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The Business Value of NetApp Cloud Volumes for Google Cloud

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Executive Summary

As businesses seek to create and sustain competitive advantage, they are increasingly turning to data as a key source of differentiation. Most digital transformation initiatives are underpinned by a desire to become more data-driven — to maximize the use of real-time information to make faster, more accurate business decisions. This year 101ZB (zettabytes) of new data will be generated, crossing the threshold of 100ZB for the first time.

Simultaneously, businesses are increasing their use of cloud services to automate operations, deliver rich customer experiences, and create new products and services. While a majority of enterprise data still remains on premises, IDC is forecasting data in the cloud to realize a five-year compound annual growth rate (CAGR) of 36.3%. There is an increasing need to manage critical business data that spans a variety of infrastructure types in an efficient and cost-effective way.

IDC conducted research to explore the value and benefits for organizations using NetApp Cloud Volumes for Google Cloud to manage data via cloud storage while maintaining storage costs, performance, data protection, and security. Through a series of data-intensive interviews, robust benefits were discovered to determine the business value of NetApp Cloud Volumes for Google Cloud.

IDC's analysis found that interviewed organizations realized an average annual savings of $4.7 million and a three-year ROI of 457% from NetApp Cloud Volumes by:

- Drastically reducing the occurrence of unplanned outages, which reduced the impact of downtime from end-user and revenue perspectives
- Improving the productivity and performance of IT teams such as infrastructure management teams and disaster recovery (DR) teams through easier configuration, auditing, testing, provisioning, and scaling
- Enabling the organizations to foster an environment of higher end-user productivity and revenue growth through better performance, availability, and agility

Business Value Highlights

Click each highlight below to navigate to related content within this document.

457%
three-year ROI

$730,000
average annual savings per 100 usable terabytes

10.9 months
to payback

48%
more efficient infrastructure management teams

53%
more efficient disaster recover staff

11%
more productive development teams

15%
more productive compliance teams

30%
more efficient security teams

100%
less end user–impacting unplanned downtime

Situation Overview

When discussing cloud storage, it is common to focus on object-based services. That is not surprising since it is associated with cloud-native application design and currently makes up 55.6% of the overall cloud storage market.

However, the fastest-growing segment in the cloud storage market is file-based services, which IDC is forecasting with a five-year CAGR of 31.1%. Growth of file storage in the cloud is directly linked to an increased rate of enterprise workload migration. These applications are architected to work with file-based storage, and IT administrators want consistency across their on-premises and cloud infrastructure.

File storage is also experiencing growth related to high-performance use cases including machine learning, artificial intelligence, and modeling and simulation. Sometimes referred to as high-performance computing (HPC), many of these systems are optimized for file-based storage. File storage is becoming a popular option for Kubernetes applications that require persistent storage.

Cloud service providers have recognized this demand and are partnering with on-premises storage vendors to create fully featured and highly performant file storage services.

Overview of NetApp Cloud Volumes for Google Cloud

NetApp and Google Cloud have partnered to offer Cloud Volumes — a fully managed, cloud-based data storage service that provides advanced data management capabilities and highly scalable performance. The service is targeted to a variety of customer use cases including the migration of existing enterprise- and industry-specific applications to Google Cloud as well as new machine learning and Kubernetes-based applications that require persistent storage.

NetApp Cloud Volumes for Google Cloud allows customers to manage workloads in the cloud without sacrificing the performance and features that are found in on-premises storage systems. It supports file-based storage needs including Network File System (NFSv3 and NFSv4.1) and Server Message Block (SMB) volumes. This simplifies and accelerates cloud migrations by eliminating the need to re-architect applications.

Service features include:

- Fully managed service, integrated with the Google Cloud console
- Migration of data between on-premises environments and Google Cloud
- Provision volumes from 1TiB to 100TiB in seconds
- Multiprotocol support (NFS or SMB)
- Microsoft Active Directory integration
- Protection of data with automated, resource-efficient snapshots
- Enabling business continuity with asynchronous volume replication across cloud regions
- Long-term data protection with integrated backup to cloud storage
- High availability with zone-redundant volumes with options for in-zone, multizone, and multiregion redundancy backed by a service-level agreement (SLA)

There are two different Cloud Volumes service types available:

- **Cloud Volumes Service (CVS):** This is the service type that is preselected when a volume is created. The CVS service type is designed for general-purpose Linux and Windows workloads that require light to moderate performance.
- **CVS Performance:** This service type is designed for performance-sensitive Linux and Windows workloads that require high throughput or low latency — or both.

To help customers with the challenges of managing hybrid and multicloud environments, NetApp has introduced BlueXP — a single, unified control plane and set of application programming interfaces (APIs) for storage and data services. It automates the process of deploying, discovering, managing, and optimizing data and infrastructure with intuitive wizards and recommended actions.

BlueXP supports a variety of NetApp on-premises storage systems (ONTAP, E-Series, StorageGRID) and NetApp-powered cloud storage including Cloud Volumes Service for Google Cloud.

The Business Value of NetApp Cloud Volumes for Google Cloud

Study Demographics

IDC interviewed six organizations that were using NetApp Cloud Volumes for Google Cloud to manage cloud data located on Google Cloud. Those interviewed had very robust knowledge about the benefits and costs of using NetApp Cloud Volumes for Google Cloud. Participants were asked a wide variety of in-depth qualitative and quantitative questions to understand the impact of NetApp Cloud Volumes for Google Cloud on financials, IT professionals, and their core business.

Table 1 presents the firmographics of interviewed organizations. On average, the organizations had 52,900 employees; the study was inclusive of a large range of company sizes that spanned from 10 employees to 190,000 employees. IDC calculated that the organizations had 3,430 IT professionals that were supporting 1,000 business applications and 46,800TB of data. All of the organizations interviewed were located in the United States, with vertical representation from retail, finance, insurance, and entertainment.

TABLE 1

Firmographics of Interviewed Organizations

	Average	Median	Range
Number of employees	52,900	12,250	10 to 190,000
Number of IT staff	3,430	130	10 to 20,000
Number of business applications	1,000	250	5 to 5,000
Total storage environment (TB)	46,800	40,000	150 to 120,000
Annual revenue	$14.6B	$3.0B	$10.0M to $70.0B
Countries	United States		
Industries	Retail (2), finance (2), insurance, entertainment		

Source: IDC interviews, November 2022

Selection and Use of NetApp Cloud Volumes for Google Cloud

NetApp Cloud Volumes was a solution that stood out to organizations looking to move applications and data from traditional on-premises locations to the cloud. In fact, 52% of the terabytes supported by NetApp Cloud Volumes were previously located on premises for interviewed organizations. Cloud migration was often a strategic goal for organizations so that they could better align to support both business and customer needs. Organizations made it abundantly clear that when they selected NetApp Cloud Volumes for Google Cloud, they needed a solution that was both deeply integrated with Google Cloud and extremely scalable. Together, NetApp and Google Cloud also provided organizations with the security that they needed without sacrificing performance.

Study participants further elaborated on their reasons for selecting NetApp Cloud Volumes for Google Cloud:

Strategic business goal alignment:

"We felt that NetApp Cloud Volumes aligns with our strategic business goals, meaning the product and the platform align with the business needs. It's also a very scalable platform that we felt could be used across multiple business silos or business use cases, as well as assist us with our transformation needs. NetApp Cloud Volumes also provides the cybersecurity and the regulatory compliance that is needed under the banking sector."

The need for greater scalability:

"My organization wanted the scalability to move many of our applications to the cloud — NetApp Cloud Volumes gives us resilience. If we did not move many of these apps to the cloud, basically, provisioning storage and handling these apps on our own on an on-premises basis would be a nightmare."

Deep integration with Google Cloud Platform (GCP):

"We compared NetApp with a few different offerings. The big thing for my organization was the deep integration with GCP, so I get one bill at the end of the month for everything I need in my virtual studio. Other vendors kept us on the line for weeks, trying to get prices, whereas with NetApp, it's a single page, and you get what it says on the tin. The support team were very helpful in explaining the process and have been ever since. The performance of the cluster has been impeccable; we've never had to file a report about slow-performing storage or any other issues."

Robust data security and performance:

"The top priority for my organization when selecting NetApp Cloud Volumes was data security and performance. These are big concerns for a cloud migration. Then, cost optimization for storage — you have a lot of IT staff, space in datacenters, compared to cloud costs. NetApp's approach to these points helped us make the decision to move forward."

Table 2 showcases the usage of NetApp Cloud Volumes for Google Cloud across the interviewed organizations. On average, NetApp Cloud Volumes was supporting three locations, 64 business applications, and 4,650 end users. Organizations had 650 usable terabytes, of which 74% was structured data. They expected that their data environment was going to grow by 23% in the future.

TABLE 2

Organizational Usage of NetApp Cloud Volumes for Google Cloud

	Average	Median
Number of locations/geographies	3	3
Total usable terabytes (TB)	650	325
Percent structured data	74%	75%
Growth in data/storage environment	23%	15%
Number of business applications	64	18
Number of employees using these applications	4,650	3,940

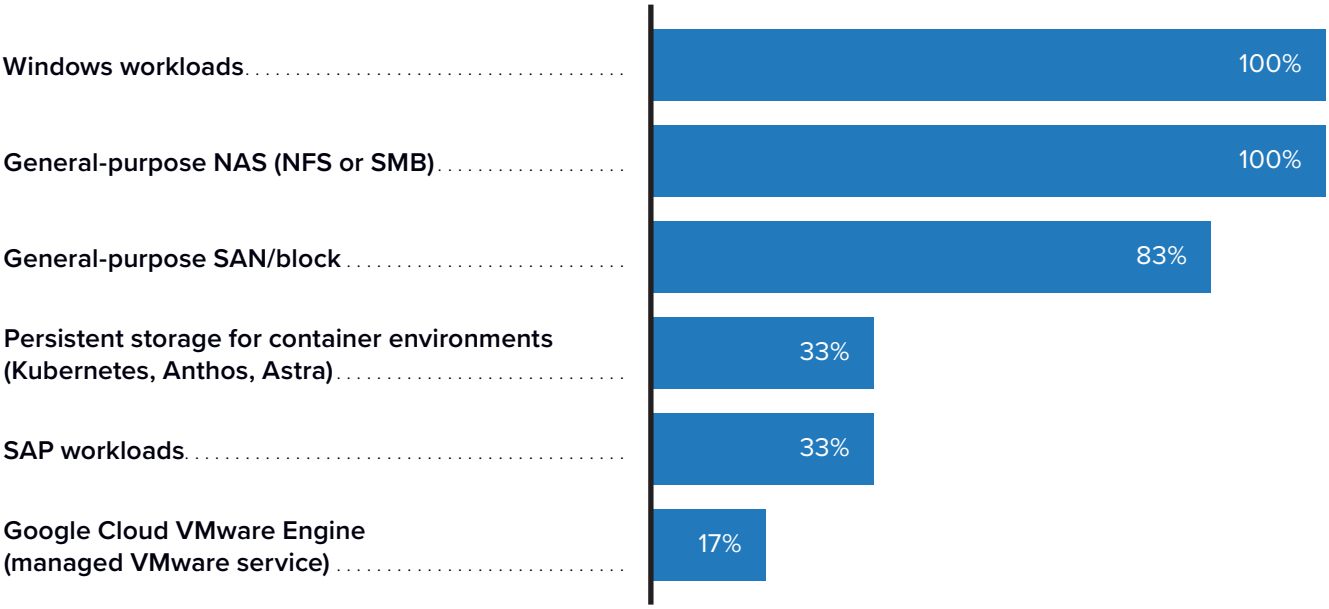
Source: IDC interviews, November 2022

Organizations were supporting a wide variety of workloads with NetApp Cloud Volumes for Google Cloud. **Figure 1** (next page) demonstrates that most prominently, organizations were using NetApp Cloud Volumes to support Windows workloads, general-purpose network-attached storage (NAS), and general-purpose storage-area network (SAN)/block.

FIGURE 1

Workloads Supported by NetApp Cloud Volumes for Google Cloud

(% of organizations)



n = 6; Source: IDC interviews, November 2022

Business Value and Quantified Benefits

IDC's business value research focused on the benefits that interviewed organizations achieved in deploying and using NetApp Cloud Volumes to manage their data in Google Cloud. The organizations were quick to state that they were able to lower their total cost of operations significantly with NetApp Cloud Volumes because it is a fully managed cloud-native file storage service that seamlessly integrates with Google Cloud. This service decreased the complexity of managing and securing cloud data for interviewed organizations. It was also noted that NetApp Cloud Volumes easily scaled to match business demands and also took significantly less time to manage their cloud data and applications. Importantly, NetApp Cloud Volumes gave interviewed organizations confidence in their ability to manage, secure, and protect their data located in Google Cloud.

Study participants discussed these benefits and more:

Lower cost of storage operations:

"The cost to operate storage is very important to us, since our storage is set and forget. I can grow it and shrink it, I have faith my disaster discovery works, and I spend 0% of my day thinking about it."

Less IT resources needed to manage storage:

"We had a lot of team members devoted to our on-premises storage infrastructure; in moving to the cloud, we can now have barely one or two team members devoted to storage. Rarely do we receive any requests or have to troubleshoot, and it's easy to create new volumes. We cut our IT resources there, plus the cost of managing the on-premises infrastructure."

Confidence in performance:

"It's imperative the performance be on demand, whenever needed. And here we've had no issues; I have the utmost confidence."

Less complexity and better performance:

"NetApp Cloud Volumes for Google Cloud reduced costs with less complexity and better performance. NetApp also allows us to scale in response to the business demand and has increased cybersecurity protection."

Centralized approach to storage:

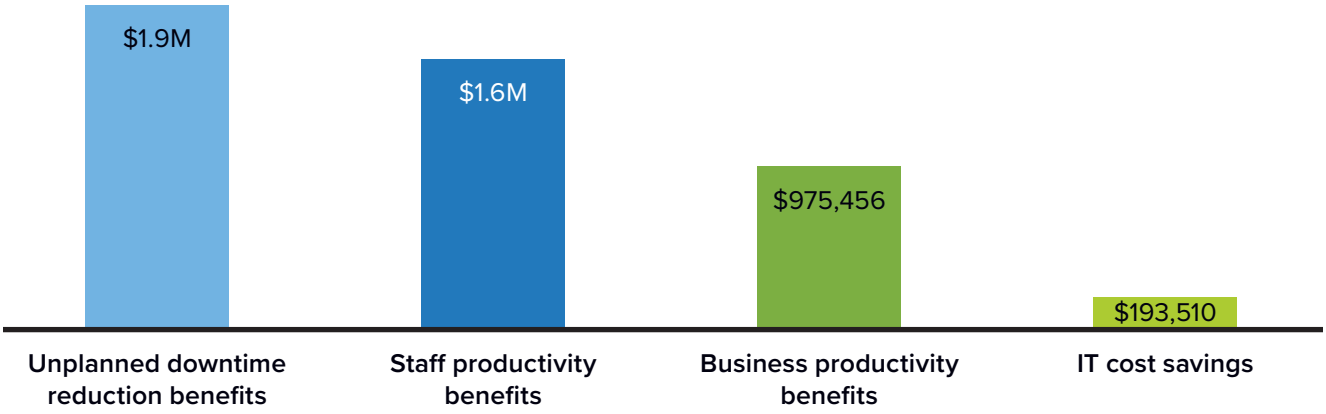
"We're a systems integrator with several visual effects customers. NetApp's deep integration with GCP means there's a central place for me to tick the requirements to spin up a virtual VFX studio. With GCP I get my compute and render, and with NetApp I get my storage."

Figure 2 illustrates that the advantages previously discussed enabled study participants to achieve significant benefits. NetApp Cloud Volumes for Google Cloud positively impacted unplanned downtime, staff productivity, IT costs, and overall business operations. Factoring in deployment time, IDC calculates that in using NetApp Cloud Volumes for Google Cloud, organizations achieve a total average annual benefit of $4.7 million in savings per organization, or $730,000 per 100 usable terabytes.

FIGURE 2

Average Annual Savings

($ per organization)



n = 6; Source: IDC interviews, November 2022

Operational Benefits of NetApp Cloud Volumes for Google Cloud

NetApp Cloud Volumes for Google Cloud provides organizations with an easy-to-manage long-term solution for data protection, backups, replication, and business continuity. The service is geared toward reducing the complexity and risk of migrating and storing mission-critical applications to Google Cloud while decreasing the total cost of operations.

Organizations clearly stated that decreasing their total cost of storage operations was a major goal and reason for selecting NetApp Cloud Volumes for Google Cloud. As shown in **Table 3**, this goal was not only achieved but also significant in nature. It was clear that NetApp Cloud Volumes enabled infrastructure management and data recovery teams to work with far greater ease and functionality, thanks to the full support of NetApp Cloud Volumes Service. NetApp Cloud Volumes also enabled organizations to significantly decrease hard infrastructure costs such as servers, software, power and cooling, and third-party costs. When combining hard infrastructure costs and the efficiency gains of those managing the environment, interviewed organizations were able to decrease their total cost of operations by a substantial $6.3 million.

TABLE 3

Total Three-Year Operational Costs

	Before NetApp Cloud Volumes for Google Cloud	With NetApp Cloud Volumes for Google Cloud	Savings	Benefit
Total cost of infrastructure	$2.66M	$2.08M	$580,530	22%
Total cost of IT staff time (infrastructure + data recovery)	$9.08M	$3.35M	$5.73M	63%
Total cost	**$11.74M**	**$5.42M**	**$6.31M**	**54%**

Source: IDC interviews, November 2022

Impact of NetApp Cloud Volumes on IT Staff

IDC examined a number of IT functional areas to understand the impact of NetApp Cloud Volumes for Google Cloud. It was abundantly clear that NetApp Cloud Volumes was easy to scale, manage, provision, update, test, and secure. The service enabled IT staff in many instances to worry less about their data and applications and repurpose their time to focus more on important business initiatives. A study participant stated, *"Our IT team are support engineers at the end of the day. They have gained time back to focus on important tasks [and] that means happier customers. We don't want to spend time looking at internal systems that should be running but aren't."*

First, IDC evaluated the infrastructure management teams. Organizations noted that their infrastructure management team benefited from NetApp Cloud Volumes in that they were spending far less time managing hardware, attending to storage needs, and working on performance-related issues. Further illustrating the ease of managing NetApp Cloud Volumes for Google Cloud, IDC calculated that not only was NetApp Cloud Volumes 78% quicker to deploy new storage capacity but it was also 52% quicker to upgrade storage. One organization stated, *"NetApp Cloud Volumes is much more versatile, easy to provision, easy to audit, easy to control, and easy to scale up."* As shown in **Table 4**, this resulted in the infrastructure management team's having a significant efficiency gain of 48%, which was valued by IDC at $240,000 in staff time per year. In many cases, this efficiency gain enabled the team to focus their time on better supporting customer needs.

TABLE 4

Infrastructure Management Team Efficiency Gains

	Before NetApp Cloud Volumes for Google Cloud	With NetApp Cloud Volumes for Google Cloud	Savings	Benefit
Total full-time employees (FTE) count	5.0	2.6	2.4	48%
Value of staff time per year	$504,250	$264,090	$240,160	48%

Source: IDC interviews, November 2022

In a similar vein, NetApp Cloud Volumes for Google Cloud increased the efficiency of disaster recovery teams. NetApp Cloud Volumes not only was easy to configure for the team but also helped them replicate, encrypt, and achieve coverage across all applications. Supporting this statement, one organization noted, *"NetApp's disaster recovery is an absolute blessing to configuration and setup. Two clicks and we're up to date, with snapshots,*

on a mirror of our production storage. Someone can delete something accidentally, or a datacenter could disappear, and I'm confident my data would still be safe."

NetApp Cloud Volumes for Google Cloud importantly decreased the anxiety these teams had regarding their data backups. They were able to back up data with 48% greater frequency than they had been with their previous solution, without sacrificing quality. Supporting this statistic, one participant stated, *"We used to do daily incremental backups and monthly full backups. Now we do snapshots every 10 minutes, incremental every hour, and full backups every other day."* These teams were also able to complete recovery time objectives (RTOs) with 42% greater regularity and recovery point objectives (RPOs) with 38% greater regularity.

Table 5 illustrates that the aforementioned benefits helped these disaster recovery teams work with 53% greater efficiency. In addition, they avoided hiring seven FTEs because of the rich feature set of NetApp Cloud Volumes for Google Cloud. IDC estimates the value of staff time per year per organization at $1.67 million in savings.

TABLE 5

Disaster Recovery Staff Efficiency Gains

	Before NetApp Cloud Volumes for Google Cloud	With NetApp Cloud Volumes for Google Cloud	Savings	Benefit
Total FTE count	18.2	8.5	9.7	53%
Number of FTEs avoided	–	–	7	–
Total FTEs	**25.2**	**8.5**	**16.7**	**66%**
Value of staff time per year	**$2.5M**	**$850,985**	**$1.7M**	**66%**

Source: IDC interviews, November 2022

Table 6 (next page) illustrates that development teams also gained productivity as a result of using NetApp Cloud Volumes for Google Cloud. These teams specifically benefited from spending 68% less time preparing test environments. This enabled them to test applications and look at data flows with far greater ease and productivity. One organization noted, *"With Cloud Volumes, our development team can do more application testing, look at data flows or data aggregation, and, basically, data modeling."* IDC calculated that the development teams were able to work with the equivalent productivity level of 16 additional full-time employee (FTEs), an 11% gain in productivity. This productivity gain amounted to $1.57 million in staff time per year.

TABLE 6

Development Team Productivity Gains

	Before NetApp Cloud Volumes for Google Cloud	With NetApp Cloud Volumes for Google Cloud	Savings	Benefit
Equivalent productivity level (FTEs)	145.0	161.0	16.0	11%
Value of staff time per year	$14.5M	$16.1M	$1.6M	11%

Source: IDC interviews, November 2022

Compliance team members also benefited from NetApp Cloud Volumes for Google Cloud. Meeting audit objectives was greatly simplified for these teams because NetApp Cloud Volumes archived the information needed, further simplifying data retrieval. As stated by one organization, *"NetApp Cloud Volumes for Google Cloud for sure helps our compliance team. If there's a need, everything is audited in the cloud, and it's very easy to go back and check. … The data is there."* This simplification led to a productivity gain of 15% and a value in staff time per year of $82,500 (see **Table 7**).

TABLE 7

Compliance Team Productivity Gains

	Before NetApp Cloud Volumes for Google Cloud	With NetApp Cloud Volumes for Google Cloud	Savings	Benefit
Equivalent productivity level (FTEs)	5.5	6.3	0.8	15%
Value of staff time per year	$550,000	$632,500	$82,500	15%

Source: IDC interviews, November 2022

Last, IDC calculated the impact of NetApp Cloud Volumes for Google Cloud on security teams. They benefited from a more streamlined approach to security in utilizing NetApp Cloud Volumes functions such as logic monitoring, automated alerts, and better encryption. These features helped ensure that the teams could quickly recover their cloud data if needed. This translated into an efficiency gain of 30% and a value in staff time per year of $90,000 (see **Table 8**, next page).

TABLE 8

Security Staff Efficiency Gains

	Before NetApp Cloud Volumes for Google Cloud	With NetApp Cloud Volumes for Google Cloud	Savings	Benefit
Total FTE count	3.0	2.1	0.9	30%
Value of staff time per year	$300,000	$210,000	$90,000	30%

Source: IDC interviews, November 2022

Benefit of Decreased Unplanned Downtime

Unplanned downtime had plagued the interviewed organizations prior to their adoption of NetApp Cloud Volume for Google Cloud. Outages not only occurred frequently but also took a significant amount of time to resolve. This impacted the organizations severely from end-user and revenue perspectives. Deploying NetApp Cloud Volumes for Google Cloud helped interviewed organizations achieve better stability, availability, and performance of their mission-critical business applications and data.

As shown in **Table 9** (next page), NetApp Cloud Volumes for Google Cloud greatly decreased the occurrence of unplanned outages for organizations, by 99%, and outages took 88% less time to resolve. This had a positive impact on staff, saving organizations the equivalent time of 26.6 FTEs, which amounted to a value in staff time savings per year of $1.86 million. In addition, organizations stated that unplanned downtime was impacting revenue 36% of the time. Upon evaluation, IDC calculated (factoring in a 15% operating margin) that organizations avoided a total revenue loss of $638,000 per year by deploying NetApp Cloud Volumes for Google Cloud. As one study participant stated, *"NetApp Cloud Volumes helped with unplanned downtime in that we have high availability and we've seen no reliability issues."*

TABLE 9

Unplanned Downtime Impact

	Before NetApp Cloud Volumes for Google Cloud	With NetApp Cloud Volumes for Google Cloud	Savings	Benefit
Unplanned downtime: User benefit				
Number of outages per year	10.3	0.1	10.1	99%
Time to resolve per outage (hours)	7.0	0.9	6.1	88%
Users impacted by downtime	1,852	74	1,111	60%
Productivity loss	69%	46%	23%	34%
Calculated FTE impact	**26.6**	**0.01**	**26.6**	**100%**
Value of staff time per year	**$1.9M**	**$728**	**$1.9M**	**100%**
Unplanned downtime: Revenue benefit				
Revenue-impacting outages	36%	36%		
Revenue loss per hour of outage	$165,625	$165,625		
Total revenue loss per organization	**$4.3M**	**$5,545**	**$4.3M**	**100%**
Total revenue loss value — IDC model	**$638,743**	**$832**	**$637,911**	**100%**

Source: IDC interviews, November 2022

Business Enablement: End-User Productivity and Revenue Enhancement

Business enablement represents another key area that IDC evaluated. Interviewed organizations reported that being backed by the strong technology of NetApp Cloud Volumes for Google Cloud enabled them to meet client demands and focus on revenue-generating initiatives. Interviewed organizations benefited greatly from having a centralized, scalable, and accessible approach to data storage.

Study participants discussed these benefits and more:

Less revenue-impacting downtime:

"Because of the hardware and maintenance issues, we had a lot of downtime. This caused a loss to the business: I don't know how much in terms of millions, but if we're down for four to six hours, we're losing four to six hours of business. We've overcome that by moving from on premises to cloud. Cloud is accessible from anywhere, and the teams are finding they're in a better position to do their job regardless of location. We've also seen improved performance compared with legacy storage."

The ability to expand talent pools worldwide:

"We have centralized storage with large files on it, and we know it just works. We have automatic disaster recovery set up. We can segregate bits of the storage for highly secure jobs. I can create new clusters by clicking three buttons. It gives us a ton of flexibility, which opens up other options. If we hire somebody working in a country where we don't have a presence yet, I know storage availability isn't going to be a blocker. As a result, we can expand our talent pool worldwide wherever there's a NetApp/GCP presence."

Better ability to keep up with revenue-generating industry needs:

"My organization is now keeping up to date with the industry because of our use of NetApp Cloud Volume for Google Cloud. Time we would've spent looking at storage is now time spent on other priorities, which are often revenue-generating."

The support of strong technology helping meet client demands:

"Our overall strategy is to provide the right people for the job. Being supported by the best technology is the underlying feature we assume is in place. We're able to shrink and grow with the demands of the clients."

Agile business alignment:

"We're now able to align with the business needs with agility. My organization is able to sustain the uptime and downtime with compliance and protection."

To quantify these business enablement benefits, IDC examined business end-user productivity, exclusive of IT staff. Business application end users benefited from better application performance and availability, enabling them to work with greater speed and agility. **Table 10** (next page) quantifies these improvements and shows an annual productivity gain of 2%. Factoring in an operating margin of 15%, IDC valued this productivity-based gain at $849,350.

TABLE 10

Business Enablement — End-User Productivity Gains

	Before NetApp Cloud Volumes for Google Cloud	With NetApp Cloud Volumes for Google Cloud	Difference	Benefit
Equivalent productivity level (FTEs)	3,479	3,560	81	2%
Total FTE count (net)	3,479	3,491	12	0.3%
Value of staff time per year	$0.2B	$0.2B	$849,350	0.3%

Source: IDC interviews, November 2022

IDC then assessed the revenue impact of NetApp Cloud Volumes for Google Cloud on interviewed organizations. NetApp Cloud Volumes enabled organizations to be better aligned with the needs of their customers. They also gained the ability to respond to business demand with agility. As shown in **Table 11**, IDC calculated the total additional gross revenue per year at $407,500, factoring in an assumed 15% operating margin.

TABLE 11

Business Enablement — Higher Revenue

	Per Organization	Per 100 Usable TBs
Total additional gross revenue per year	$2.7M	$419,562
Assumed operating margin	15%	15%
Total additional net revenue — IDC model	$407,500	$62,934

Note: The IDC model assumes a 15% operating margin for recognizing revenue gains.

Source: IDC interviews, November 2022

ROI Summary

Table 12 presents IDC's full return-on-investment (ROI) analysis for study participants' use of NetApp Cloud Volumes for Google Cloud. IDC projects that interviewed companies will achieve three-year discounted benefits worth an average of $10,975,800 per organization through improved operations and business enablement, as previously described. These benefits compare with a total three-year discounted cost of $1,968,800. **These benefits and investment costs are projected to result in an average three-year ROI of 457% with a break-even point occurring in 10.9 months.**

TABLE 12

Three-Year ROI Analysis

	Per Organization	Per 100 Usable TBs
Discounted benefits	$10.98M	$1.70M
Discounted investment	$1.97M	$304,062
Net present value (NPV)	$9.01M	$1.39M
Return on investment (ROI)	457%	457%
Payback	10.9 months	10.9 months
Discount factor	12%	12%

Source: IDC interviews, November 2022

Challenges/Opportunities

Although file storage is experiencing a high rate of growth in the cloud, it is not appropriate for every workload. There can be management challenges as file systems grow, and it can become expensive at scale. Also, it is less efficient at handling large amounts of unstructured data than other storage types.

This underscores the importance of matching the right storage type with the requirements of the workload. File storage is very familiar to IT administrators, which makes the migration of existing applications easier and allows for consistency with on-premises systems. File also outperforms object storage and supports features such as file locking and granular updates.

NetApp and Google Cloud recognize the need for diverse storage types, which is why both companies offer a portfolio of products and services to address file, block, and object storage needs.

Conclusion

The fastest-growing segment in cloud storage is file-based services. File storage continues to be an essential element of on-premises IT infrastructure, and as more enterprise workloads move to the cloud, there has been increasing demand for storage services that can be managed seamlessly across a hybrid environment.

Recognizing this need, NetApp and Google Cloud have partnered to enable enterprise-grade file storage as a fully managed service. NetApp Cloud Volumes for Google Cloud makes it possible for customers to run traditional and cloud-native applications without any changes to code, process, and technical staff, simplifying migrations.

After moving to NetApp Cloud Volumes for Google Cloud, customers interviewed in this study reported lower storage operating costs, better performance, and increased system uptime. This resulted in tangible impacts across the organization, improving the productivity of IT staff, development teams, and end users.

As cloud becomes a larger share of overall IT spend, customers are paying more attention to costs than ever before. IDC calculates that interviewed NetApp Cloud Volumes for Google Cloud customers will achieve an average three-year ROI of 457% and break even on their investment in an average of 10.9 months, demonstrating the business value of the solution.

Appendix: Methodology

IDC's standard Business Value/ROI methodology was utilized for this project. This methodology is based on gathering data from organizations currently using NetApp Cloud Volumes for Google Cloud as the foundation for the model.

Based on interviews with organizations using NetApp Cloud Volumes for Google Cloud, IDC performed a three-step process to calculate the ROI and payback period:

- **Gathered quantitative benefit information during the interviews using a before-and-after assessment of the impact of using NetApp Cloud Volumes for Google Cloud.** In this study, the benefits included security staff time efficiencies, development productivity gains, reduced costs associated with risk, and higher revenue.
- **Created a complete investment (three-year total cost analysis) profile based on the interviews.** Investments go beyond the initial and annual costs of using NetApp Cloud Volumes for Google Cloud and can include additional costs related to migrations, planning, consulting, and staff or user training.
- **Calculated the ROI and payback period.** IDC conducted a depreciated cash flow analysis of the benefits and investments for the organizations' use of NetApp Cloud Volumes for Google Cloud over a three-year period. ROI is the ratio of the net present value (NPV) and the discounted investment. The payback period is the point at which cumulative benefits equal the initial investment.

IDC bases the payback period and ROI calculations on a number of assumptions, which are summarized as follows:

- Time values are multiplied by burdened salary (salary + 28% for benefits and overhead) to quantify efficiency and manager productivity savings. For purposes of this analysis, based on the geographic locations of the interviewed organizations, IDC has used assumptions of an average fully loaded salary of $100,000 per year for IT staff members and an average fully loaded salary of $70,000 per year for non-IT staff members. IDC assumes that employees work 1,880 hours per year (47 weeks x 40 hours).
- The net present value of the three-year savings is calculated by subtracting the amount that would have been realized by investing the original sum in an instrument yielding a 12% return to allow for the missed opportunity cost. This accounts for both the assumed cost of money and the assumed rate of return.
- Because IT solutions require a deployment period, the full benefits of the solution are not available during deployment. To capture this reality, IDC prorates the benefits on a monthly basis and then subtracts the deployment time from the first-year savings.

Note: All numbers in this document may not be exact due to rounding.

About the IDC Analysts

Dave McCarthy

Research Vice President, Cloud and Edge Infrastructure Services, IDC

Dave McCarthy is a vice president within IDC's worldwide infrastructure practice, where he leads a team of analysts covering shared (public) cloud, dedicated (private) cloud, and edge strategies. Benefiting both technology suppliers and IT decision makers, Dave's insights delve into how hybrid and distributed cloud platforms provide the foundation for next-generation workloads, enabling organizations to innovate faster, automate operations, and achieve digital resiliency. His research is available via syndicated research programs (subscription services), data products (IDC Trackers), and custom engagements.

More about Dave McCarthy

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Megan Szurley is a consulting manager within IDC's Custom Solutions Division, delivering consultative support across every stage of the business life cycle: business planning and budgeting, sales and marketing, and performance measurement. In her position, Megan partners with IDC analyst teams to support deliverables that focus on thought leadership, business value, custom analytics, buyer behavior, and content marketing. These customized deliverables are often derived from primary research and yield content marketing, market models, and customer insights.

More about Megan Szurley

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