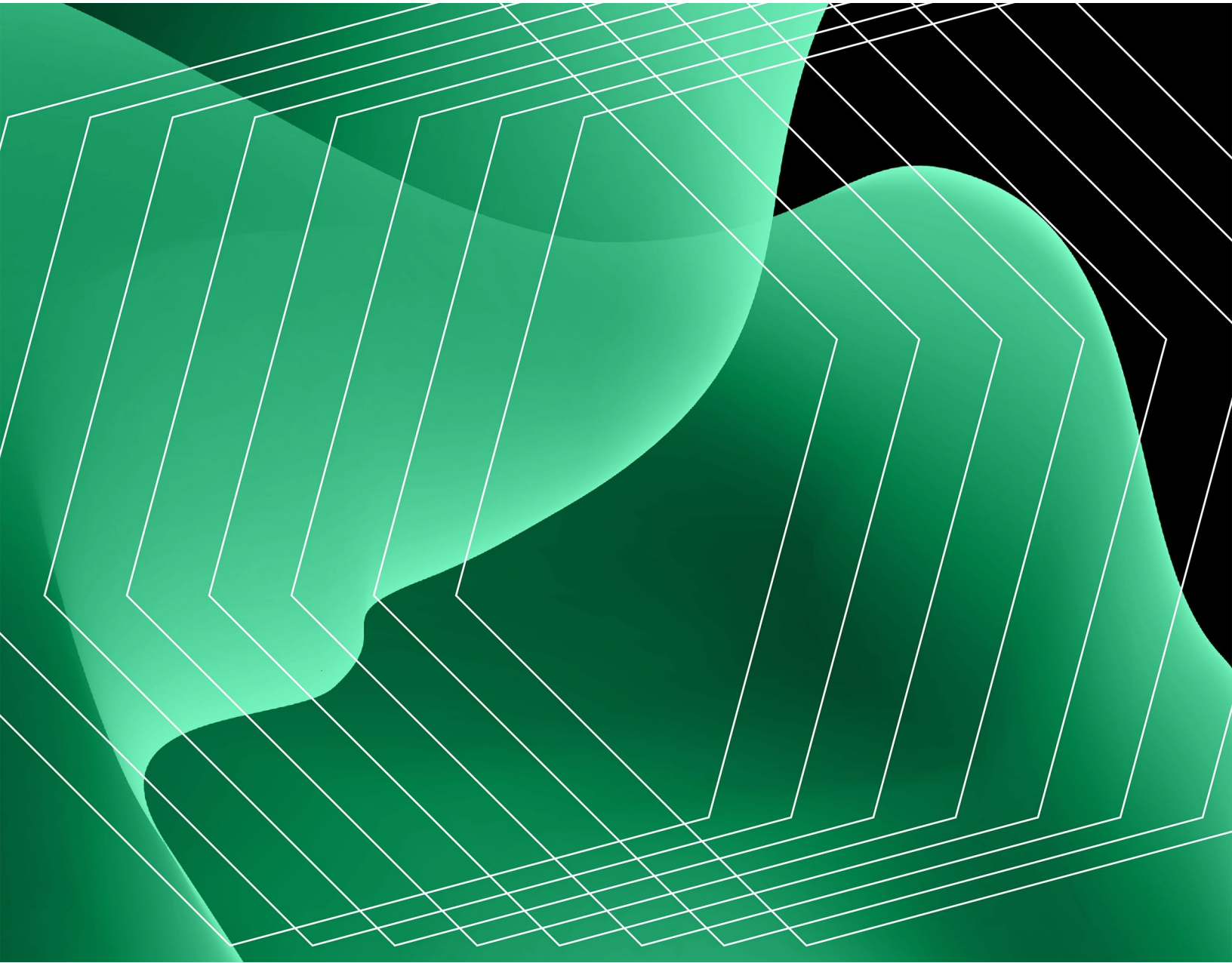
FORRESTER®

The Total Economic Impact™ Of Clumio

Cost Savings And Business Benefits Enabled By Clumio

A Forrester Total Economic Impact™ Study
Commissioned By Clumio, December 2024



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Consulting Team:

Rachna Agarwalla

Chengcheng Dong

Rachel Ballard

ABOUT FORRESTER CONSULTING

Forrester provides independent and objective research-based consulting to help leaders deliver key outcomes. Fueled by our customer-obsessed research, Forrester's seasoned consultants partner with leaders to execute their specific priorities using a unique engagement model that ensures lasting impact. For more information, visit forrester.com/consulting.

Executive Summary

Organizations seek secure, reliable, and cost-effective solutions for backing up and restoring their cloud-based workloads and data. They prefer options that require minimal management and can scale globally. As data volumes increase exponentially, companies need additional layers of protection against disaster recovery scenarios caused by operator error or third-party attacks. Additionally, new data regulations mandate companies to retain data for audit and compliance purposes.

Clumio provides an immutable, serverless backup solution for cloud-native data protection. This secure, air-gapped software-as-a-service (SaaS) backup offers strong ransomware defense, quick rapid backup and recovery, and increased visibility to reduce cloud storage costs. The Clumio platform efficiently scales to protect complex data sets from production data loss or malicious attacks.

Clumio commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying Clumio.[1] The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Clumio on their organizations.

Return on investment (ROI)
176%

Net present value (NPV)
$2.04M

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed four representatives with experience using Clumio. For the purposes of this study, Forrester aggregated the interviewees' experiences and combined the results into a single composite organization that is a B2C organization with revenue of $650 million per year and 1.14 petabytes (PB) of data.

Interviewees said that prior to using Clumio, their organizations generally used cloud-native or on-premises, custom-built solutions to back up their data. However, these solutions offered inadequate protection and functionality, resulting in lengthy backups and restorations; limited

access to previous versions or single files; and exposure to accidental deletions and ransomware attacks.

After the investment in Clumio, the interviewees felt they had purchased a cost-effective, data protection platform that was easy to implement, required little ongoing management, provided multiregional capabilities, and met regulatory and compliance requirements. Key results from the investment included peace of mind from easy data restoration in the event of a disaster; reduced need for team time in backup and restoration tasks; and enhanced analytics, customer service, and scalability features.

KEY FINDINGS

Quantified benefits. Three-year, risk-adjusted present value (PV) quantified benefits for the composite organization include:

- **Decreasing legacy costs.** Transitioning to Clumio allows the composite organization to cease using its existing cloud-native backup solution, resulting in significant savings. These savings result from eliminating monthly licensing fees and optimizing cloud consumption. Over a three-year period, the composite organization saves $2.0 million by retiring its legacy backup solution.
- **Reducing ransomware attack costs by 92%.** Clumio's data restoration and immutable backups provide the composite with confidence that a clean copy of data is available and can be restored quickly. These features save the composite organization$1.0 million over a three-year period in the event of a breach.
- **Gaining efficiencies in backup-related tasks.** Prior to implementing Clumio, the composite organization had to manually perform many backup-related changes, such as adding or deleting workloads. Annually, the total number of changes required a significant number of dedicated team hours. Clumio's API-based setup enables seamless and automated backups, reducing manual intervention. By leveraging Clumio for backups, the composite organization saves $161,000 over three years.
- **Improving restoration efficiency.** When incidents such as accidental deletions occur, Clumio's user-friendly interface and automated processes make it easier for the composite to restore files, machines, and databases. More specifically, the composite organization benefits from reduced recovery times, simpler recovery processes, and

continuous access to critical data during restoration. Over three years, this efficiency contributes a total of $80,000 to the composite organization.

Unquantified benefits. Benefits that provide value for the composite organization but are not quantified for this study include:

- **Increased peace of mind.** The composite organization appreciates the confidence that comes with knowing its data is securely backed up and protected against accidental deletions, malicious actions, and ransomware attacks. Furthermore, given the ease of creating global protection rules and restoring files, managers enjoy not worrying about daily data management.
- **Enhanced compliance and audit readiness.** Clumio's immutable backups, air-gapped protection, and detailed audit logs simplify compliance with regulatory requirements and make it easier for the composite organization to gather evidence during audits. In addition, Clumio facilitates the recovery of clean copies of data from specific points in time, providing flexibility and security in data management.
- **Reduced downtime during recovery processes.** Reduced recovery times enable the composite organization to minimize downtime after data loss incidents, decreasing the number of operational disruptions. In addition, Clumio allows high-value content to be restored first, ensuring that critical operations can resume quickly.
- **Received access to comprehensive customer service.** The composite organization finds value in the Clumio team's accessibility and responsiveness — including its leadership — ensuring that they address customer concerns promptly and effectively. The Clumio team is proactive in identifying and resolving issues and is responsive to customer needs and feedback, often implementing enhancements based on customer suggestions.
- **Improved analytics capabilities and data protection strategy.** Clumio's analytics dashboard is centralized and comprehensive, providing a clear view of asset protection and backup activities. This transparency allows the composite to make informed decisions about data management.

Costs. Three-year, risk-adjusted PV costs for the composite organization include:

- **Backup and restoration costs totaling $1.1 million over three years.** Factors affecting Clumio's backup and restoration costs include the total amount of data to back up, the number of incidents that require restoration, and the size of the data being restored.
- **Initial implementation and ongoing management costs totaling $106,000 over three years.** The composite requires one FTE to spend 30% of their time over 20 days implementing Clumio. After implementation, one FTE will spend 25% of their time on ongoing management.

The representative interviews and financial analysis found that a composite organization experiences benefits of $3.21 million over three years versus costs of $1.16 million, adding up to a net present value (NPV) of $2.04 million and an ROI of 176%.

Return on investment (ROI)

176%

Benefits PV

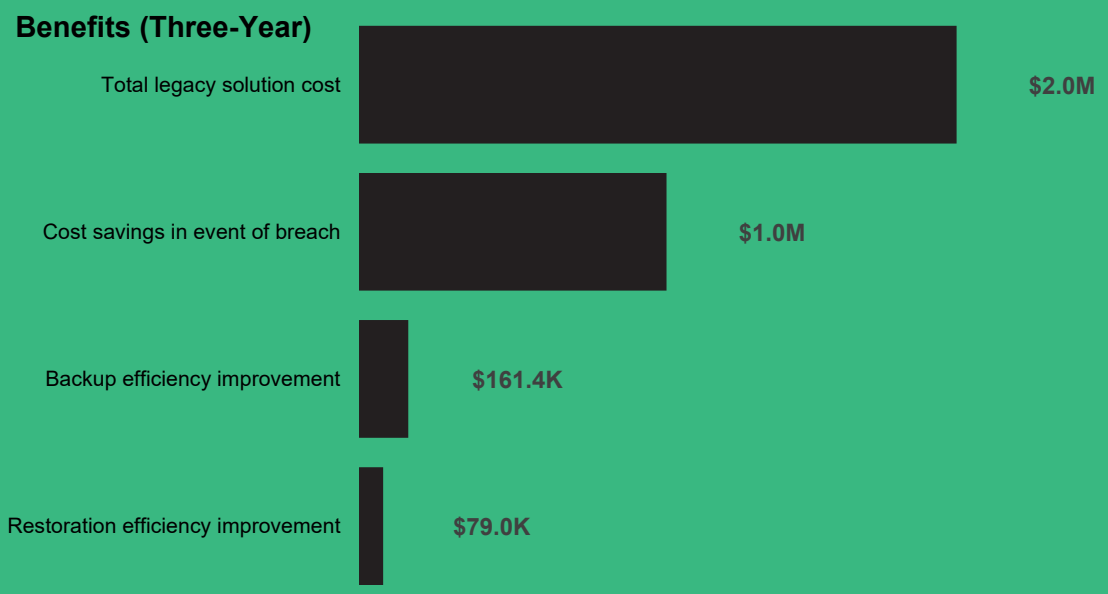
$3.21M

Net present value (NPV)

$2.04M

Payback

<6 months



TEI FRAMEWORK AND METHODOLOGY

From the information provided in the interviews, Forrester constructed a Total Economic Impact™ framework for those organizations considering an investment in Clumio.

The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision. Forrester took a multistep approach to evaluate the impact that Clumio can have on an organization.

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by Clumio, now a Commvault company, and delivered by Forrester Consulting. Clumio was acquired by Commvault during the research phase of this report. It is not meant to be used as a competitive analysis.

Forrester makes no assumptions as to the potential ROI that other organizations will receive. Forrester strongly advises that readers use their own estimates within the framework provided in the study to determine the appropriateness of an investment in Clumio.

Clumio and Commvault reviewed and provided feedback to Forrester, but Forrester maintains editorial control over the study and its findings and does not accept changes to the study that contradict Forrester's findings or obscure of the meaning the study.

Clumio provided the customer names for the interviews but did not participate in the interviews.

1. Due Diligence
Interviewed Clumio stakeholders and Forrester analysts to gather data relative to Clumio.

2. Interviews
Interviewed four representatives at organizations using Clumio to obtain data about costs, benefits, and risks.

3. Composite Organization
Designed a composite organization based on characteristics of the interviewees' organizations.

4. Financial Model Framework
Constructed a financial model representative of the interviews using the TEI methodology and risk-adjusted the financial model based on issues and concerns of the interviewees.

5. Case Study
Employed four fundamental elements of TEI in modeling the investment impact: benefits, costs, flexibility, and risks. Given the increasing sophistication of ROI analyses related to IT investments, Forrester's TEI methodology provides a complete picture of the total economic impact of purchase decisions. Please see Appendix A for additional information on the TEI methodology.

The Clumio Customer Journey

Drivers leading to the Clumio investment

Interviews				
Role	**Industry**	**Region**	**Revenue**	**Employees**
Manager of strategy for FinOps	Biotech	US	$300 million	800
Head of cybersecurity	Fast-food chain	US	$700 million	8,000
Tech lead platform engineer	Financial institution	UK	$340 million	1,100
Senior director of global platforms	Software company	US	$1 billion	10,800

KEY CHALLENGES

Before adopting Clumio, interviewees noted that their organizations typically relied on either cloud-native backup solutions or custom-built, on-premises systems for data backup management; however, these methods fell short of providing adequate and comprehensive protection. Consequently, interviewees faced prolonged backup and restoration processes, restricted access to individual files or previous versions, geographical limitations, and vulnerabilities to accidental deletions and ransomware attacks.

The interviewees noted common challenges for their organizations, including:

- **Complex and inefficient backup and recovery processes**. Interviewees had to manually configure and manage backups, which were time-consuming and prone to human error. The process required constant monitoring and intervention, especially when backups failed or when new accounts were created. Restoring data, especially individual files, was cumbersome and required multiple steps, including mounting volumes and manually copying files.

  A tech lead platform engineer from a financial institution shared: “We were just using our cloud provider’s native backup before Clumio. It was a little clunky, hard to restore, and expensive. You had to plug in each individual asset you wanted to back up, manually

enter it, and create a backup for it." The same interviewee explained further: "If someone deleted a file by accident and they wanted it back, it was very, very hard to do. You would first have to get the volume and restore it. Next, you would have to attach it to a machine, which involved going into the console. After that, you had to go into the machine and mount it. Then, you'd copy the file from the mount, unmount the restored volume, and delete the restored volume. It was an extremely touch-intensive restoration process."

A senior director of global platforms for a software company said: "Some of our biggest pain points would occur if we had to recover a vast amount of data, especially from some type of attack. Under the old system, it could take a large amount of time (we're talking days), or it would not be possible at all. We wouldn't be able to recover all the publishers, the historical data, and all the versions that we had."

- **High cost of legacy solutions.** Interviewees found other backup and native solutions costly, especially for large-scale data environments. Legacy solutions often required significant maintenance, operational efforts, and upgrades, including costs related to hardware, software, and system management. They often had slower data recovery times, which was costly for business operations. Additionally, the absence of advanced features such as immutability, air-gapped storage, and prioritized recovery led to additional costs in the event of data loss or cyberattacks. The tech lead platform engineer at a financial institution revealed: "Our native backup solution was costing too much, nearly $5,000 per day. One of the drivers for [choosing] Clumio was our focus on cost-cutting."
- **Inability to scale.** Most interviewees' organizations faced rapid data growth, so they needed a solution that could efficiently handle large-scale data management and backups. Their existing methods were unable to manage the increasing volume of data and were not cost effective. A senior director of global platforms at a software company commented: "We used to have closer to 800 terabytes of data, and, at that time, we estimated it was going to take at least 30 days to recover our content. Our previous solution was not designed for the scale that we have. We worked directly with our previous provider to ensure that we were efficiently using their backup service, but their max bucket size is 3 billion objects. We're over 20 billion objects."

SOLUTION REQUIREMENTS/INVESTMENT OBJECTIVES

The interviewees' organizations searched for a solution that could:

- Decrease backup and restoration costs.
- Improve operational efficiency.
- Enhance data protection.
- Scale with the organization.
- Comply with legal requirements.
- Enable disaster recovery.

COMPOSITE ORGANIZATION

Based on the interviews, Forrester constructed a TEI framework, a composite company, and an ROI analysis that illustrates the areas financially affected. The composite organization is representative of the four interviewees, and it is used to present the aggregate financial analysis in the next section. The composite organization has the following characteristics:

Description of composite. The composite organization is a US-based B2C organization that generates $650 million in annual revenue. It has a large and rapidly growing data footprint. It currently has 1.14 PB of data, which is expected to grow 18% per year.

Deployment characteristics. The composite organization begins using Clumio in Year 1 following a 20-day implementation period. The initial rollout requires 30% of one FTE's time.

Key Assumptions

$650 million in annual revenue
1.14 petabytes of data
18% annual data growth rate
10 data incidents per year

Analysis Of Benefits

Quantified benefit data as applied to the composite

Total Benefits						
Ref.	**Benefit**	**Year 1**	**Year 2**	**Year 3**	**Total**	**Present Value**
Atr	Total legacy solution cost	$667,200	$789,600	$930,288	$2,387,088	$1,958,047
Btr	Cost savings in event of breach	$343,835	$405,725	$478,756	$1,228,316	$1,007,584
Ctr	Backup efficiency improvement	$55,080	$64,994	$76,672	$196,746	$161,391
Dtr	Restoration efficiency improvement	$31,752	$31,752	$31,752	$95,256	$78,963
	Total benefits (risk-adjusted)	$1,097,867	$1,292,071	$1,517,468	$3,907,406	$3,205,985

TOTAL LEGACY SOLUTION COST

Evidence and data. Switching to Clumio enabled the interviewees' organizations to reduce their dependence on cloud-native backup or custom-built, on-premises solutions, resulting in reduced costs, improved functionality, and increased scalability. With previous solutions, the interviewees' organizations had to pay per gigabyte (GB) to back up data. In addition, inefficient cloud use resulted in additional cloud-related expenses.

Several interviewees mentioned that while their legacy solutions' monthly fees were comparable to Clumio's, it offered more features. A senior director of global platforms at a software company noted: "Our previous solution didn't provide as much as Clumio. We didn't have the backup capabilities. We had some versioning in place, but we couldn't restore efficiently if things were accidentally deleted. That solution had the same operating expense as Clumio, but Clumio provides additional capabilities."

Modeling and assumptions. Based on the interviews, Forrester assumes the following about the composite organization:

- Before transitioning to Clumio, the composite organization spends $0.05 per GB per month. In Year 1, the composite's annual backup storage amount is 1.14 PB of data, growing to 1.59 PB by Year 3.

- The composite organization spends an extra $150,000 on its cloud consumption due to an inefficient configuration in Year 1, which increases annually as data grows by 18% per year.

Risks. The expected financial impact is subject to risks and variation based on several factors that may reduce or slow recognition of this benefit, including:

- The current solution and whether it is cloud-native or an on-premises, custom-built solution.
- The total amount of data.
- The ability to optimize cloud consumption.

Results. To account for these risks, Forrester adjusted this benefit downward by 20%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $2.0 million.

Total Legacy Solution Cost					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
A1	Cloud-native solution backup price per GB per month	Composite	$0.05	$0.05	$0.05
A2	Annual backup storage amount (PB)	Composite	1.14	1.35	1.59
A3	Savings from optimized cloud consumption	Composite	$150,000	$177,000	$208,860
At	Total legacy solution cost	A1*A2*1,000,000 *12+A3	$834,000	$987,000	$1,162,860
	Risk adjustment	↓20%			
Atr	Total legacy solution cost (risk-adjusted)		$667,200	$789,600	$930,288
	Three-year total: $2,387,088		**Three-year present value: $1,958,047**		

COST SAVINGS IN EVENT OF BREACH

Evidence and data. In the event of a ransomware attack, organizations need to quickly recover their data to minimize downtime. The simplicity of restoring data from Clumio and its immutable backups offered the interviewees' organizations greater confidence that a clean copy of the data was always accessible and could be restored swiftly — helping organizations reduce restoration costs in the event of a breach.

A senior director of global platforms mentioned: “We’re using Clumio to provide a resilient backup of our content so that in the event it’s ever needed — either to grab a specific version at a point in time, recover from an issue generated by a cloud provider, handle a technical resiliency issue, or manage a ransomware attack — we have the capabilities to recover quickly and efficiently.”

Modeling and assumptions. Based on the interviews, Forrester assumes the following about the composite organization:

- The composite has a 73% chance of experiencing one or more breaches per year, which would have a cumulative annual cost of $2.6 million. However, the chance of the attack coming from an external third party, such as a ransomware attack, is 27%.[2]
- The composite organization reduces data recovery costs by 92% with Clumio by reducing the time spent on restoration.

Risks. The expected financial impact is subject to risks and variation based on several factors that may reduce or slow recognition of this benefit, including:

- The size and frequency of ransomware attacks.
- How quickly data was restored under the previous solution.

Results. To account for these risks, Forrester adjusted this benefit downward by 25%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $1.0 million.

Cost Savings In Event Of Breach					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
B1	Likelihood of experiencing one or more breaches per year	Forrester research	73%	73%	73%
B2	Mean cumulative cost of third-party breaches for enterprise organizations	Forrester research	$2,556,000	$3,016,080	$3,558,974
B3	Percentage of breaches originating from external third-party attacks	Forrester research	27%	27%	27%
B4	Annual risk exposure from external third-party attacks	B1*B2*B3	$503,788	$594,469	$701,474
B5	Reduced costs to restore data due to a breach	Interviews	91%	91%	91%
Bt	Cost savings in event of breach	B4*B5	$458,447	$540,967	$638,341
	Risk adjustment	↓25%			
Btr	Cost savings in event of breach (risk-adjusted)		$343,835	$405,725	$478,756
	Three-year total: $1,228,316			**Three-year present value: $1,007,584**	

BACKUP EFFICIENCY IMPROVEMENT

Evidence and data. Before implementing Clumio, the interviewees' organizations regularly completed numerous backup-related changes, such as adding or deleting workloads. Each year, these changes required numerous dedicated employee hours. Clumio's API-based setup allowed seamless and automated backups and reduced the need for manual intervention.

A tech lead platform engineer at a financial institution shared: "Clumio's protection policies and rules are very well thought out. If you create a tag and the backup policy is daily, then you implement this rule. For example, you might set your backup at 8 p.m. Pacific time and keep it around for seven days. And for those accounts that you've created a Clumio connection, the platform will go through, find everything with those tags, and back it up. Once you set that rule up, it's just applied across your data. You can apply it by region as well. It's plug and play, especially when using tags."

Modeling and assumptions. Based on the interviews, Forrester assumes the following about the composite organization:

- The composite typically has 4,000 workload changes per year which each require 15 minutes to complete.
- The fully burdened hourly rate for a software development engineer (SDE) is $72.

- Time saved and recaptured by SDEs totals 90%.

Risks. The expected financial impact is subject to risks and variation based on several factors that may reduce or slow recognition of this benefit, including:

- The volume of workload changes.
- The time it takes to perform a workload change.
- The compensation of SDEs.
- The productivity recapture rate.

Results. To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $161,000.

Backup Efficiency Improvement					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
C1	Total number of workload changes annually	Interviews	4,000	4,720	5,570
C2	Time to set up, adjust, or delete a workload change (hours)	Interviews	0.25	0.25	0.25
C3	SDE annual hours saved on backup tasks due to Clumio	C1*C2	1,000	1,180	1,392
C4	Fully burdened hourly rate for an SDE	Composite	$72	$72	$72
C5	Productivity recapture rate	Composite	90%	90%	90%
Ct	Backup efficiency improvement	C3*C4*C5	$64,800	$76,464	$90,202
	Risk adjustment	↓15%			
Ctr	Backup efficiency improvement (risk-adjusted)		$55,080	$64,994	$76,672
	Three-year total: $196,746			**Three-year present value: $161,391**	

RESTORATION EFFICIENCY IMPROVEMENT

Evidence and data. When incidents like accidental deletions occurred, Clumio's user-friendly interface and automated processes made it easier for the interviewees to restore files, machines, and databases. Specifically, the interviewees noted their organizations benefited from faster recovery times, simpler recovery processes, and continuous access to critical data during restoration.

A tech lead platform engineer at a financial institution shared: “We spend so little time on Clumio on restore tasks. In total, there have been less than 10 incidents, like deleted files, so it’s not the volume of incidents, it’s the ease of getting [the data] back.”

Modeling and assumptions. Based on the interviews, Forrester assumes the following about the composite organization:

- The composite organization experiences a total of 10 incidents per year.
- The composite organization reduces the number of hours required to restore each incident from 54 to 5 after adopting Clumio.
- The fully burdened hourly rate for an SDE is $72.

Risks. The expected financial impact is subject to risks and variation based on several factors that may reduce or slow recognition of this benefit, including:

- Thetotal number of incidents.
- Thetotal time it takes before and after adopting Clumio to restore data.
- The hourly compensation rate of SDEs.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $80,000.

Restoration Efficiency Improvement					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
D1	Incidents that required backup and restore services before Clumio	Composite	10	10	10
D2	Time spent restoring the data before Clumio in each incident (hours)	Interviews	54	54	54
D3	Time spent restoring the data with Clumio in each incident (hours)	Interviews	5	5	5
D4	Fully burdened hourly rate for an SDE	Composite	$72	$72	$72
Dt	Restoration efficiency improvement	D1*(D2-D3)*D4	$35,280	$35,280	$35,280
	Risk adjustment	↓10%			
Dtr	Restoration efficiency improvement (risk-adjusted)		$31,752	$31,752	$31,752
	Three-year total: $95,256			**Three-year present value: $78,963**	

UNQUANTIFIED BENEFITS

Interviewees mentioned the following additional benefits that their organizations experienced but were not able to quantify:

- **Increased peace of mind.** Interviewees valued the reassurance Clumio provided in securely backing up their data and safeguarding against accidental deletions, malicious actions, and ransomware attacks. Additionally, the ease of creating global protection rules and restoring files meant their organizations did not have to worry about daily data management. A head of cybersecurity at a fast-food chain commented, “The peace of mind of knowing that you have the backups with Clumio is great.” A senior director of global platforms at a software company said: “Our deal with Clumio is more like an insurance policy. We are buying the insurance policy, but we never want to utilize it as we want the business to run based on the security we have in place.”
- **Enhanced compliance and audit readiness.** Interviewees noted that Clumio’s immutable backups, air-gapped protection, and detailed audit logs simplified compliance with regulatory requirements and made it easier for their organizations to gather evidence during audits. Additionally, Clumio allowed for the recovery of clean copies of data from specific points in time, providing flexibility and security in data management. A tech lead platform engineer of a financial institution said: “The data is better protected with Clumio, and it satisfies our compliance mandates as well. So, along with protecting against ransomware, Clumio satisfies a lot of compliance requirements around data retention, among other things.”
- **Reduced downtime during recovery processes.** Reduced recovery times enabled interviewees to minimize downtime, thereby decreasing the number of operational disruptions. The interviewees’ organizations were able to restore operations quickly after data loss incidents. Additionally, Clumio allowed high-value content to be restored first, ensuring that critical operations could resume swiftly. A tech lead platform engineer shared: “I don’t even think about it. It’s not even in the top of my head. I just had to restore a file last week, and I just went in, and it took five minutes to download it and put it on the machine. It was done.”

- **Received access to comprehensive customer service.** The interviewees appreciated Clumio's customer service team for its accessibility and responsiveness, ensuring prompt and effective resolution of customer concerns. Interviewees noted that the Clumio team consistently took a proactive approach to identify and resolve issues before they escalated. They listened to customers' needs and feedback, and regularly incorporated suggestions to enhance their offerings. A head of cybersecurity for a fast-food chain noted: "We had one issue where backups didn't work, and we didn't get an alert. So, we took it to Clumio, and it was fixed immediately. I've never felt like Clumio was ignoring us. I've talked to their CEO. I've always felt very strongly that they want to do well by us."
- **Improved analytics capabilities and data protection strategy.** Clumio's centralized and comprehensive analytics dashboard provided a detailed overview of asset protection and backup activities. This transparency enabled the interviewees to make well-informed decisions regarding data management. A tech lead platform engineer at a financial institution said: "Clumio has up-level dashboards which offer a view into your asset protection and where you can do on-demand, auditable backups and restores. So, if someone does the restore, the dashboard reveals who did it, what file they got, and when they did it. You can also see broadly the asset types that are backed up for each account, so it's an accessible place to view all that information. The simplicity of it is great for the operational aspect."

FLEXIBILITY

The value of flexibility is unique to each customer. There are multiple scenarios in which a customer might implement Clumio and later realize additional uses and business opportunities, including:

Data strategy development. A manager of strategy for FinOps at a biotech company noted: "Our environment is not static, so we need to continuously review our data to make sure we are covering the right data. There are probably some things we are protecting that are no longer relevant, and before Clumio, we were spending money doing that."

Flexibility would also be quantified when evaluated as part of a specific project (described in more detail in Appendix A).

Analysis Of Costs

Quantified cost data as applied to the composite

Total Costs							
Ref.	**Cost**	**Initial**	**Year 1**	**Year 2**	**Year 3**	**Total**	**Present Value**
Etr	Clumio annual backup and restoration costs	$0	$359,520	$425,670	$501,270	$1,286,460	$1,055,241
Ftr	Clumio initial implementation and ongoing management costs	$3,802	$41,250	$41,250	$41,250	$127,552	$106,385
	Total costs (risk-adjusted)	$3,802	$400,770	$466,920	$542,520	$1,414,012	$1,161,626

CLUMIO ANNUAL BACKUP AND RESTORATION COSTS

Evidence and data. Clumio backup and restoration costs were influenced by the total volume of data backed up, the frequency of restoration incidents, and the size of the data being restored.

- A senior director of global platforms for a software company commented: “We are right around $300,000 a year. There are no professional services fees. We work closely with Clumio regarding enhancements, which have really sped up the time it takes to not only backup data but also recover from any issue.”
- Pricing may vary. Contact Clumio for additional details.

Modeling and assumptions. Forrester modeled the cost assuming:

- The composite has 1.14 PB of data in Year 1, growing to 1.59 PB by Year 3.
- It costs $0.025 per GB per month for backup.
- The composite has 10 incidents per year that require restoration, and each backup requires 1,000 GB of data to be restored.
- A backup costs $0.04 per GB.

Risks. The expected financial impact is subject to risks and variation based on several factors that may reduce or slow recognition of this cost, including:

- The total amount of data an organization needs to manage and restore.
- Changes to backup and/or restoration pricing.
- Thetotal number of incidents.

Results. To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $1.1 million.

Clumio Annual Backup And Restoration Costs						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
E1	Clumio backup unit price per GB per month	Composite		$0.025	$0.025	$0.025
E2	Total backup storage (PB)	Composite		1.14	1.35	1.59
E3	Number of incidents requiring restore services	Composite		10	10	10
E4	Average data size to be restored each time (GB)	Composite		1,000	1,000	1,000
E5	Clumio restore cost per GB	Composite		$0.04	$0.04	$0.04
Et	Clumio annual backup and restoration costs	E1*E2*12*1,000,000 +E3*E4*E5		$342,400	$405,400	$477,400
	Risk adjustment	↑5%				
Etr	Clumio annual backup and restoration costs (risk-adjusted)		$0	$359,520	$425,670	$501,270
	Three-year total: $1,286,460		**Three-year present value: $1,055,241**			

CLUMIO INITIAL IMPLEMENTATION AND ONGOING MANAGEMENT COSTS

Evidence and data. Interviewees found that the implementation and subsequent ongoing management of Clumio required minimal team time. A senior director of global platforms for a software company noted: “We had Clumio up and running in our test environment the same day we started working on it. The test was completed within two weeks, and that was not a consecutive 40-hour week, but doing it on and off as needed. So, our total effort for implementing the solution was probably a month. Calendar time was more just working through legal parts of it, but not effort.”

Modeling and assumptions. Forrester modeled the cost assuming:

- One full-time employee spends 30% of their time over a 20-day period implementing Clumio.
- One full-time employee dedicates 25% of their effort to manage Clumio on an ongoing basis.

Risks. The expected financial impact is subject to risks and variation based on several factors that may reduce or slow recognition of this cost, including:

- Data amount.
- Implementation size.
- Employee effectiveness.

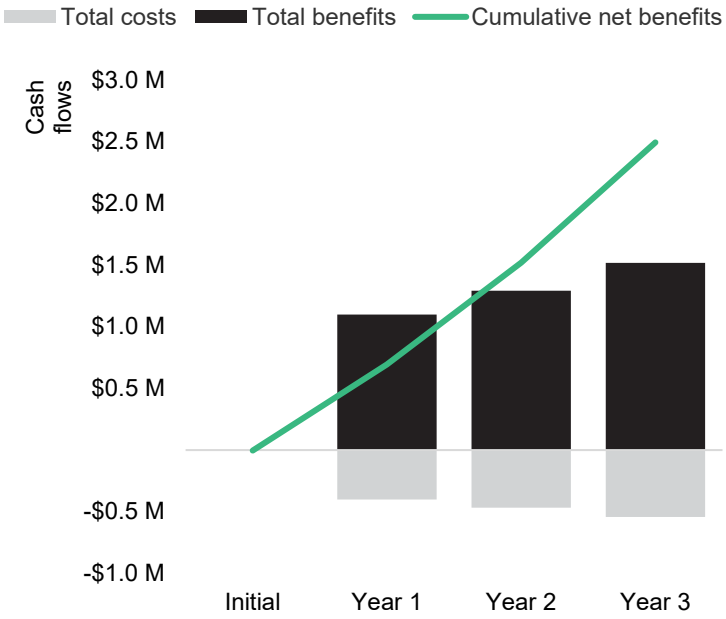
Results. To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $106,000.

Clumio Initial Implementation And Ongoing Management Costs						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
F1	Time to implement Clumio (in days)	Interviews	20			
F2	Number of FTEs involved internally	Interviews	1			
F3	Percentage of effort input into implementation	Interviews	30%			
F4	Number of FTEs involved daily	Interviews		1	1	1
F5	Percentage of effort required daily	Interviews		25%	25%	25%
F6	Total hours involved	F1*F2*F3*8+F4*F5*2080	48	520	520	520
F7	Fully burdened hourly rate for an SDE	Composite	$72	$72	$72	$72
Ft	Clumio initial implementation and ongoing mgmt cost	F6*F7	$3,456	$37,500	$37,500	$37,500
	Risk adjustment	↑10%				
Ftr	Clumio initial implementation and ongoing mgmt cost (risk-adjusted)		$3,802	$41,250	$41,250	$41,250
	Three-year total: $127,552			**Three-year present value: $106,385**		

Financial Summary

Consolidated Three-Year, Risk-Adjusted Metrics

Cash Flow Chart (Risk-Adjusted)



The financial results calculated in the Benefits and Costs sections can be used to determine the ROI, NPV, and payback period for the composite organization's investment. Forrester assumes a yearly discount rate of 10% for this analysis.

These risk-adjusted ROI, NPV, and payback period values are determined by applying risk-adjustment factors to the unadjusted results in each Benefit and Cost section.

Cash Flow Analysis (Risk-Adjusted Estimates)

	Initial	Year 1	Year 2	Year 3	Total	Present Value
Total costs	($3,802)	($400,770)	($466,920)	($542,520)	($1,414,012)	($1,161,626)
Total benefits	$0	$1,097,867	$1,292,071	$1,517,468	$3,907,406	$3,205,985
Net benefits	($3,802)	$697,097	$825,151	$974,948	$2,493,394	$2,044,359
ROI						176%
Payback						<6

APPENDIX A: TOTAL ECONOMIC IMPACT

Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

Total Economic Impact Approach

Benefits represent the value delivered to the business by the product. The TEI methodology places equal weight on the measure of benefits and the measure of costs, allowing for a full examination of the effect of the technology on the entire organization.

Costs consider all expenses necessary to deliver the proposed value, or benefits, of the product. The cost category within TEI captures incremental costs over the existing environment for ongoing costs associated with the solution.

Flexibility represents the strategic value that can be obtained for some future additional investment building on top of the initial investment already made. Having the ability to capture that benefit has a PV that can be estimated.

Risks measure the uncertainty of benefit and cost estimates given: 1) the likelihood that estimates will meet original projections and 2) the likelihood that estimates will be tracked over time. TEI risk factors are based on "triangular distribution."

PRESENT VALUE (PV)

The present or current value of (discounted) cost and benefit estimates given at an interest rate (the discount rate). The PV of costs and benefits feed into the total NPV of cash flows.

NET PRESENT VALUE (NPV)

The present or current value of (discounted) future net cash flows given an interest rate (the discount rate). A positive project NPV normally indicates that the investment should be made unless other projects have higher NPVs.

RETURN ON INVESTMENT (ROI)

A project's expected return in percentage terms. ROI is calculated by dividing net benefits (benefits less costs) by costs.

DISCOUNT RATE

The interest rate used in cash flow analysis to take into account the time value of money. Organizations typically use discount rates between 8% and 16%.

PAYBACK PERIOD

The breakeven point for an investment. This is the point in time at which net benefits (benefits minus costs) equal initial investment or cost.

The initial investment column contains costs incurred at “time 0” or at the beginning of Year 1 that are not discounted. All other cash flows are discounted using the discount rate at the end of the year. PV calculations are calculated for each total cost and benefit estimate. NPV calculations in the summary tables are the sum of the initial investment and the discounted cash flows in each year. Sums and present value calculations of the Total Benefits, Total Costs, and Cash Flow tables may not exactly add up, as some rounding may occur.

APPENDIX B: ENDNOTES

[1] Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

[2] Base: 432 security decision-makers from organizations with revenue of at least $1 billion with network, data center, app security, or security ops responsibility and that have experienced a breach in the past 12 months; Source: Forrester's Security Survey, 2023.

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