such as cloud air gapping, ransomware protection, multifactor authentication, and object immutability make Lyve Cloud an excellent solution for data backups, restores, and cloud-based disaster recovery. In particular, Lyve Cloud's object immutability feature—which is included at no additional cost—prevents objects from being deleted or manipulated for a user-defined retention period. This protects enterprise data from common causes of data corruption such as viruses and ransomware. Not even an administrator can manipulate the backup data. Furthermore, organizations can configure immutable object storage retention periods to align with those that are mandated by industry-specific regulatory requirements.



## Seagate Storage Systems

Low-cost, high-performance platforms for primary on-premises backup storage.

Seagate storage systems offer the best value per petabyte with leading capacity, proven reliability, and multi-protocol support for mixed storage environments. Purpose-built for rapid throughput, Seagate systems ensure high performance, scalability, and built-in protection to support a variety of backup and recovery scenarios. With enclosures that can host up to 1.3PB of data, these storage arrays deliver world-class performance that guarantees maximum data protection and quick rebuilds.

*Veeam Ready Seagate storage systems* are ideal on-premises data storage repositories to support a robust 3-2-1-1-0 backup strategy. To learn more about Seagate enterprise storage systems, *read this white paper*.

## Veeam Availability Suite

Industry-leading backup and recovery software solutions.

The Veeam Availability Suite is a complete data protection solution for all enterprise data—whether that data is deployed on premises, in the cloud, through backup as a service, or disaster recovery as a service. With Veeam, users can protect and manage all workloads using a single platform. Veeam helps enterprises and cloud service providers (CSPs) evolve how they manage data while ensuring its availability across any application or cloud infrastructure.

Veeam's flexible solutions—including Veeam Backup & Recovery for four-in-one data protection and Veeam ONE for monitoring and analytics—reduce the cost and complexity of backup data management immediately. Enterprises and CSPs can quickly achieve fast, flexible, and reliable backups with archival and recovery capabilities for the most critical enterprise workloads—all with bulletproof ransomware protection.

## Seagate Solutions with Veeam

Data protection for all workloads.

On premises or in the cloud, restores can't wait. Joint solutions from Seagate and Veeam work together to support efficient disaster recovery methods with minimal downtime. Feature-rich data management capabilities provide flexible, scalable, and frictionless data protection, serving immediate needs for recovery, long-term retention, backup and application testing, and verifiable compliance. This also allows all backup data to be securely stored and protected under the most stringent security standards. With Lyve Cloud's predictable pricing models and Veeam's affordable costs, customers can lower their backup TCO and save on their storage budget. Seagate storage solutions are qualified as Veeam Ready, which means these joint solutions have been tested to validate their full compatibility.

## Competitor Pricing: How Seagate Lyve Cloud and Veeam Backup Solution Costs Compare

When selecting the right storage solution for storing and accessing backups in the cloud and on premises using Veeam software, there are several CSPs and storage hardware providers to choose from. The tables below provide a high-level cost comparison between storage solutions from Seagate and its competitors. These cost estimates are based on calculations done by Veeam[1] and represent backup storage costs in US dollars for 10 terabytes (TB) of backup data stored over 13 months. They do not take into consideration continued data growth.

In the following section, we'll explore the factors that go into these storage cost calculations more in depth. We'll also more clearly quantify the overall savings of using Veeam backup software with Lyve Cloud when compared to other major public cloud vendors.

### Storage Costs for 10TB Backup over 13 Months (Capacity Tier – Copy Mode)

| Months | Lyve Cloud (No Storage Tiers) | Public Cloud Workload Access | Public Cloud Nearline Access | Public Cloud Archive Access | Public Cloud Cold Archive |
|---|---|---|---|---|---|
| 1 | $92 | $446 | $510 | $747 | $1,652 |
| 2 | $163 | $576 | $507 | $564 | $1,147 |
| 3 | $206 | $685 | $566 | $581 | $1,151 |
| 4 | $236 | $762 | $608 | $591 | $1,154 |
| 5 | $255 | $811 | $634 | $598 | $1,155 |
| 6 | $271 | $851 | $656 | $605 | $1,157 |
| 7 | $286 | $891 | $678 | $612 | $1,159 |
| 8 | $302 | $931 | $700 | $619 | $1,161 |
| 9 | $318 | $972 | $722 | $626 | $1,162 |
| 10 | $334 | $1,012 | $744 | $633 | $1,164 |
| 11 | $349 | $1,052 | $66 | $640 | $1,166 |
| 12 | $365 | $1,092 | $788 | $647 | $1,168 |
| 13 | $373 | $1,112 | $798 | $647 | $1,168 |
| **Total** | **$3,550** | **$11,192** | **$8,677** | **$8,108** | **$15,564** |

## Storage Costs for 10TB Backup over 13 Months (Capacity Tier – Move Mode)

| Months | Lyve Cloud (No Storage Tiers) | Public Cloud Workload Access | Public Cloud Nearline Access | Public Cloud Archive Access | Public Cloud Cold Archive |
|---|---|---|---|---|---|
| 1 | $ – | $52 | $65 | $51 | $52 |
| 2 | $45 | $218 | $230 | $275 | $567 |
| 3 | $61 | $225 | $186 | $150 | $238 |
| 4 | $77 | $265 | $208 | $157 | $240 |
| 5 | $92 | $305 | $229 | $164 | $242 |
| 6 | $108 | $346 | $251 | $171 | $243 |
| 7 | $124 | $386 | $273 | $178 | $245 |
| 8 | $140 | $426 | $295 | $185 | $247 |
| 9 | $155 | $466 | $317 | $192 | $249 |
| 10 | $171 | $507 | $339 | $199 | $250 |
| 11 | $187 | $547 | $361 | $206 | $252 |
| 12 | $203 | $587 | $383 | $213 | $254 |
| 13 | $218 | $627 | $404 | $220 | $256 |
| **Total** | **$1,580** | **$8,165** | **$3,541** | **$2,361** | **$3,335** |

## Factors That Drive Competitor Costs

Most public CSPs offer a variety of object storage types to support various use cases. These storage tiers most commonly include frequent/instant access for workloads, nearline access for less frequent use, archive storage that can be instantly retrieved if needed, and deep cold storage that is rarely, if ever, accessed. Storage tiers might make sense for users that are leveraging cloud services from a single provider, but they drive storage costs up rather quickly when leveraged as part of a hybrid-cloud or multicloud strategy. That's because most CSPs charge transaction costs that vary from one storage tier to the next for moving, storing, or accessing data. And these aren't one-time fees; rather, these are fees that apply to every single transaction—including the replication of backup data to other zones or data centers. This means customers are paying not only for moving data between storage tiers but also paying for additional capacity.

# TCO Calculations: Estimating Total Solution Costs

Below are the primary considerations that will factor into TCO for Seagate storage solutions with Veeam software. As customer environments and backup methods vary, these factors and any associated calculations are intended as estimates. They do not represent actual storage costs for your unique backup and recovery strategy. We encourage you to connect with one of our Seagate storage experts for a comprehensive cost savings assessment tailored to your business needs.

## Veeam Backup Method

Veeam Capacity Tier with Copy Mode is a compelling alternative to traditional backup copies. However, it's important to understand how Veeam Capacity Tier functions and interacts with cloud storage.

Veeam Capacity Tier is the capability of a Scale-out Backup Repository (SOBR) to move older retention points into native object storage. A SOBR is a scalable, logical representation of one or more disk-based repositories and a Capacity Tier of object storage that provides infinite backup storage scalability.

One of the primary factors that will determine overall storage costs when using Veeam backup software with your storage solution of choice is whether you leverage Veeam Capacity Tier or Veeam Copy/Move Mode.

Capacity Tier (Move Mode) is a built-in automatic tiering feature of Veeam that offloads older backups into cloud object storage. The problem with this approach is that backup data typically isn't uploaded until at least a week after the backup is taken. In other words, that data cannot be part of a 3-2-1-1-0 protection strategy.

To rectify this, Veeam introduced Copy Mode for SOBR. With Copy Mode, backups are copied from the performance extents of the Veeam SOBR as soon as they're created. This supports a 3-2-1-1-0 protection strategy. It also has the potential to remove the need for a second-site on-premises backup copy, because if the on-premises data is all lost, it's possible to restore directly from object storage.

## Capacity

The most obvious and significant cost for backup storage is capacity used. Seagate charges based on the average capacity in gigabytes (GB) consumed in total each month.

If you have 10TB of source data to back up (10,000GB), Veeam will typically reduce that 2:1 through compression and deduplication to 5TB (5,000GB) of backup data. The first time this data needs to be sent to Lyve Cloud, the whole 5,000GB must be uploaded. After that, only the incremental changes will ever be uploaded.

In the calculations to follow for a 30 daily, 13 weekly, and 12 monthly backup retention, we will assume a uniform daily change rate of 7%. For weekly changes, we'll assume a change rate of 21% (3× daily). For monthly backups, we'll assume a change rate of 35% (5× daily). As mentioned in the previous section, we will not be taking data growth into consideration. Please note that rate of change is highly specific to each unique environment and is likely to vary significantly. Furthermore, we will assume that 7% of the initial backup data will be restored every month.

## Daily Backups

If Copy Mode is used, and 30 days of daily backups are retained, the capacity used after 30 days will remain static at 5,000GB + (30 × 5000 × 7%) = 15,500GB. If the initial 5,000GB is uploaded on the first day of the month, the average stored for the month will be 10,250GB (assuming a 30-day month). Therefore, the first month's capacity charges will be 10,250GB multiplied by Lyve Cloud's per-GB-per-month cost.

## Weekly Backups

The math gets more difficult if we add weekly and monthly backups to our retention. Veeam will still only upload the new, unique blocks each day—no additional data is uploaded when you extend retention. The difference is only when blocks are deleted. As fewer blocks are deleted, the capacity used will increase along with storage charges.

Four weekly backups are contained within the 30-day daily retention period (at no extra cost), but the oldest weekly synthetic full backup would not be deleted until up to 35 days (five weeks) have passed due to the incremental chain depending on it. As a result, some blocks will need to be retained for longer. We can calculate the number of extra weeks by adding one to the weekly retention (to give the maximum number of weeks the data will be held) and subtracting the number of weeks in the daily retention period.

Assuming a weekly change of 21% (3× daily), each weekly retention point required beyond the 30-day daily retention requires that 21% of the original data blocks (1,050GB) are retained. Therefore, if 13 weekly backups are retained, and the initial backup is on a weekly retention point day—(13 weeklies + 1) – (30 dailies / 7 days per week) = 9.71 extra weekly backups—this will result in an additional S3 capacity requirement of 1,050GB × 9.71 for a total of 10,200GB.

Please note, however, that this amount of extra capacity will not be fully consumed until 13 weeks have passed.

## Yearly Backups

For the purpose of estimation, the rate of change over a year can be estimated at 15× the daily change rate. That said, change rates over such a length of time are incredibly difficult to predict. Therefore, it's safest to assume a worst-case scenario in which each yearly retention point (beyond the monthly retention) will require 100% retention of the original data (5,000GB) from that date.

If three yearly backups are retained, and the initial backup is on a yearly retention point, we can calculate the extra years of retention by subtracting the number of years in the 12 months of monthly retention—3 yearlies – (12 monthlies / 12 months per year) = 2 extra yearly backups—which would result in an additional S3 capacity requirement of 5,000GB × 2 for a total of 10,000GB.

Please note, however, that this amount of extra capacity will not be fully consumed until three years have passed.

## Write Transactions (PUTs)

Veeam Backup & Replication defaults to reading and processing 1MB blocks for optimal performance. Based on 2:1 data reduction, these will average 0.5 MB in size when uploaded, which is ideal for fast restore performance. Because most public CSPs charge for each PUT request, this level of granularity can drive storage costs really high really fast. Additional PUT transactions for metadata updates and object immutability incur even more added fees.

Lyve Cloud doesn't charge for PUTs, which means customers can count on high-performance restores and immutable object storage without getting penalized by additional transaction costs.

## Storage Costs for 10TB Backup over 13 Months (Capacity Tier - Copy Mode) Lyve Cloud total cost for same period is $2,761 incl. PUT transaction costs

| Months | Public Cloud Workload Access | | Public Cloud Nearline Access | | Public Cloud Archive Access | | Public Cloud Cold Archive | |
|---|---|---|---|---|---|---|---|---|
| | PUT transaction cos | Total costs | PUT transaction cos | Total costs | PUT transaction cos | Total costs | PUT transaction cos | Total costs |
| 1 | $159 | $446 | $317 | $510 | $634 | $747 | $1,585 | $1,652 |
| 2 | $108 | $576 | $215 | $507 | $430 | $564 | $1,075 | $1,147 |
| 3 | $108 | $685 | $215 | $566 | $430 | $518 | $1,075 | $1,151 |
| 4 | $108 | $762 | $215 | $608 | $430 | $591 | $1,075 | $1,154 |
| 5 | $108 | $811 | $215 | $634 | $430 | $598 | $1,075 | $1,155 |
| 6 | $108 | $851 | $215 | $656 | $430 | $605 | $1,075 | $1,157 |
| 7 | $108 | $891 | $215 | $678 | $430 | $612 | $1,075 | $1,159 |
| 8 | $108 | $931 | $215 | $700 | $430 | $619 | $1,075 | $1,161 |
| 9 | $108 | $972 | $215 | $722 | $430 | $626 | $1,075 | $1,162 |
| 10 | $108 | $1,012 | $215 | $744 | $430 | $633 | $1,075 | $1,164 |
| 11 | $108 | $1,052 | $215 | $766 | $430 | $640 | $1,075 | $1,166 |
| 12 | $108 | $1,092 | $215 | $788 | $430 | $647 | $1,075 | $1,168 |
| 13 | $108 | $1,112 | $215 | $798 | $430 | $647 | $1,075 | $1,168 |
| **Total** | **$1,449** | **$11,192** | **$2,897** | **$8,677** | **$5,794** | **$8,108** | **$14,485** | **$15,564** |

## Storage Costs for 10TB Backup over 13 Months (Capacity Tier – Move Mode) Lyve Cloud total cost for same period is $1,230 incl. PUT transaction costs

| Months | Public Cloud Workload Access | | Public Cloud Nearline Access | | Public Cloud Archive Access | | Public Cloud Cold Archive | |
|---|---|---|---|---|---|---|---|---|
| | PUT transaction cos | Total costs | PUT transaction cos | Total costs | PUT transaction cos | Total costs | PUT transaction cos | Total costs |
| 1 | $ – | $52 | $ – | $65 | $0 | $51 | $ – | $52 |
| 2 | $51 | $218 | $102 | $230 | $204 | $275 | $510 | $567 |
| 3 | $18 | $225 | $36 | $186 | $72 | $150 | $180 | $238 |
| 4 | $18 | $265 | $36 | $208 | $72 | $157 | $180 | $240 |
| 5 | $18 | $305 | $36 | $229 | $72 | $164 | $180 | $242 |
| 6 | $18 | $346 | $36 | $251 | $72 | $171 | $180 | $243 |
| 7 | $18 | $386 | $36 | $273 | $72 | $178 | $180 | $245 |
| 8 | $18 | $426 | $36 | $295 | $72 | $185 | $180 | $247 |
| 9 | $18 | $466 | $36 | $317 | $72 | $192 | $180 | $249 |
| 10 | $18 | $507 | $36 | $339 | $72 | $199 | $180 | $250 |
| 11 | $18 | $547 | $36 | $361 | $72 | $206 | $180 | $252 |
| 12 | $18 | $587 | $36 | $383 | $72 | $213 | $180 | $254 |
| 13 | $18 | $627 | $36 | $404 | $72 | $220 | $180 | $256 |
| **Total** | **$249** | **$4.956** | **$498** | **$3.541** | **$996** | **$2.361** | **$2.490** | **$3.334** |

## Other Transactions

While other transactions factor into backup and recovery costs when utilizing other CSP offerings, Seagate Lyve Cloud does not charge customers extra for reads, writes, access, or egress. As a result, any backup operations, restores, or backup and disaster recovery testing can be performed without incurring additional costs and hidden fees. This enables organizations to fortify the validation aspect of their 3-2-1-1-0 backup strategies by eliminating cost barriers that typically prevent regular testing for backup and disaster recovery procedures and automating them with Veeam.

## Potential Storage Cost Savings

Lyve Cloud's lack of storage tiering and straightforward capacity-based pricing result in significant backup storage cost savings when compared to other CSPs. Using the same parameters from the cost comparison table in the previous section, we'll outline overall savings for 10TB of backup data stored over 13 months in percentage terms.

## Copy Mode

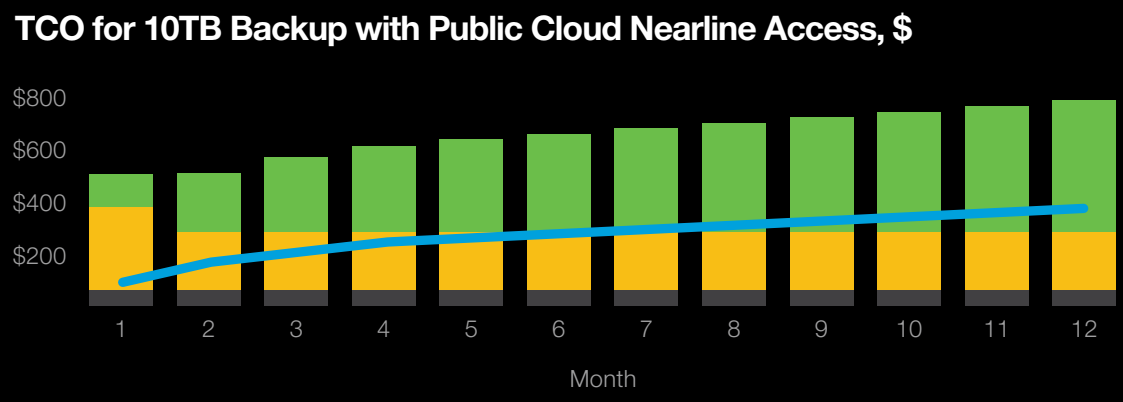
| Months | Lyve Cloud Cost | Public Cloud Workload Access Savings Percentage | Public Cloud Nearline Access Savings Percentage | Public Cloud Archive Access Savings Percentage | Public Cloud Cold Archive Savings Percentage |
|---|---|---|---|---|---|
| 1 | $92 | 84% | 86% | 90% | 96% |
| 2 | $163 | 78% | 75% | 78% | 89% |
| 3 | $206 | 77% | 72% | 72% | 86% |
| 4 | $236 | 76% | 70% | 69% | 84% |
| 5 | $255 | 76% | 69% | 67% | 83% |
| 6 | $271 | 75% | 68% | 65% | 82% |
| 7 | $286 | 75% | 67% | 64% | 81% |
| 8 | $302 | 75% | 66% | 62% | 80% |
| 9 | $318 | 75% | 66% | 60% | 79% |
| 10 | $334 | 74% | 65% | 59% | 78% |
| 11 | $349 | 74% | 65% | 58% | 77% |
| 12 | $365 | 74% | 64% | 56% | 76% |
| 13 | $373 | 74% | 64% | 55% | 75% |
| **Total** | **$3,550** | **75%** | **68%** | **66%** | **82%** |

## Capacity Tier

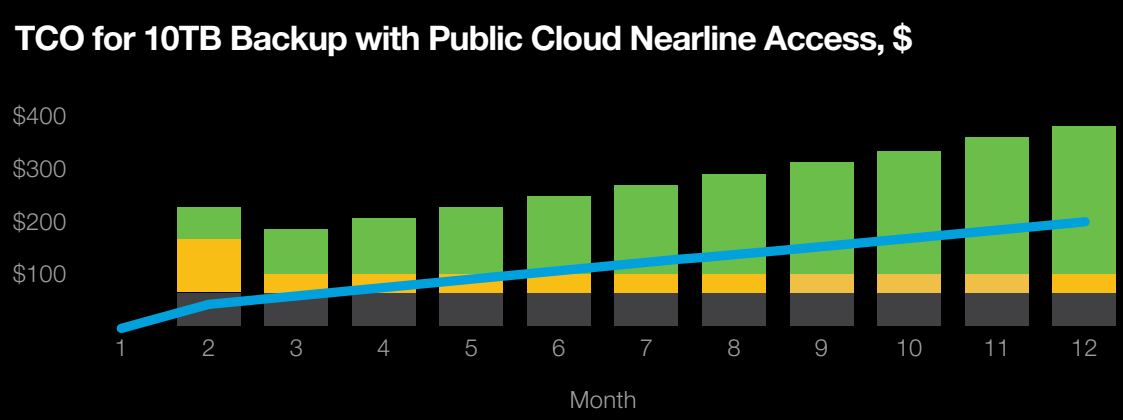
| Months | Lyve Cloud Cost | Public Cloud Workload Access Savings Percentage | Public Cloud Nearline Access Savings Percentage | Public Cloud Archive Access Savings Percentage | Public Cloud Cold Archive Savings Percentage |
|---|---|---|---|---|---|
| 1 | $ – | – | – | – | – |
| 2 | $45 | 84% | 85% | 87% | 94% |
| 3 | $61 | 79% | 75% | 69% | 80% |
| 4 | $77 | 78% | 71% | 62% | 75% |
| 5 | $92 | 77% | 69% | 56% | 70% |
| 6 | $108 | 76% | 67% | 51% | 65% |
| 7 | $124 | 75% | 65% | 46% | 61% |
| 8 | $140 | 75% | 63% | 41% | 56% |
| 9 | $155 | 74% | 62% | 37% | 51% |
| 10 | $171 | 74% | 61% | 33% | 47% |
| 11 | $187 | 73% | 60% | 29% | 42% |
| 12 | $203 | 73% | 59% | 26% | 38% |
| 13 | $218 | 73% | 58% | 23% | 34% |
| **Total** | **$1,580** | **78%** | **69%** | **51%** | **63%** |

## Lyve Cloud saves +25–80% on backup storage costs in the first year

**Veeam Copy Mode**




**Veeam Move Mode**




Lyve Cloud Cost
Public Cloud Storage Cost
Public Cloud PUT Command Fees
Public Cloud Retrieval Cost

## Key Lyve Cloud Benefits

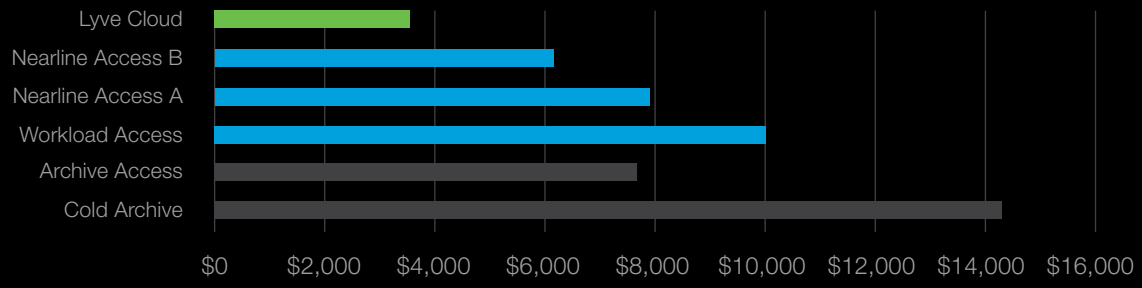
**+60-80%**
TCO savings in first year across access tiers

**+25-85%**
TCO savings in first year across access tiers

## Lyve Cloud is competitive with public cloud tiers, including archive and cold archive.

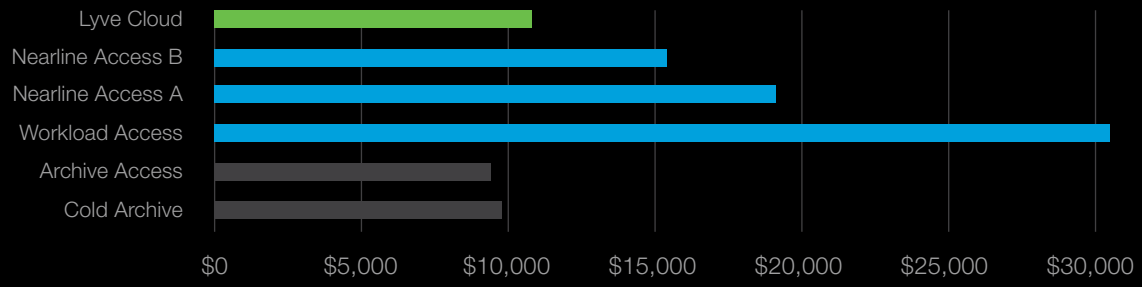
### Veeam Copy Mode: 12-Month S3 Storage Costs

**Veeam Copy Mode**




### Veeam Tiering Mode: 36-Month S3 Storage Costs

**Veeam Tiering Mode**





**Veeam Copy Mode PUT charges are 50–90% of total archive and cold archive costs.**

**Calculation considers neither data growth nor backup and disaster recovery tests, which come with additional charges for API and egress with public cloud storage services.**

## Conclusion: Cost-Effective Backups and Restores

When deployed with the Veeam Availability Suite, Seagate solutions offer the most optimal backup storage TCO on the market. For backup copies stored on premises, Seagate storage systems provide industry-leading density and performance that assures maximum data protection and fast rebuilds. Lyve Cloud's single-tier, capacity-based pricing with no extra charges for egress or API traffic eliminates the cost and complexity of storing and accessing backup data in the cloud.

Transaction commands and egress fees are a significant part of the total storage cost with traditional CSPs, and with Veeam, these transaction costs become more expensive the cheaper the storage cost per month is advertised. As such, it's very important to understand the interaction of the backup software with the CSP and to manage the data cost efficiently. This is a rather complex task and almost impossible to do it right upfront when implementing a backup storage solution.

With Lyve Cloud object storage, enterprises need not worry about the potential for exorbitant storage costs. Lyve Cloud simplifies backup storage management and reduces backup TCO with Veeam by up to 75% in Capacity Tier Move Mode and up to 80% in Capacity Tier Copy Mode during the first 13 months. Looking beyond that timeframe to several years of backup storage costs, Lyve Cloud is the more compelling choice for Veeam Backup & Replication when additional costs for data growth, backup and disaster recovery testing, and large restores beyond normal restore operations are taken into consideration.

## Ready to Learn More?

Talk to an expert **www.seagate.com/lyvecloud**

To estimate potential cost savings by switching to Seagate Lyve Cloud, visit the backup storage TCO calculator at **seagate.com/solutions/lyve-tco-calculators/**

[1] *https://www.veeam.com/wp-designing-budgeting-aws-object-storage-cloud-tier.html*

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