

ESG Economic Validation

Analyzing the Economic Benefits of Clumio for Data Protection in AWS Environments

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Executive Summary

Having effective public cloud data protection is a critical requirement for organizations to eliminate the risks associated with data loss. The tools and knowledge required for organizations to do this in AWS can present operational challenges, which injects business risk. Most cloud data solutions, while durable, do not come with backup and data protection. Operations, compliance, and data protection teams must ensure that data is collected, secured, and isolated, and that it can be rapidly restored when needed. Organizations need to be prepared to recover any data due to technical glitches, internal mishaps, or intentional attacks from internal or external forces, all while meeting SLAs and corporate governance requirements. Managing this without automated tools and intelligence within AWS has become a daunting task, made even more difficult as organizations expand in volume and regulatory and compliance requirements. ESG validated the benefits of Clumio in AWS as a powerful, cost-effective, intuitive, cloud-built solution for data protection. This validation considered organizations using native AWS tools, manual scripts, and other processes in a do-it-yourself scenario compared to utilizing Clumio and its features to increase data visibility, reduce costs, and improve protection with rapid recovery. ESG found that companies can realize a 35% overall cost reduction with 80% lower operational management costs when implementing Clumio. In addition, risks associated with cloud data protection were lowered between 70% to 99.999% when Clumio Air-Gapping was implemented.



Validated Benefits of Clumio
Data Protection-as-a-service



**Up to 35% savings over
cloud storage providers**

(total reduction in cost to store and manage
backups in the cloud over one year)

**80% lower cost of cloud
backup management**

(compared to using native tools and manual or
scripted processes to manage backups and replicas)



Introduction

This ESG Economic Validation focuses on the quantitative and qualitative benefits organizations can expect from leveraging Clumio in AWS to optimize data protection, decrease security risks, increase visibility, and maximize data availability. ESG created a modeled scenario that considered the operational benefits of deploying Clumio in AWS.

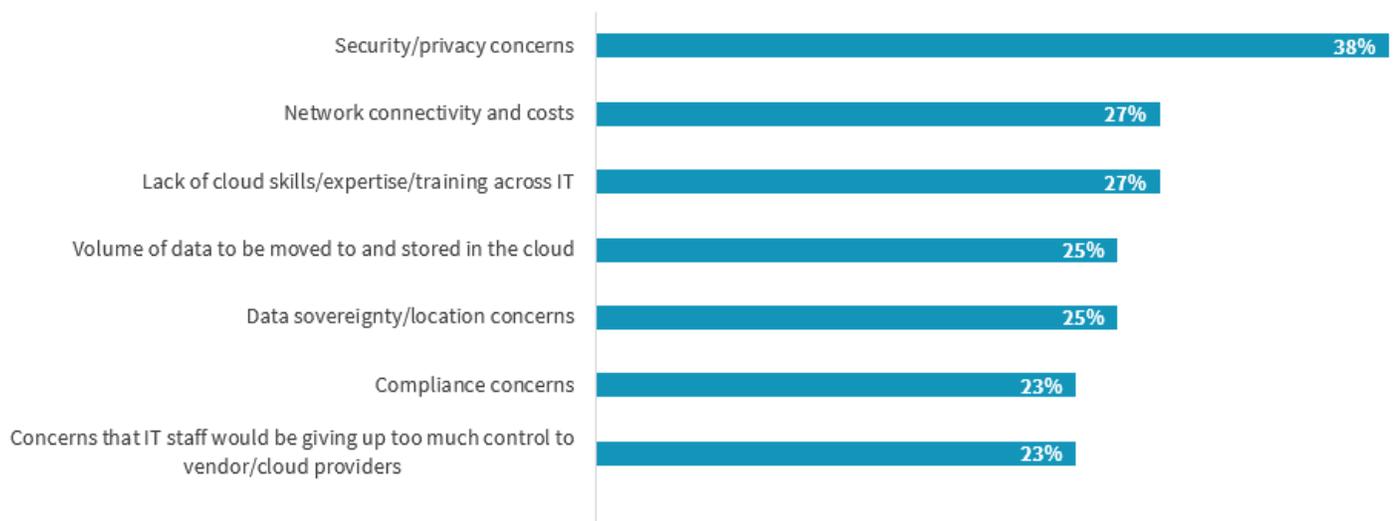
Challenges

Modern organizations have moved from on-premises infrastructure to cloud environments in order to become more operationally efficient. ESG research has found that 86% of organizations currently run at least some portion of their production applications on public cloud infrastructure.¹ While cloud environments do provide built-in high availability, they also do still result in data protection challenges similar to the ones organizations experience with on-premises data environments.

In ESG's 2021 research report, *The Evolution of Data Protection Cloud Strategies*,² as shown in Figure 1, organizations were asked about their biggest challenges with cloud-based data protection services. The top three areas where organizations expected to increase their spending were security (38%), costs (27%), and lack of cloud skills/expertise (27%).

Figure 1. Security and Costs Among the Top Seven Challenges with Cloud Data Protection

In general, what are the biggest challenges or concerns your organization has with cloud-based data protection services? (Percent of respondents, N=376, multiple responses accepted)



Source: ESG, a division of TechTarget, Inc.

As organizations leverage public cloud infrastructure to grow their business, they start generating production data volumes that must be protected. As organizations run applications and store data in cloud environments, they must deal with the challenge of protecting these critical resources from cyber-attacks and ransomware at a level that ensures complete protection from all types of scenarios. Cloud providers provide various tools, but they can be complex to use and manage, time-consuming, and not always comprehensive. Given the challenges faced by IT, organizations are in need of a cost-

¹ Source: ESG Complete Survey Results, [Distributed Cloud Series, Application Infrastructure Modernization Trends](#), March 2022.

² Source: ESG Research Report, [The Evolution of Data Protection Cloud Strategies](#), May 2021.

effective, automated solution that can provide full visibility into what assets need to be protected and the ability to protect data with immutability and air-gapping.

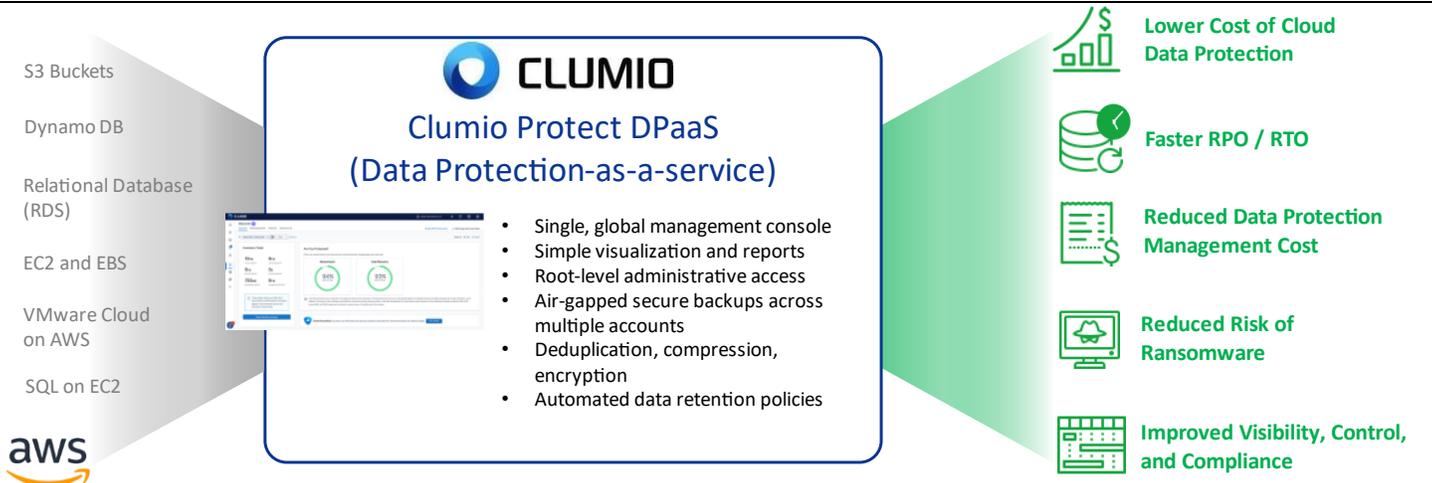
The Solution: Clumio

Clumio is a data-protection-as-a-service (DPaaS) solution designed in the cloud for the cloud. It can simplify backups, protect data against ransomware attacks, decrease recovery times, and reduce data protection costs. Clumio uses cloud scale to provide rapid restores of EC2/RDS instances and data protection in EBS and S3.

Clumio's cloud data platform architecture is designed to lower AWS bills, fortify cloud data protection, and decrease recovery times, all to bring the cloud values of scalability, performance, economics, and faster access to innovation. As shown in Figure 2, Clumio's portfolio centers around its goal to protect an organization's data in AWS and other public cloud environments. To do this effectively, an organization needs the ability to identify data sources through discovery, protect the data using pre-defined policies, and ensure compliance.

“We no longer need someone to fully manage our backups. The alerting mechanism for Clumio is fully automated and has lowered our overhead costs.”

Figure 2. Clumio Data Protection-as-a-service



Source: ESG, a division of TechTarget, Inc.

Some of the critical features of Clumio include:

- **Cloud-native:** Designed, built, and optimized for public clouds like AWS.
- **Ransomware Protection:** Backups are encrypted and stored outside of AWS production accounts, providing an air-gapped, immutable backup to ensure data is quickly restorable from ransomware, bad actors, and other risks.
- **Rapid Recovery:** Reduce recovery times from hours to minutes.
- **Granular Recovery:** Clumio uses granular, flexible file recovery that quickly restores mission-critical files and workloads.
- **Simplified Management:** Gain a centralized view of backup policies across accounts and regions with full orchestration of processes and event management.

- **Lower TCO:** Only pay for what is consumed with no hardware or software to purchase or manage—zero overhead and no hidden fees.
- **Global Visibility:** Unlock views into AWS backups and quickly uncover actionable insights to help optimize backup plans.

ESG Economic Validation

ESG completed a quantitative and qualitative economic analysis of Clumio. The focus was on the operational efficiencies and financial benefits that organizations can expect when leveraging Clumio in AWS for the protection, visibility, and recovery of their data.

ESG's Economic Validation process is a proven method for understanding, validating, quantifying, and modeling the economic value propositions of a product or solution. The process leverages ESG's core market and industry analysis competencies, forward-looking research, and technical/economic validation. ESG conducted in-depth interviews with end-users to better understand and quantify how Clumio has impacted their organizations, particularly in comparison with previously deployed and/or experienced solutions, including do-it-yourself options. In addition to having experience with Clumio, some of the customers interviewed had recently experienced cyberattacks, internal data loss, and other events. They attributed their lack of downtime and protection to having Clumio in place. They were able to give detailed feedback on their experiences beyond their daily interactions with Clumio. The qualitative and quantitative findings are the basis for a simple economic model showing the cost benefits, as well as the data protection and operational efficiencies, gained by leveraging Clumio.

Clumio Economic Overview

ESG's economic analysis revealed that Clumio provides its customers with significant savings and benefits in the following categories:

- **Cost Savings:** Clumio reduced costs by driving storage spending lower through increased storage efficiencies, eliminating redundancies in backup copies, and object size reductions. This measure, combined with lower management costs, resulted in an average cost savings of 35% for customers.
- **Improved Operational Efficiency:** Clumio improved operational efficiencies by simplifying management tasks, streamlining workflows, and increasing the visibility of assets needing protection across the AWS environment. We found that customers could see an average efficiency increase of 80%.
- **Reduced Risk:** Clumio reduces risks for organizations by between 70 - 99.999% through immutable storage, air-gapping, and rapid data recovery.

Cost Savings

ESG validated with customers an average cost savings of 21% when implementing the cloud backup storage cost savings measures of Clumio. When considering the additional operational capabilities of Clumio, this 21% increases to 35% in recognizable benefits. These cost savings were achieved for

organizations through a reduction in storage capacity required through small file optimization, which eliminates the cost burden of small files; reduction in the number of snapshots; and the elimination of data versioning. Savings also come from the more efficient data protection strategy of using tier optimization and automated policy implementation. Flexible and predictable pricing through Clumio was compared to native AWS services to manage data protection and other

“Clumio has been outstanding at helping us strategically keep our costs down.”

competitive data protection solutions developed for the cloud. At a high level, Clumio is a fully managed service with no upfront costs and a simple process to get started with AWS. There are no hardware or software appliances or cloud services to install or manage. An organization's production environment is pointed to Clumio's secure data protection platform for backup services, which starts the cost savings process. Cloud scale is used to support and protect an environment of any size.

Cost savings are achieved using a variety of Clumio features:

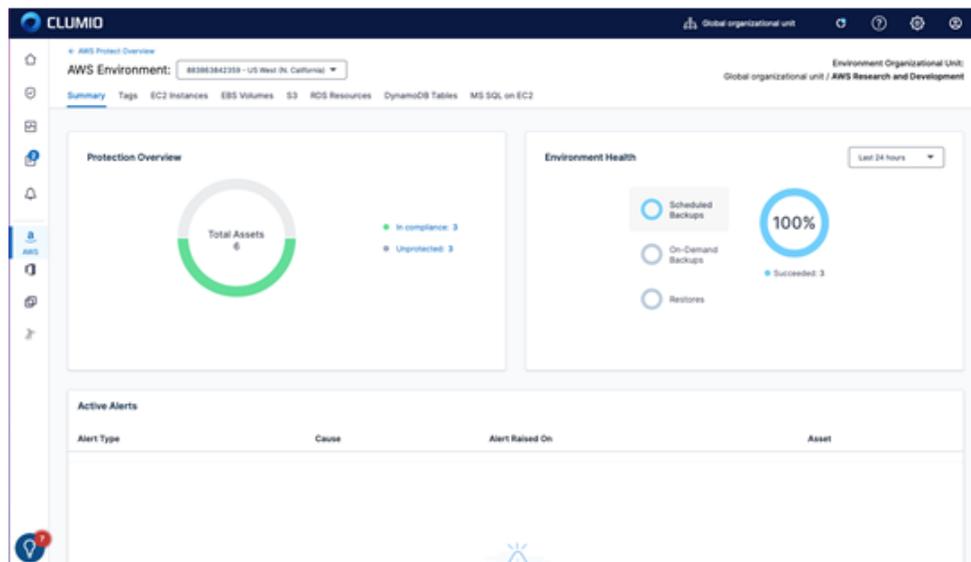
- **Clumio Snap:** Cost savings are achieved by reducing the number of in-account snapshot copies as well as eliminating unnecessary snapshot copies via global policies.
- **Small File Optimization (SFO):** AWS has different minimum requirements in terms of file size across different tiers of storage; however, in most cases other than S3 Standard, all objects are stored at a minimum 128KB size. Clumio combines objects, stores them securely at their actual size, and eliminates the added costs of large blocks holding small files. For organizations with a significant number of objects of less than 128KB, this represents significant savings.
- **No Data Versioning:** Forced versioning on non-critical data is not ideal for cost or business. In Clumio, data versioning is unnecessary, resulting in a reduction of costs for large change rates.
- **Selective Backup and Tier Optimization:** Clumio optimizes costs by only protecting required data, not entire buckets, and placing data into lower cost tiers.

ESG verified that organizations using Clumio had predictable and flexible pricing, paid as OpEx, with no upfront investment, and a clear and transparent ROI.

Improved Operational Efficiency

ESG validated an improvement in operational efficiencies with Clumio customers. Data drives today's business world, and information management, automation, and insights translate into improved efficiencies measured in the bottom line of a company's income statement. Figure 3 shows the Clumio management interface, where an organization has simplified visibility into their data protection and cost savings. The Clumio Discover tool ensures that all assets that need protection are filterable and accessible through the management interface where policies are applied and managed. ESG validated that customers could see an average improvement in operational efficiency of up to 80%, attributed to a reduction of management resources needed for data protection and reduced complexity when using Clumio.

“Cloud native is a huge plus for Clumio, it was easy to integrate with our cloud environment.”

Figure 3. Data Visibility and Cost Controls

Source: ESG, a division of TechTarget, Inc.

ESG validated with customers that efficiency and agility gains were realized in these areas:

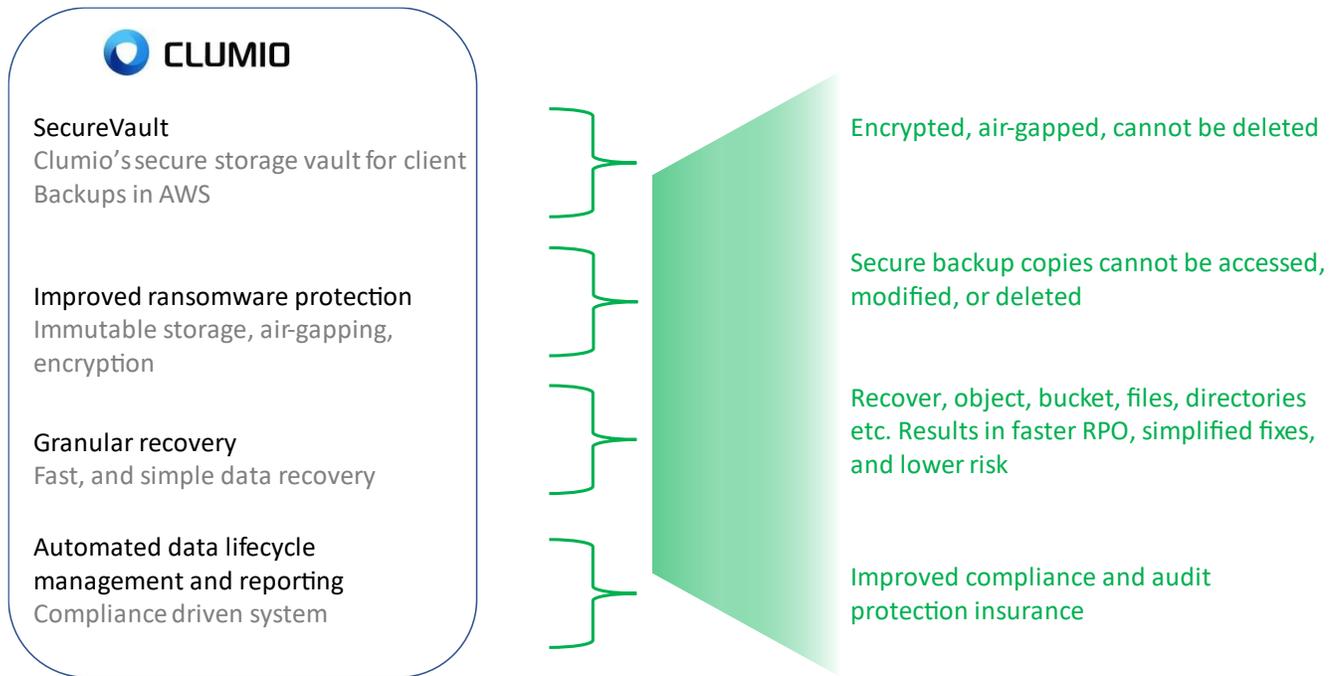
- **Single Pane of Glass:** Clumio has a single cloud-based management interface instead of multiple windows and logins for many accounts, which saves time and effort. These views across their entire AWS environment reduced person-hour costs.
- **Compliance Visibility and Reporting:** Efficiencies are realized through effective backup policy compliance, lifecycle management, global asset visibility, and reporting across accounts and buckets.
- **Automated Backup and Recovery Reporting:** Simple, secure, fast, and comprehensive reporting on jobs and results.
- **Simplified Restore Management:** The restore process involves a click of a button to restore a single file or environment and reduces the time required from hours to minutes, all initiated from the management console.
- **API as First Class Citizen:** Clumio's easy-to-use APIs provide an outstanding experience for companies looking to integrate with outside data management workflows.
- **Automated Protection Policies:** Policies are easily configured and automated to meet recovery objectives. Data retention can be set from hours to years to meet compliance requirements.
- **Data Classification:** Management complexity is reduced with data classification resulting in lowered management costs and faster access to searched data.
- **Streamlined Cost Analysis:** Simple cost management through a single interface to track and predict spending.

Reduced Risk

Organizations often overlook securing and protecting their data sets in the cloud, assuming their cloud data is protected by default. To validate Clumio’s capabilities, ESG studied some of its core security features, shown in Figure 4. At the core of Clumio's data protection solution is SecureVault. Clumio's SecureVault stores data in an immutable, encrypted format inside of Clumio's highly secure platform to protect from ransomware. Clumio backups cannot be deleted, and all data is encrypted separately with unique keys. Data transfers are safeguarded with end-to-end integrity checking. This fully managed service is designed for easy implementation on AWS. ESG found this approach to be far less complex than native AWS and very effective.

“Security is front and center of our needs, and with Clumio it has become a much easier conversation.”

Figure 4. Clumio SecureVault Security



Source: ESG, a division of TechTarget, Inc.

ESG found an array of primary security and protection features including:

- **SecureVault Protection:** Point-in-time backups protect against ransomware and bad actors in or outside of the existing AWS region.
- **Security Features:** ESG found that features such as end-to-end encryption, BYOK, SSO, MFA, allow list, RBAC (Roles), and EBAC (Organizational Units) give Clumio customers an exceptional level of backup security.
- **Simple Implementation:** Using Clumio in AWS is a simple process of creating a secure account and directing backups to SecureVault. This is an agentless deployment model via CFT or Terraform.
- **Multi-account Protection:** Prefixes and buckets are enabled across AWS accounts to any AWS region without the need for 1 to 1 mapping.

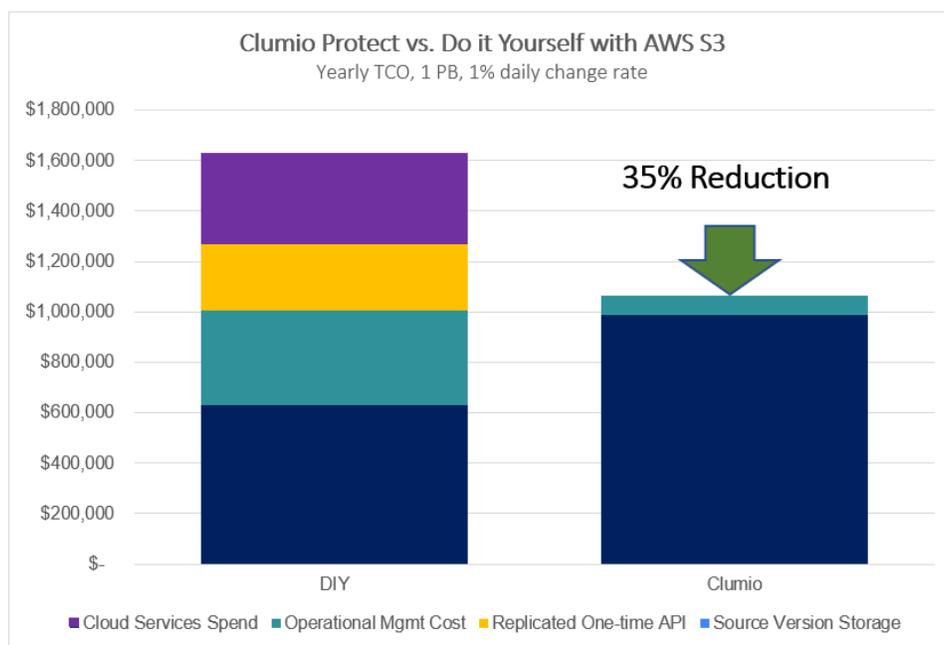
- Granular Recovery:** Object, bucket, and multi-object bulk restores are available via point-in-time backup or global search. Organizations can recover S3 buckets, files, directories, RDS records, or full instances with a few clicks; complete recovery in minutes, not hours; and perform restores across AWS accounts and regions quickly. ESG estimates a 90% increase in file recovery efficiency and 70% in overall protection and recoverability compared to AWS do-it-yourself methods.
- Improved Ransomware Protection:** Objects are stored as immutable, putting them in a state where they can't be changed or modified once created. Air-gapping separates backed up data from the user's account and control plane protecting the data from potential ransomware attacks. ESG believes that with Air-gapping, an organization can see up to 99.999% protection from ransomware.
- Improved Compliance:** The protection and lifecycle management of data improves regulatory compliance and corporate governance and may also result in a reduction of audit protection insurance required. This is especially true with the use of advanced ransomware protection.

ESG validated that organizations effectively use Clumio to reduce risks, protect against ransomware attacks, and make data more accessible, resulting in cost savings due to reduced risk.

ESG Analysis

ESG leveraged the information collected through vendor-provided material, public and industry knowledge of economics and technologies, and the results of customer interviews to create an annual total cost of ownership (TCO) model that compares the costs and benefits of leveraging Clumio to protect data in an AWS environment with using native tools available on AWS combined with manual processes such as writing scripts for AWS snapshots and no tagging or automation on restores. ESG's interviews with customers who have recently made the transition, combined with experience and expertise in economic modeling and technical validation of Clumio, helped form the basis for our modeled scenario.

Figure 5. Clumio Annual TCO Model

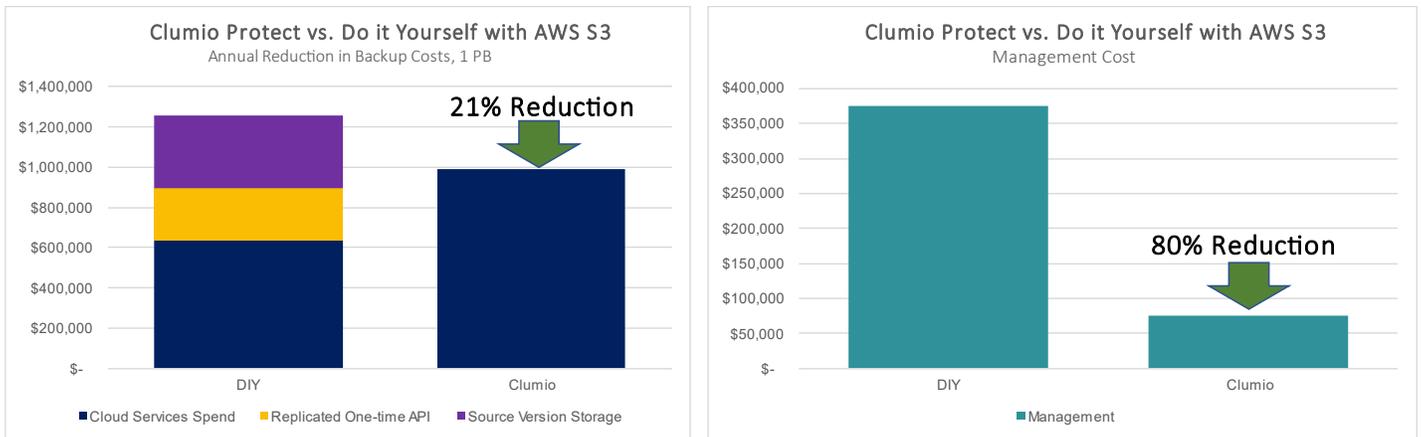


Source: ESG, a division of TechTarget, Inc.

ESG based the modeled scenario on a typical organization with 1PB of data stored on AWS S3 storage annually. A backup scenario was created using an average file size of 97k and a 1% daily change rate. On the left side of Figure 5, the bar shows the costs associated with an organization using native AWS tools to manage its data protection. Data was replicated from a production environment to an S3 backup environment. The expenses included S3 storage cloud services costs, initial AWS replication costs, AWS API costs, and operational management costs. The second bar shows the price of backing up to Clumio, including the Clumio storage management costs, Clumio software (combined with cloud services spending with Clumio), and operational management costs. The modeled scenario resulted in an average 35% lower TCO when using Clumio and cost savings of \$268,088 annually for the 1 PB environment.

Figure 6 breaks down the total cost of ownership (TCO) to look at the backup and operational costs separately. In the first analysis, cloud services spending dropped from \$1,257,773 to \$989,684, a savings of \$268,089 and a 21% reduction in cost. We used an estimated \$125,000 per full-time employee (FTE) when looking at operational management costs. We found that operational management costs dropped by 80%, going from \$375,000 to \$75,000, a savings of \$300,000 annually. Customers reported that it required less than 25% of a single employee's time to manage backups and recoveries once Clumio was operational. The Clumio interface reduced management time down to seconds. Customers also reported that they rely on the robust notifications from Clumio and act only when it is required.

Figure 6. Clumio Backup Costs and Management Cost Savings



Source: ESG, a division of TechTarget, Inc.

What the Numbers Mean

Below is a summary and detailed description of the savings predicted by ESG’s modeled scenario.

- Lower total cost of ownership: Clumio lowered the expected total cost of ownership for cloud data protection in AWS by a **total of 35%**. TCO includes the expected cost of AWS and Clumio services and the operational costs of data protection and recovery management.
- 21% cloud storage spending cost reduction resulting from small file optimization, deduplication, compression, and the elimination of snapshots.
- 80% operational management cost reduction due to a single-pane-of-glass management console to automate processes and policy management. Management time can be reduced from hours to minutes.
- 90% increase in security and protection of files. Recovering files using Clumio is dramatically improved and recovery times are significantly reduced over using S3 and manual processes.

- 70% reduction in the risk of failed file recovery is achieved through alleviating the risk of files being unrecoverable and affecting business operations.
- 99.999% increase in ransomware protection for files stored as immutable and air-gapped. This reduces the risks of being hacked and the high cost of ransoms, downtime for the business, and reputational damage.
- 75% increase in billing visibility by having control of AWS costs, chargebacks, and predictability of spending.

The modeled scenario may vary for different customers depending on typical file sizes and other environmental factors. There is an increase in attacks on backup systems to prevent recovery, and, if they address it properly, organizations can potentially save millions of dollars by avoiding ransomware and the risk of compliance-audit-related costs. This analysis covers costs of data retention over three years and didn't consider shorter data retention periods.

The Bigger Truth

The public cloud has many benefits, but also has critical data security and protection gaps that may leave an organization vulnerable to ransomware and infrastructure and management inefficiencies that may end up costing more to the organization over a long period.

The ESG analysis of Clumio demonstrated that it is designed and built as a true cloud data protection solution. Customers reported having exceptional interactions at all levels. The Clumio solution provided cost savings, ransomware protection, and peace of mind for organizations. ESG further validated this with our modeled scenario analysis and saw hard cost savings of greater than 35%, operational cost savings exceeding 80%, and air-gapping as ransomware protection at 99.999% effectiveness.

Hackers are aggressively going after organizations' backups to prevent fast recoveries. Clumio demonstrated protection and recovery of data, as well as significant cost savings in operational management, storage efficiencies, and avoided downtime. If your organization is looking for a cost-effective, efficient way to implement data protection in AWS, ESG recommends that you give Clumio serious consideration.

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