



The Business Value of Google Cloud Storage

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BUSINESS VALUE HIGHLIGHTS



Click on highlights below to navigate to related content within this PDF.

162%
three-year ROI

52% lower
cost of storage capacity

10 months
to breakeven

70% more efficient
IT storage infrastructure teams

99% faster
to deploy new storage capacity

73% faster
to deploy new testing environment

\$52.2 million
higher revenue per
organization per year

Executive Summary

Public cloud infrastructure as a service (IaaS) solutions are key to helping organizations implement modern digital initiatives and navigate IT budgeting uncertainty in a challenging macroeconomic climate. Throughout the last year and a half, the IaaS market remained resilient despite the challenges of COVID-19 and the other variants of SARS-CoV-2. IDC estimated that the public cloud IaaS storage market would grow 35% annually in 2021, reaching over \$37 billion worldwide. As one of the leading providers in IaaS storage, Google Cloud plays an important role helping organizations migrate and modernize their workloads and applications using cloud storage services. Many organizations begin their cloud journey with storage services, so it is imperative that these initial deployments are executed quickly and efficiently to prove the business case for public cloud services and allow organizations to continue maturing their cloud strategy. This analysis provides tangible business value metrics for organizations using Google Cloud Storage (GCS).

IDC interviewed organizations that store significant volumes of data in support of important business applications and services with Google Cloud Storage. Study participants reported optimizing storage-related costs while making important gains in agility and performance that enable business growth.

IDC projects that interviewed Google Cloud Storage customers will realize average annual benefits worth \$86,500 per petabyte (\$17.9 million per organization) by:

- ▶ **Lowering the cost of storage** through higher use rates, cost-effective access, and reduced overprovisioning
- ▶ **Saving IT storage infrastructure team time** by leveraging Google support, improved storage performance, and automated provisioning
- ▶ **Providing agility in obtaining storage resources** that enables development and other line-of-business teams as well as overall business activities
- ▶ **Capturing more revenue** by addressing business opportunities in a timely manner and ensuring requisite performance levels for critical applications and customer-facing services

Situation Overview

Public cloud IaaS solutions are critical to modern digital organizations and enterprises. The cloud IaaS market has grown significantly over the past five years, and revenue from cloud IaaS compute and storage services is now forecast to exceed \$200 billion in 2025. Cloud IaaS providers are quickly expanding their infrastructure and technological capabilities to serve customers better in hybrid and dedicated environments, as well as physical locations that go beyond the walls of the cloud service provider's datacenter. Workload demands are also rising, as organizations continue to develop and modernize mission-critical apps using cloud infrastructure services. This development means organizations increasingly require millisecond latency and accessibility, enterprise-grade data protection and resilience, and massively scalable storage resources across file, block, and object protocols. And while cloud IaaS provides the foundation for enterprise initiatives, the end goal for many organizations depends on access to adjacent services that can seamlessly integrate and run on cloud compute instances and storage resources. This includes database services, security and compliance services, analytics, machine learning and artificial intelligence services, and high-performance computing. These market dynamics position cloud IaaS solutions to be a critical, enabling component as organizations look to modernize and continuously improve both their infrastructure operations and their mission-critical workloads.

Google Cloud Storage

IDC estimates that Google's public cloud IaaS storage revenue grew 49% in the first half of 2021, well above the average total market growth of 35%. Google continues to execute buildout of its cloud services portfolio across Google Cloud, Google Workspace, and Google Anthos. This trifecta approach helps organizations execute both migration and modernization efforts on Google Cloud across a wide range of infrastructure and application types. With a growing focus on enterprise collaboration and hybrid cloud workloads, combined with solution-centric cloud service delivery, Google Cloud delivers a comprehensive mix of tools and services for both enterprise IT buyers and cloud and application developers. IDC believes that these strengths, together with the growing ecosystem of services and partnerships at Google Cloud, position Google well to serve its customers' cloud infrastructure services needs.

The Business Value of Google Cloud Storage

Study Demographics

IDC interviewed six organizations about their use of Google Cloud Storage. Interviews were in-depth in nature and designed to understand the impact of use of Google Cloud Storage in both quantitative and qualitative terms on storage costs, agility, performance, and business results.

Table 1 presents demographics of interviewed Google Cloud customers. Overall, they had an enterprise profile, with averages of 6,817 employees and \$6.5 billion in annual revenue (medians of 3,750 and \$2.5 billion, respectively). Interviewed individuals were based in the United States, Israel, and Sweden, but several interviewed organizations have truly worldwide operations with locations and activities in tens or even hundreds of countries. Interviewed organizations provided the experiences of various industry verticals, including media and entertainment, financial services, nonprofit, software, and technology, but shared a common reliance on substantial volumes of data, as evidenced by average and median total storage environments of 250PB.

TABLE 1
Demographics of Interviewed Organizations

	Average	Median
Number of employees	6,817	3,750
Number of IT staff	728	615
Number of business applications	1,044	800
Number of petabytes — total storage environment	250	250
Annual revenue	\$6.5B	\$2.5B
Countries	United States (4), Israel, and Sweden	
Industries	Media and entertainment (2), financial services, nonprofit, SaaS, and technology	

n = 6, Source: IDC in-depth interviews, November 2021

Choice and Use of Google Cloud Storage

Study participants described considerations in their decisions to choose Google Cloud Storage and, in several instances, migrate significant volumes of data and workloads from on-premises environments. While they all spoke to unique drivers, decisions centered on a common need to have flexible access to cost-effective and high-performing storage that can support growth to their data-driven businesses.

They elaborated on specific decision criteria for their own organizations:

► **Elasticity, scale, and pricing advantage for different types of storage:**

“Because we are scaling further and further, we chose to utilize Google Cloud Storage for elasticity rather than putting engineering effort and cost in our on-prem datacenters ... We’ve also found that the different storage tiers that Google supports, for example, for archival purposes, provide good value from a pricing perspective.”

► **Pricing, but also features and availability:**

“Ultimately our decision to use Google Cloud Storage came down to a combination of expertise at scale and the total cost of ownership. It wasn’t only pricing — it was pricing, feature set, and regional availability.”

► **Access to data and ability to use data:**

“We made our decision based on the scalability and availability of data and the ease of using it and how it responds with Google Cloud Storage.”

Table 2 (next page) provides baseline information about study participants’ use of Google Cloud Storage. Most notably, interviewed organizations have already moved huge volumes of data to Google Cloud Storage, with an average of 206PB and a median of 98PB. Further, their Google Cloud Storage environments continue to expand, with study participants reporting 36% year-on-year growth.

Interviewed Google Cloud customers also provided additional details about their use:

► **Workloads and applications:**

Study participants described using Google Cloud Storage for many of their most business-critical and data-intensive applications, including core software-as-a-service products, customer-facing services, data processing activities, storage platform for research activities, and internal research platforms.

► **Type of data:**

Study participants reported a mix of structured and unstructured data, with prominent use cases turning unstructured data into structured data for business consumption purposes.

► **Length of storage:**

Study participants described using Google Cloud Storage for both Coldline (i.e., more than 90 days including archival purposes) and hotline (i.e., under 90 days, including for more immediate use) purposes.

TABLE 2

Google Cloud Storage Use by Interviewed Organizations

	Average	Median
Total usable petabytes	206	98
Growth to Google Cloud Storage environment (per year)	36%	25%
Number of business applications	46	26

n = 6, Source: IDC in-depth interviews, November 2021

Business Value and Quantified Benefits of Google Cloud Storage

IDC's research demonstrates the value of Google Cloud Storage as a cost-effective and agile enterprise storage platform. Interviewed Google Cloud customers reported that they not only achieve significant cost savings but better support business growth, which results in higher revenue and other operational efficiencies.

Study participants described the value of using Google Cloud Storage:

- ▶ **Business users benefit from scale and performance:**
"The business impact of our use of Google Cloud Storage is that our users benefit from scale. There's a time-to-market benefit also; for example, if a researcher runs a large-scale workload, they can get the results quickly with Google Cloud Storage to use for trading purposes."
- ▶ **Agility and resiliency to meet on-demand business requirements:**
"Google Cloud Storage's agility is a big part of the overall benefit, as is the resiliency because we never know what our transaction volume is going to be. Our volume is very much on demand, and to do that on premises for the exact same capacity with all the labor, it's just a lot more complicated."
- ▶ **Storage capacity to support business growth:**
"Without Google Cloud Storage, we couldn't support as many people. We're probably four or five times bigger than we were with our on-premises environment."
- ▶ **Foundation for growing operational environment:**
"It would be virtually impossible for us to operate without Google Cloud Storage ... The company's users have grown by five times at least. We are storing and using more data, we are running more jobs, everything is bigger, and it would have been virtually impossible to do this while still being on our own on premises."

IDC's analysis shows that study participants will realize average annual benefits worth **\$86,500 per petabyte (\$17.9 million per organization)** in the following areas (see Figure 1):

► **Business productivity benefits:**

By moving faster to address business opportunities, better leveraging data, and improving performance of applications and services, study participants will realize higher net revenue and analytics team productivity gains worth an average of \$35,300 per petabyte (\$7.3 million per organization).

► **IT infrastructure cost reductions:**

By optimizing use of storage resources, study participants will save an annual average of \$34,300 per petabyte (\$7.1 million per organization) in direct storage costs.

► **IT staff productivity benefits:**

By requiring less staff time for direct administration and support of their storage environments, as well as gaining from enhanced storage agility, study participants will benefit from IT storage team and development team efficiencies and productivity gains worth an annual average of \$12,700 per petabyte (\$2.6 million per organization).

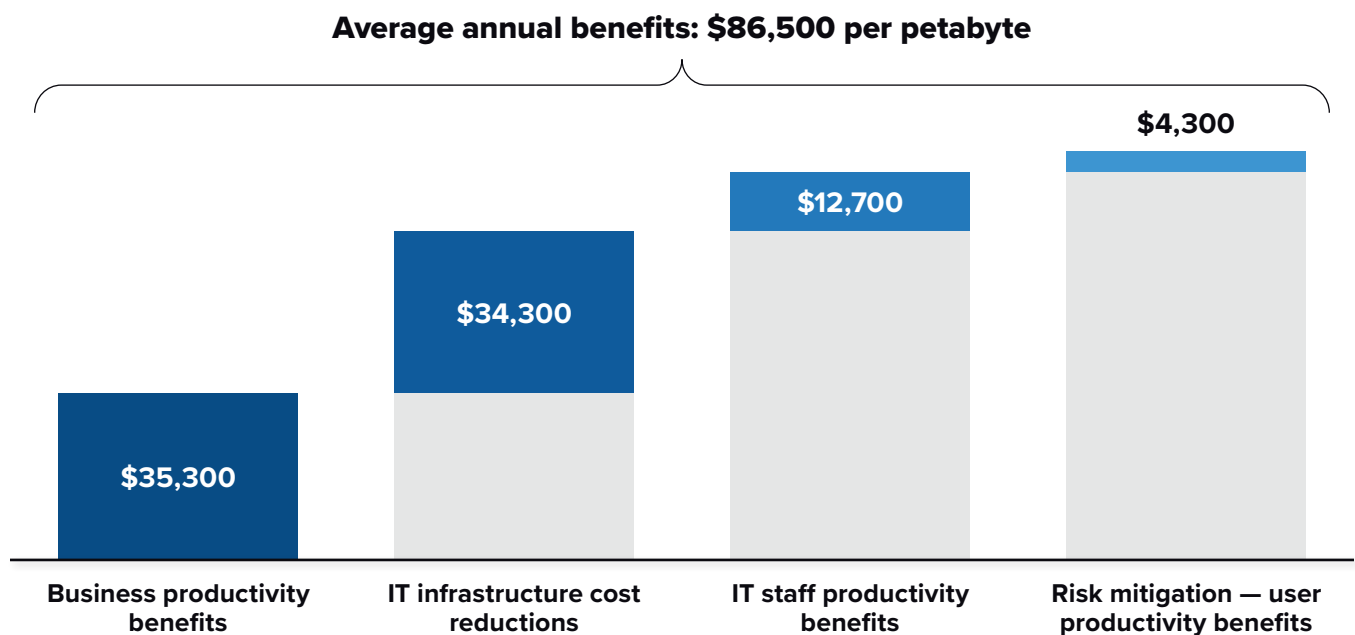
► **Risk mitigation — user productivity benefits:**

By limiting the frequency and duration of unplanned outages related to storage affecting business applications and services, study participants will see productivity gains that IDC values at an annual average of \$4,300 per petabyte (\$0.9 million per organization).

FIGURE 1

Average Annual Benefits per Petabyte

(\$ per PB)



n = 6, Source: IDC in-depth interviews, November 2021

Storage Cost Savings

Study participants must store, access, and use huge amounts of data. They have data that they must access every day, as well as data that may be stored for months or years without being directly accessed. Huge data growth in recent years has stressed their ability to maintain control over storage-related costs. They must not only pay for storing quickly growing volumes of data but also ensure that their storage infrastructure can handle monthly growth measured in petabytes.

Interviewed Google Cloud customers described finding it challenging to keep up with escalating data volumes with on-premises storage environments. They explained the inherent challenge with on-premises storage in balancing cost considerations while ensuring capacity to meet higher demand. This often left them with the suboptimal choices of overprovisioning to meet expected demand — with attendant deadweight costs as demand materializes — and incurring business costs in the form of lost opportunities and poor storage performance when they fail to keep up with actual demand.

Study participants reported that Google Cloud Storage has enabled them to rightsize and optimize their storage environments through much-enhanced agility, scalability, and performance. As a result, they require less storage to run equivalent workloads and can better time storage purchases to match actual needs, which results in more cost-effective storage for their organizations.

Interviewed organizations provided specific examples of these types of storage cost benefits:

► Cost effective based on complexity of use and clarity of cost:

“I don’t think it would be possible for us to build an on-premises storage system that would perform as well as Google Cloud Storage. It would be cost prohibitive to deploy globally distributed storage that can handle enormous amounts of bandwidth ... Also, with Google Cloud Storage, we pay by the gigabyte, so we can very easily say exactly what it costs to store a gigabyte of data.”

► Native, multiregion storage services:

“One of the things that was attractive about Google Cloud Storage was they offered multiregional storage at a very attractive price point. In other words, it automatically provides two backup copies in more than one region, for a very good low price. This is their GCS multiregional product, and at the time, other cloud providers did not offer a native multiregional product.”

► Ability to maintain higher usage rate:

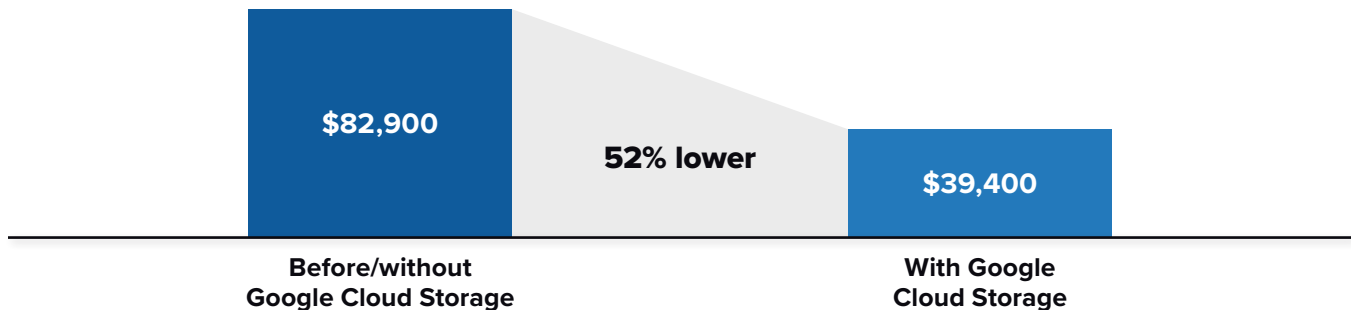
“We have about 25PB of usable storage with Google Cloud Storage. If we were doing this on premises, we would have kept about 50PB capacity and run that at about 50% usage rate.”

Figure 2 (next page) shows the extent to which study participants have reduced the cost of providing storage for equivalent workloads with Google Cloud Storage, benefiting from 52% lower costs on average. On a per-petabyte basis, this equals a significant annualized savings of \$43,500 per petabyte. However, the scale of these cost efficiencies becomes more clear across the tens and hundreds of petabytes of storage that study participants require. On a per-organization basis, IDC calculates that study participants will save almost \$9 million per year in storage costs.

FIGURE 2

Cost of Storage Infrastructure per Year per Petabyte

(\$ per year per PB)



n = 6, Source: IDC in-depth interviews, November 2021

Storage Staff Efficiencies

Study participants also cited the centrality of staff efficiencies in managing and supporting their storage environments with Google Cloud Storage. They described how extending their on-premises storage environments often carried the need to grow their storage infrastructure teams, which can limit their ability to capture value from their growing data environments. Further, when their storage teams' capacity is continually stressed, it means that these teams rarely have the bandwidth needed to contribute to innovative- and business-focused activities and projects.

Interviewed Google Cloud Storage customers reported that they can run and support their growing environments much more efficiently. Several described avoiding the need to add significant team resources, and others cited the benefit of freeing up staff capacity to focus on higher-value projects:

► **Avoiding significant staff requirements to run on premises:**

"We couldn't do this on premises, or at least not very easily, and not without a lot more manpower to manage a very large storage infrastructure. We would need a team to manage the datacenter, hardware, and logistics, of at least 20 people or more."

► **Shifting staff focus to value-added activities:**

"With Google Cloud Storage, we now have roughly the same amount of people managing storage, but I wouldn't even say that they're doing the same job. They're working in the same area, but now they're able to add value to the storage solution instead of making sure that there is a storage solution."

As shown in **Table 3**, IDC calculates that study participants are capturing efficiencies of an average of 70% with Google Cloud Storage for their IT storage infrastructure teams. This equates to significant staff value; on average, interviewed organizations reported needing the equivalent of a team of 8 to handle what they previously would have needed a team of more than 26.

TABLE 3
IT Storage Infrastructure Team Efficiencies

Average per Organization	Previous/Other Solution	With Google Cloud Storage	Difference	Change (%)
Staff time for equivalent workloads per organization (FTEs)	26	8	18	70
Equivalent value of staff time per organization per year	\$2.6M	\$0.8M	\$1.8M	70

n = 6, Source: IDC in-depth interviews, November 2021

Enhanced Storage Agility and Performance

In addition to cost and staff efficiencies, interviewed Google Cloud Storage customers spoke to the transformative impact on their storage agility and scalability. As explained, their growing business and data environments require new storage capacity with regularity. In short, their businesses cannot operate optimally without continual access to high-performing storage. However, with on-premises storage infrastructures, provisioning new capacity took far too long due to provisioning and deployment requirements.

Study participants stressed that being able to access capacity in real time with Google Cloud Storage has completely changed considerations and processes related to adding storage:

► **Real-time provisioning of new storage and more effective development activities:**

“Deploying new storage with Google Cloud Storage takes seconds, whereas it was a whole process on premises. It took weeks, which could turn into months ... For development, this means cleaner code, and in terms of managing it, it’s a little simpler — Google Cloud Storage simplifies the processes.”

► **Instantaneous access to testing environments:**

“It’s now instantaneous to prepare a testing environment with Google Cloud Storage compared with possibly taking weeks on premises.”

Table 4 (next page) demonstrates how study participants have fundamentally changed how they can access and consume new storage capacity with Google Cloud Storage. Most importantly, they can now deploy new storage capacity in less than one hour as demand arises compared with needing between two to three weeks with their on-premises storage environments (99% faster).

This not only saves significant staff time in carrying out storage provisioning activities but also carries through to business-enabling activities such as setting up testing environments for development, which they can complete 73% faster with Google Cloud Storage.

TABLE 4
IT Storage Agility Benefits

Average per Organization	Previous/Other Solution	With Google Cloud Storage	Difference	Change (%)
Time needed to deploy new storage capacity (days)	13	0	13	99
Staff time required to deploy new storage capacity (hours)	121	2	119	98
Time needed to prepare new testing environment (hours)	3	1	2	73

n = 6, Source: IDC in-depth interviews, November 2021

Enhanced storage agility has practical benefits for interviewed organizations, including enablement of their development activities. One interviewed Google Cloud Storage customer described the benefit of faster access to testing environments for its development team:

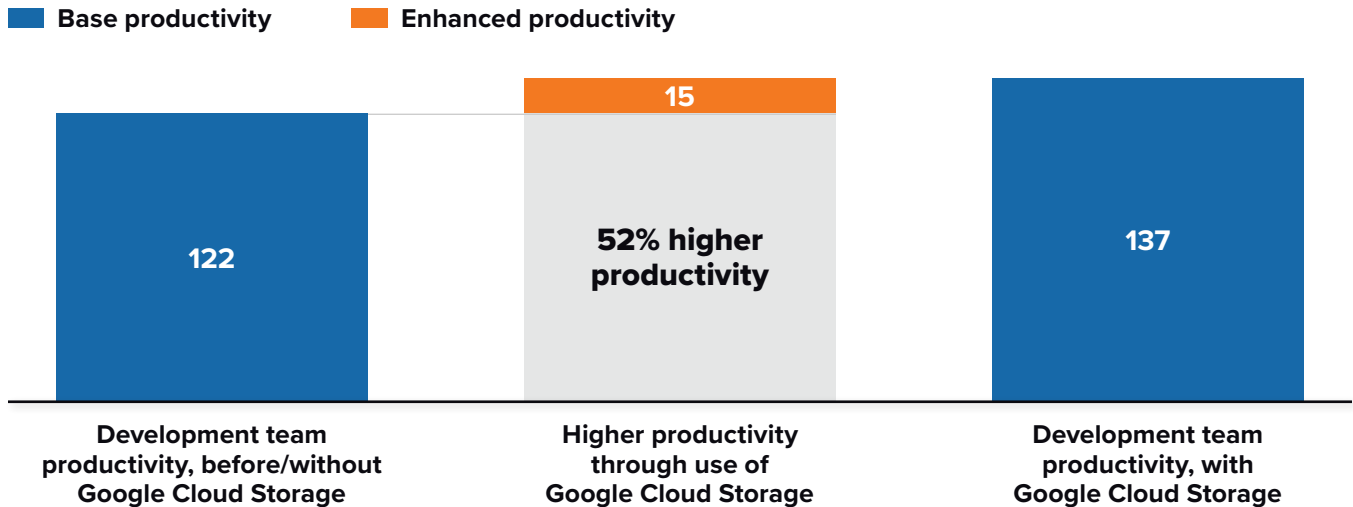
“Deploying new storage capacity on premises took something like 4–6 weeks compared with pretty much instantaneous with Google Cloud Storage ... Google Cloud Storage is more secure and flexible and scales better ... Around 300–400 developers work on this environment, and they are around 10–15% more productive by quickly setting up their own test environments.”

Figure 3 (next page) shows the average impact across study participants of using Google Cloud Storage on their development teams, with their improved capabilities reflected in average productivity gains of 12%.

FIGURE 3

Impact on Development Team Productivity

(equivalent productivity — FTEs per organization)



n = 6, Source: IDC in-depth interviews, November 2021

Study participants have also benefited in tangible ways from improved storage performance with Google Cloud Storage. They reported experiencing fewer unexpected outages and performance issues, which ensures uninterrupted access for employees and customers for applications and services. While much of the value of these performance improvements resides in less quantifiable operational risk reductions, study participants linked reduced frequency and duration of unplanned outages to lessening lost productivity. As shown in **Table 5**, they reported experiencing an average of 5 fewer unplanned storage-related outages per year, which has enabled them to gain an average of 4 hours of additional productivity per year per employee.

TABLE 5

Impact on Unplanned Downtime

	Benefit of Google Cloud Storage
Number of unplanned outages reduced per year	5
Hours of lost productive time saved per user per year	4
Productivity loss avoided per year in FTEs per organization	16
Value of lost productivity time avoided per organization per year	\$1.1M

n = 6, Source: IDC in-depth interviews, November 2021

Business and Operational Benefits

Study participants also reported leveraging use of Google's Cloud Storage to capture business benefits and operational efficiencies. As described, their business models are generally reliant on data and their ability to extract value from data, increasing the importance of storage agility and performance. Further, their ability to provide growing businesses with timely and cost-effective storage resources not only has a direct ability on their impact to compete on price but also makes financial resources available for investment in other business-enabling initiatives.

Study participants provided examples of these types of business-related benefits of using Google Cloud Storage:

▶ **Alleviate cost restraints and refocus IT organization on business:**

"We're constantly growing, so we face a situation in which we weren't going to have any more space in our datacenters ... We were about to have to invest a boatload of money, but instead we switched to using Google Cloud Storage. We could then migrate out of the datacenter and use the same staff that was running all that datacenter stuff to focus on making product that drives revenue."

▶ **Better regional availability and ability to price competitively:**

"Google Cloud Storage is more regionally available, meaning that we can support more regions than what we could do with a datacenter ... As far as reliability and availability, that's also better with Google Cloud Storage ... In terms of cost reductions through using it, it's impactful, so we can offer competitive pricing for our products."

▶ **Inversion of staff time focus:**

"With Google's Cloud Storage, the relation between time spent building products and adding new value, and time spent fighting issues, that's probably been inverted ... I would say like 90/10% has been swapped for 1–2% of dealing with problems and 98% developing products."

Table 6 (next page) shows the impact on business results in the form of higher revenue that use of Google Cloud Storage has had for interviewed organizations. They attributed average annual revenue gains of \$52.2 million (\$252,800 per petabyte) to use of Google Cloud Storage. These business gains reflect their improved ability to meet customer demand, ensure high-quality customer experience, and compete on price in very competitive markets. For purposes of its financial model, IDC applies a 15% margin assumption, meaning that it considered net revenue gains worth \$7.8 million per organization (\$37,900 per petabyte) in calculating study participants' net benefits from using Google Cloud Storage.

TABLE 6

Business Operations Impact: Higher Revenue

	Per Organization	Per Petabyte
Higher revenue per year	\$52.2M	\$252,800
Assumed operating margin (%)	15	15
Higher net revenue per year	\$7.8M	\$37,900

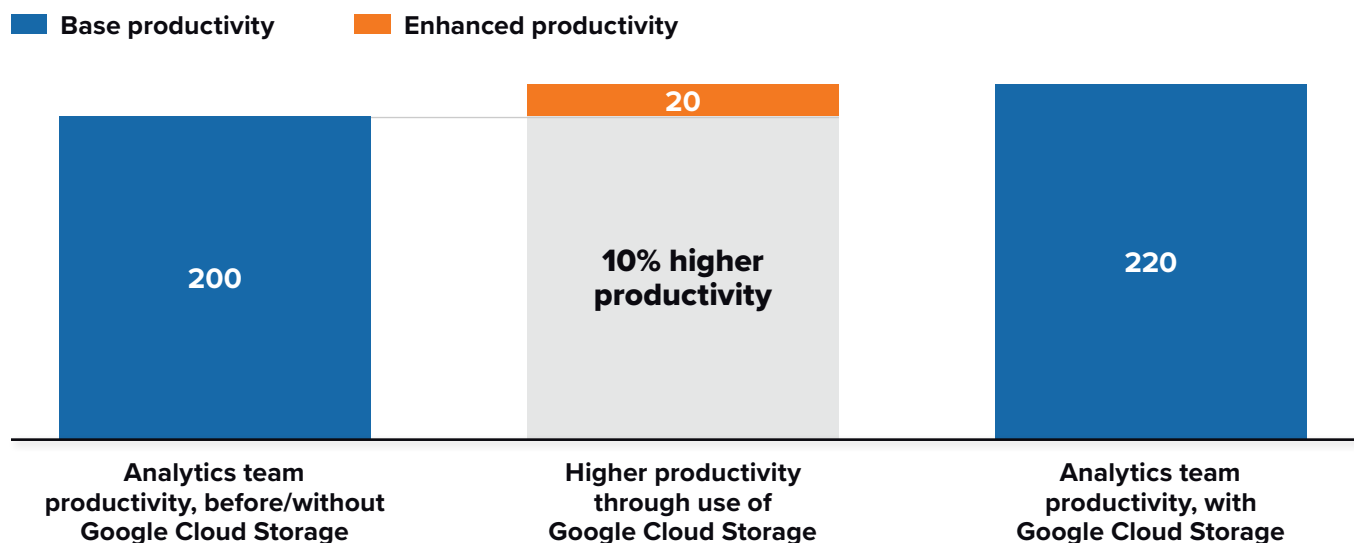
n = 6, Source: IDC in-depth interviews, November 2021

Improved storage performance with Google Cloud Storage also delivers operational efficiencies in the form of higher productivity for some groups of employees. For example, several interviewed organizations linked their use of Google Cloud Storage and enhanced agility and performance to improved analytics team capabilities. One interviewed organization commented: “We have around 1,000 employees per month using applications supported by Google Cloud Storage — they are more productive because Google Cloud Storage is more reliable and more stable than our on-premises infrastructure. I’d say they gain back maybe 10% of their time ... For example, they can launch an analysis and it’s quicker to complete.” On average, interviewed Google Cloud Storage customers reported that 200 analytics team members have experienced productivity gains of 10%, reflecting the increased value that they deliver to their data-driven organizations (see Figure 4).

FIGURE 4

Impact on Analytics Team Productivity

(equivalent productivity — FTEs per organization)



n = 6, Source: IDC in-depth interviews, November 2021

ROI Summary

Table 7 provides IDC's analysis of the financial benefits and investment costs for study participants' use of Google Cloud Storage. IDC calculates that interviewed Google Cloud Storage customers will achieve average discounted benefits worth \$201,500 per petabyte (\$41.6 million per organization) over three years in reduced storage costs, IT team efficiencies, user productivity gains, and increased revenue. These benefits compare with three-year discounted investment costs of an average of \$76,900 per petabyte (\$15.9 million per organization). These levels of benefits and investment costs would result in an average three-year ROI of 162%, with breakeven in their investment occurring in an average of 10 months.

TABLE 7
Three-Year ROI Analysis

	Average per Organization	Average per Petabyte
Benefit (discounted)	\$41.6M	\$201,500
Investment (discounted)	\$15.9M	\$76,900
Net present value (NPV)	\$25.7M	\$124,600
Return on investment (ROI)	162%	162%
Payback period	10 months	10 months
Discount rate	12%	12%

n = 6, Source: IDC in-depth interviews, November 2021

Challenges/Opportunities

Today, GCP offers object, block, and file services in a range of tiered options. Google differentiates its storage services by providing simple billing plans that promote transparency and service cost reduction. Another important area of distinction is Google's breadth of embedded storage services. Users have access to a suite of tools and services for data life-cycle management, data access permissions, security, and cost optimization, all under the umbrella of Google Cloud. This comprehensive, ecosystem approach is one of Google's greatest strengths. Google Cloud also caters to a unique mix of enterprise IT and application developer buyers. This mix results in a diverse range of infrastructure deployments within the Google Cloud ecosystem, from large-scale legacy application migrations to cloud-native application development using the latest technologies (e.g., serverless and containerized). Google Cloud remains well positioned to serve both of these buyer constituencies due to its ability to leverage a range of infrastructure services alongside Anthos and Workspace.

Like any market competitor, Google Cloud also faces challenges. The vendor is comparatively early in its growth as an enterprise IT technology provider, and this is reflected in some areas of its cloud storage services portfolio — particularly across file and block service — where customer demand for high-performance storage and data services is generating intense competition. Google added a file storage service via acquisition in 2019 and continues to invest in this segment with the recent addition of Filestore Enterprise. In terms of block storage, the vendor recently expanded its portfolio with extreme persistent disks, allowing independent provisioning of input/output operations per second (IOPS) and capacity. We expect this to be a welcome addition to users with granular requirements for high-performance workloads.

Finally, Google — as with all cloud services providers — must also contend with enterprise concerns regarding the security, compliance, and resilience of cloud infrastructure. These challenges will never go away, but continuing to eliminate storage-related service outage/downtime incidents while developing integrated data management and protection capabilities (e.g., multiregion replication, native disaster recovery tools, and data use and audit controls) will be critical to help overcome these potential buyer challenges and roadblocks.

Conclusion

Storage services are a key component of an enterprise's cloud journey. Storage migration and modernization efforts can often serve as an initial entry point to cloud and a way for enterprises to prove the value and business case for cloud IaaS. Furthermore, the growing importance of enterprise data, and its perceived value to organizations' business objectives, coupled with the rapid growth of enterprise data volumes, has made it imperative to find cost-effective and efficient storage solutions that still deliver on the performance, security, and cost profiles required by organizations.

IDC's research demonstrates the value proposition for organizations using Google Cloud Storage as an enterprise-level storage platform. Study participants demonstrated that they optimized their storage-related costs and achieved operational efficiencies using Google Cloud Storage. Respondents also leveraged Google Cloud Storage and Google Cloud's suite of adjacent services to provide their businesses with greater storage agility and performance. For our participants, the capabilities and advantages of Google Cloud Storage translated into tangible business benefits, including higher revenue and overall operational efficiencies. Overall, IDC's analysis shows that interviewed organizations will achieve more than a 2.5:1 return on their investment (162% three-year ROI) and break even in their investment in Google Cloud Storage in an average of 10 months.

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 Google Cloud Storage as the foundation for the model.

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

- 1. Gathered quantitative benefit information during the interviews using a before-and-after assessment of the impact of using Google Cloud Storage.** In this study, the benefits included storage cost savings, IT storage and development team efficiencies, user productivity gains, and higher revenue.
- 2. Created a complete investment (three-year total cost analysis) profile based on the interviews.** Investments go beyond the initial and annual costs of using Google Cloud Storage and can include additional costs related to migrations, planning, consulting, and staff or user training.
- 3. Calculated the ROI and payback period.** IDC conducted a depreciated cash flow analysis of the benefits and investments for the organizations' use of Google Cloud Storage 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 Analysts

**Andrew Smith****Research Manager, Cloud Infrastructure Services, IDC**

Andrew Smith's research focuses on public cloud infrastructure-as-a-service platforms and solutions, with specific focus on storage services. Andrew contributes to market sizing and forecast efforts across IDC's Public Cloud IaaS segments, as well as adjacent markets like multi-cloud data management, data protection as a service, and public cloud cold storage.

[More about Andrew Smith](#)**Matthew Marden****Research Director, Business Value Strategy Practice, IDC**

Matthew is responsible for carrying out custom business value research engagements and consulting projects for clients in a number of technology areas with a focus on determining the return on investment (ROI) of their use of enterprise technologies. Matthew's research often analyzes how organizations are leveraging investment in digital technology solutions and initiatives to create value through efficiencies and business enablement.

[More about Matthew Marden](#)



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