IDC
ANALYZE THE FUTURE

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Business Value Highlights

5 months
to payback

272%
three-year ROI

46%
lower three-year cost of operations

31%
lower cost of IT infrastructure

56%
more efficient IT teams

98%
faster to deploy new compute/storage

98%
lower productivity and revenue losses due to unplanned outages

11 hours
of additional productivity per user, faster migrations

Business Value of Google Cloud for SAP Environments

EXECUTIVE SUMMARY

Public cloud adoption has crossed the chasm of enterprise IT adoption and is now seen as a preferred destination for a wide range of workloads. Services run on public cloud deliver significantly better performance and greater scalability than services run on traditional systems. Major public cloud providers also provide access to a broad range of higher-layer services alongside their services, including platform-as-a-service (PaaS) and software-as-a-service (SaaS) capabilities as well as access to innovation accelerators such as advanced analytics and artificial intelligence and machine learning (AI/ML). In this new paradigm, enterprises are increasingly looking at public cloud to drive value around their most business-critical data sets and workloads, including their SAP environments.

IDC recently conducted in-depth interviews with Google Cloud customers to understand the full potential impact for organizations of running their SAP environments on Google Cloud. Interviewed organizations articulated a clear value proposition from lowering the cost of running their SAP applications and workloads while benefiting from much-improved agility, resiliency, and performance. IDC projects that they will realize average benefits worth $76,800 per 100 users per year ($2.02 million per organization) by:

- **Lowering infrastructure costs** for running equivalent SAP environments

- **Enabling IT infrastructure, database, and security teams** to work more efficiently and effectively

- **Minimizing productivity and revenue losses** associated with unplanned outages

- **Increasing employee productivity levels** through faster migrations to more effective SAP environments

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SITUATION OVERVIEW

The business case for running mission-critical application workloads on public cloud is multifaceted. Oftentimes, the actual benefits far exceed the benefits that were used initially to justify the move to cloud. During public cloud's early days, the case for moving was built almost exclusively on the cost savings associated with eliminating or reducing the dependence on on-premises infrastructure. As businesses matured in their experience with and use of public cloud, the ROI focus broadened to include performance-based metrics such as improved agility, resilience, operational efficiency, and applied innovation. Faster response to market changes and disruption is the hallmark of a cloud-enabled digital operating model. Organizations accelerate their move from legacy systems of record such as enterprise resource planning (ERP) to SaaS and cloud solutions in order to reengineer and streamline processes and create superior customer and user experiences. These systems are the backbone of enterprise application ecosystems, powering end-to-end mission-critical processes and workflows. Because of the massive scale and corresponding cost of an SAP ERP implementation, businesses run extensive capital and operational studies to fully understand the impact on business performance. Benefits accrue across all functional areas targeted for transformation, from finance and accounting to operations, procurement, and human resources. Cloud ERP is a critical step on the path to the future of work and creating consistent access and experiences across a large, remote, and distributed workforce and partner ecosystem. Organizations rely on a variety of consulting and implementation partners to help with the move to cloud.

Data sits at the core of successful transformation, or more specifically, the need to profile, capture, ingest, and analyze large volumes of data fast and accurately for better decisioning. Unifying data siloed within applications and functional areas should be a top priority for businesses moving to a cloud ERP. Tens of thousands of users across all functions and distributed across hundreds of locations rely on their SAP ERP environment to get their jobs done.

Most businesses continue to prioritize investments in SaaS and cloud. This is especially true during periods of disruption and uncertainty when greater agility is needed to respond quickly to change. Transformational change requires a scalable cloud platform that is secure, global, and compliant, combining world-class infrastructure running in concert with modern business applications and enterprise-ready services such as high-availability networking, compute and storage, data protection, advanced analytics, and innovation accelerators including artificial intelligence and machine learning. All of this must be enacted with minimal disruption to the value that the business delivers today. Cloud migration programs offered by the major cloud providers feature state-of-the-art capabilities that include AI-enabled automation to speed the migration process and ensure predictable outcomes.

Google Cloud for SAP Environments

Google Cloud's certified SAP infrastructure is highly secure with data encryption in transit and at rest by default. The Google-owned network offers a system of high-capacity fiber-optic cables with a premium tier and extremely low latencies, which are key for SAP enterprises. The scalable virtual machine (VM)–based infrastructure affords customers agility and business continuity with zero downtime infrastructure maintenance and the ability to pay for only what you use.

Key innovation capabilities are offered as adjacent services in the areas of analytics and artificial intelligence. SAP and other data sources can be easily consolidated and analyzed at petabyte scale at significantly reduced cost without the need to manage data infrastructure. Machine learning models can be created and executed with SAP data in BigQuery using standard SQL queries with BigQuery ML where machine learning is democratized by enabling SQL practitioners to build models using existing SQL tools and skills.

Google Cloud customers benefit from Alphabet's experience of delivering applications at massive scale, spanning everything from Google Search to Maps to YouTube. The result is a secure, scalable infrastructure platform on which customers can deploy their workloads and gain access to leading innovation capability.

Google Cloud's Cloud Acceleration Program also assists customers on their journey to the cloud by leveraging a community of integration and technology partners with migration assessments and incentives that eliminates the duplication of on-premises and infrastructure-as-a-service (IaaS) costs during a cloud transition.

The Business Value of Google Cloud for SAP Environments

Study Demographics

IDC conducted research that explored the value and benefits for organizations using Google Cloud to run their SAP environments. Research included in-depth interviews with five organizations that are running various SAP applications and workloads on Google Cloud and have experience with or knowledge about its benefits and costs. During the interviews, senior IT managers at these organizations were asked a variety of quantitative and qualitative questions about the impact on their IT costs and operations, SAP application performance, and business operations.

Table 1 presents study demographics and profiles. The organizations interviewed had an average base of 2,920 employees supported by an IT staff of 53 engaged in managing 43

business applications. Annual revenue for these companies ranged from $500 million to over $2 billion. In terms of geographical distribution, the companies were based in Canada, Belgium, Ireland, Italy, and Saudi Arabia and represented the food and drink, insurance, pharmaceutical, and retail (2) sectors.

TABLE 1 Demographics of Interviewed Organizations

	Average	Median
Number of employees	2,920	2,000
Number of IT staff	53	60
Number of business applications	43	40
Revenue per year	**Range:** $500 million to over $2 billion	
Countries	Canada, Belgium, Ireland, Italy, and the Kingdom of Saudi Arabia	
Industries	Food and drink, insurance, pharmaceutical, and retail (2)	

n=5   Source: IDC, 2020

Choice and Use of Google Cloud for SAP

Interviewed organizations discussed the drivers of their choice of Google Cloud for running their SAP environments in terms of key attributes such as functionality, cost, and integration features. They considered both on-premises environments and other public cloud solutions alongside Google Cloud but concluded that Google offered the best overall value proposition for running business-critical SAP environments. Several interviewed organizations cited the robust partnership offered by Google as well as the quality of Google partners as a differentiator: *"We have a new financial data warehouse project, and we are working with Google and another Google partner on Google Cloud. They are helping us to choose the right services and define the best schedule for our needs."* Another commented: *"We definitely felt that Google was there to help us with anything that we want … It's about the working relationship between the two companies. If that's strong, then you can literally get through anything together."*

Interviewed Google Cloud customers cited key factors in their choice, including the superior analytics of Google BigQuery functionality, the ability to integrate with other Google solutions such as G Suite, and the critical factors of reliability, scalability, and cost. Study participants elaborated on these decision criteria:

- **A better overall cloud platform:** *"We chose Google Cloud for its reliability, scalability, cost, partners, the national hosting partner, and customer service."*

- **Better technological foundation, especially BigQuery:** *"We chose Google Cloud because it has better technological functionality and has technical advantages compared with other clouds … The biggest advantage Google Cloud has is BigQuery because it has superior functionality over other analytics engines."*

- **Superior cost and flexibility:** *"We looked at another cloud solution, but they were not yet in our market, so we scratched them from the list. Then we started to compare other solutions with Google Cloud in terms of cost and flexibility. Google scored a lot higher. It was that simple."*

- **Integration with other Google solutions including G Suite:** *"We decided to use Google Cloud for SAP because of its integration with other Google services and because we are also a Google G Suite customer. This allows us to integrate with all the Google G Suite services like Gmail and Google Drive."*

The study participant base was characterized by running various types of SAP applications and workloads on Google Cloud with a common thread of being business critical. Two organizations reported running SAP S/4HANA while the others were running SAP ECC and Business Suite. In addition, a range of different operational and line-of-business teams were using these SAP applications including full supply chain, manufacturing, finance, transactional systems of record, inventory, and primary ERP systems.

Table 2 depicts the use of Google Cloud to run these SAP environments by interviewed organizations. As shown in Table 2, they reported running an average of 41 Google Cloud virtual machines with in-memory capacity of an average of 6TB for data analysis and/or storage, a significant volume of data in line with Google Cloud's 12TB capacity. In addition, surveyed organizations noted that, at least to some extent, all of their revenue tied back to the SAP environments running on Google Cloud.

TABLE 2 Google Cloud Use by Interviewed Organizations

	Average	Median
Number of VMs	41	23
Number of TB (in memory)	6	6
Number of SAP applications	9	8
Percentage of revenue tied to SAP applications running on Google Cloud	100%	100%

n=5   Source: IDC, 2020

# Business Value and Quantified Benefits

IDC's research demonstrates the value for study participants of running their SAP environments on Google Cloud. Interviewed Google Cloud customers described achieving strong value through improved agility, high performance, and cost and staff efficiencies. They provided specific examples of how they have leveraged Google Cloud to enable their organizations to capture more value through their SAP environments:

- **Much faster to respond to business needs:** *"We can reply to our business needs at a different speed with Google Cloud and quickly give them resources. Also, the IT department today is now seen as an innovation driver."*

- **Faster to market and flexibility in terms of cost:** *"Google Cloud will allow us to go faster in markets. It really lets us experiment more because we can allocate just the capacity needed to experiment … We can scale up or down, which is something we couldn't do with our private cloud environment."*

IDC calculates that interviewed Google Cloud customers will realize significant value by running their SAP environments on Google Cloud. IDC estimates that they will achieve average benefits worth $76,800 per 100 users per year ($2.02 million per organization) in the following areas (see Figure 1):

- **IT staff productivity benefits:** Study participants require less IT infrastructure, database, and security staff time to achieve equivalent levels of performance and functionality, while developers benefit from enhanced agility. IDC puts the value of IT staff time savings and efficiencies at an average of $27,200 per 100 users per year ($715,800 per organization).

- **Business productivity benefits:** Employees who rely on SAP applications to perform their jobs benefit from faster migration to Google Cloud. IDC attributes average value worth $23,800 per 100 users per year ($626,200 per organization) to higher employee productivity resulting from faster migrations.

- **Risk mitigation, user productivity benefits:** Interviewed organizations experience almost no operational or productivity losses related to unplanned outages with the Google Cloud. IDC puts the annual value of productivity and revenue savings at an average of $17,500 per 100 users ($458,700 per organization).

- **IT infrastructure cost reductions:** Google Cloud provides a more cost-effective IT infrastructure foundation for interviewed organizations, which IDC estimates will result in average savings per year of $8,300 per 100 users ($217,500 per organization).

FIGURE 1 Annual Average Benefits per 100 Users

($ per 100 users)

- $27,200 — IT staff productivity benefits
- $23,800 — Business productivity benefits
- $17,500 — Risk mitigation – user productivity benefits
- $8,300 — IT infrastructure cost reductions

Average annual benefits: $76,800 per 100 users
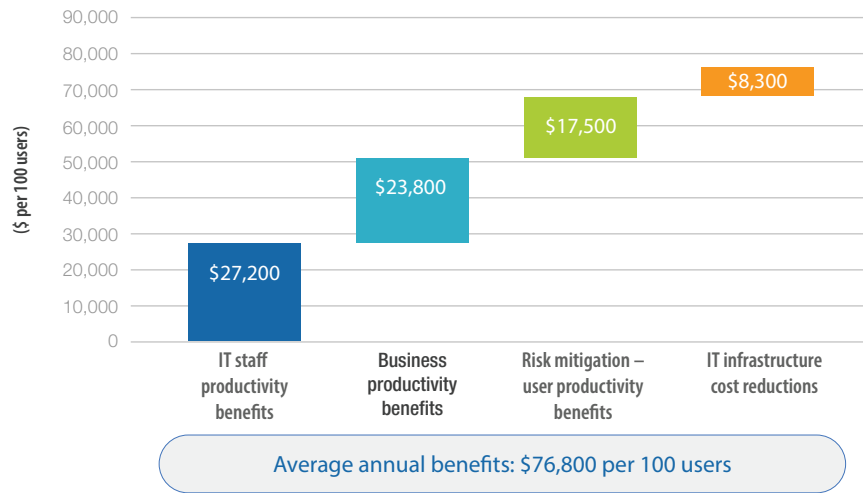
n=5   Source: IDC, 2020

Cost-Effective IT Infrastructure for SAP Environments

Study participants reported that Google Cloud provides a more cost-effective IT infrastructure foundation for running their SAP environments. They attributed lower costs for running equivalent SAP workloads to Google Cloud capabilities such as automated use monitoring and autoscaling as well as other efficiencies such as licensing reuse. Interviewed organizations cited Google Cloud's self-service model in which the organization or a designated managed service provider configures, deploys, and controls infrastructure and services. Interviewed Google Cloud customers commented on these benefits:

- **Automated resource use monitoring allows for more cost-effective use:** *"Google has built-in mechanisms on each instance that tell you if that instance is consuming all of the assigned resources or not using them. It will give you recommendations so that we can actually decrease the number of CPUs or RAM on a server, and it saves money."*

- **Ability to reuse licensing and cost effectively provide backup:** *"We will bring our own licenses to Google Cloud, which will save us 45% on licensing … With our current solution, we have to allocate full capacity for the backup site. But for Google Cloud, we can have the minimum capacity for the Google backup site, and we can increase on demand as needed. That's why we will have huge cost savings."*

- **Automated capacity scaling to use:** *"When we run an online promotion and a lot of people come, those systems scale up automatically with Google Cloud. Once the promotion is over, the number of concurrent users on the website goes down and the algorithm will indicate that we don't need to be running as many servers anymore."*

Figure 2 shows how study participants have used Google Cloud to run their SAP environments at a lower annual cost than with their previous or alternate infrastructure environment. IDC calculated that the average cost to provide IT infrastructure for equivalent SAP environments was 31% lower, resulting in an average annual savings of $233,700 per organization.

FIGURE 2 Cost of IT Infrastructure per Year per Organization

n=5   Source: IDC, 2020
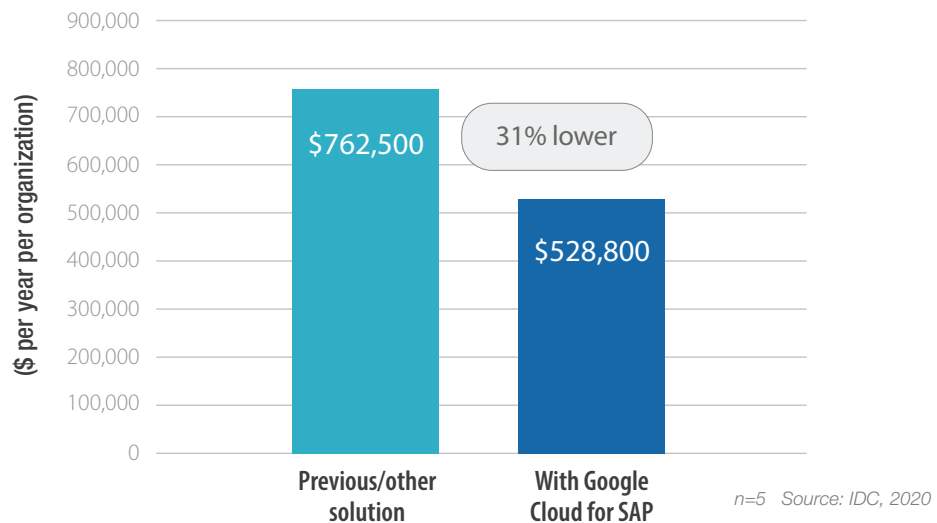
Improved Reliability and Performance for SAP Environments

Interviewed customers reported that Google Cloud provides the reliability and performance required to run their business-critical SAP environments in a more optimal fashion. As a result, they were able to generate more value through their use of SAP applications, especially by limiting outages and performance issues. As noted previously, interviewed Google Cloud customers tied all of their revenue-generating activities to their SAP environments to at least some extent, which means that outages affecting these environments can carry a heavy cost in terms of both business productivity and potential revenue losses. As a result, limiting unplanned outages has a real and tangible impact on study participants' businesses by limiting revenue and productivity losses. Interviewed Google Cloud customers reported reducing these losses by an average of 98%, avoiding losses of over $769,000 per organization per year (see Figure 3).

Study participants uniformly praised Google Cloud for limiting the frequency and duration of unexpected outages, thereby minimizing risk associated with their SAP environments. One interviewed Google Cloud customer commented: *"We now have zero downtime with Google Cloud — not a single instance in the past seven months. That's giving us a lot of peace of mind."*

Another cited the dual benefits of increased scalability and reliability: *"With Google Cloud, we have no downtime and we have scalability to address our seasonal needs."*

As noted previously, several interviewed organizations reported that reducing the frequency and duration of unplanned outages has helped them limit revenue losses to an average extent of almost $400,000 per year in total revenue losses avoided (see Figure 3). IDC's broader research shows that revenue losses associated with unplanned outages vary greatly by business and can reach up to $1 million or more per hour for certain organizations, demonstrating the very substantial potential value of having an IT infrastructure platform with Google Cloud that limits the frequency and duration of unplanned outages affecting core SAP environments.

FIGURE 3 Overall Impact — Unplanned Downtime
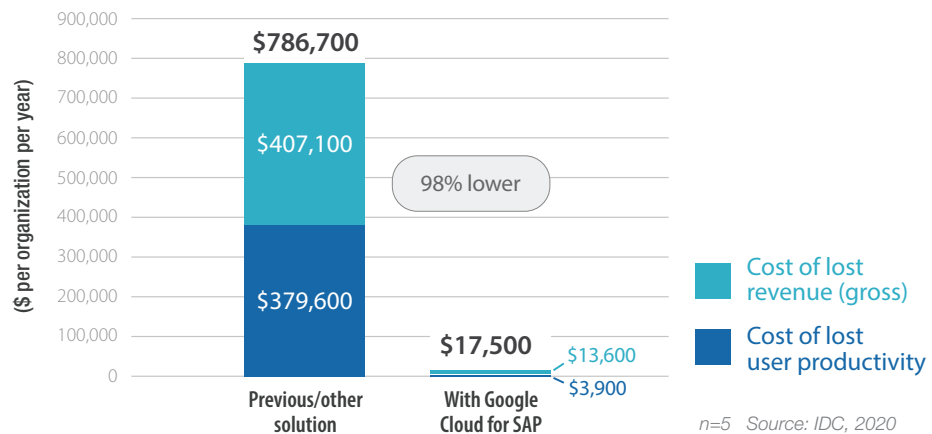

n=5 Source: IDC, 2020

Table 3 quantifies the value for interviewed organizations of reducing unplanned downtime with Google Cloud. Most importantly, interviewed Google Cloud customers reported experiencing almost no impactful unplanned outages with Google Cloud — only 0.2 such outages per year per organization (97% fewer outages on average). Among interviewed organizations, this not only materially limits risk associated with running their business-critical SAP environments but also means far lower productivity losses for employees whose work depends on having timely and robust access to SAP environments. IDC calculates that study participants will reduce lost productive time by 99% on average, saving over four hours of productive time per user per year, which will have an average annual value per interviewed organization of $403,700 (see Table 3).

TABLE 3 Impact on Unplanned Downtime

	Previous/Other Solution	With Google Cloud for SAP	Difference	Change (%)
Unplanned outages per year per organization	7.0	0.2	6.8	97
MTTR (hours)	3.2	1.0	2.2	69
Hours of lost productive time per user per year	4.2	0.1	4.1	99
Value of lost productive time per year in FTEs per organization	5.8	0.1	5.7	99
Value of lost productive time per year per organization	$407,900	$4,200	$403,700	99

n=5   Source: IDC, 2020

Staff Efficiencies for Running SAP Environments

Study participants reported that they required less IT infrastructure, database, and security staff time to achieve equivalent levels of performance and functionality for their SAP workloads with Google Cloud. IDC calculates that combined, these three teams are achieving 56% efficiencies with Google Cloud. These IT efficiencies are related to platform functionalities and attributes including automation and easy-to-use deployment features. For example, Google Cloud provides configuration templates for SAP applications that automate deployment of SAP-certified infrastructure such as SAP HANA. Use of these templates ensures that deployments conform to SAP certification as well as operating system, disk configuration, and database clustering best practices. Study participants discussed these and related benefits for IT teams:

- **Shift focus to project work, maximizing data value:** *"My team can now focus on project work and data analytics reporting with Google Cloud. We are able to ingest new data sources and build compelling dashboards for the business. We get to focus on integrating new business applications into SAP."*

- **Confidence in scalable platform:** *"There is a sense of comfort that we've got a great hosting provider with Google Cloud that will scale to our needs. It's one less thing to worry about, and we can focus on our job. Everyone is saying that this was probably one of the best things we've done this year from an infrastructure perspective."*

IT infrastructure teams at interviewed organizations have achieved strong efficiencies with Google Cloud through automation and having a streamlined cloud environment. Table 4 identifies and quantifies these efficiencies. As shown in Table 4, these Google Cloud customers require 66% less staff time to manage infrastructure for equivalent SAP workloads, resulting in annual value of $443,500 per organization and ensuring that these teams have the bandwidth

to take on other business- and innovation-driven projects. One interviewed Google Cloud customer spoke to this type of enablement for its IT infrastructure team: *"Our infrastructure team is quite small. Without Google Cloud, they would have been highly involved on a day-to-day basis with upgrades or changes, including with third-party partners supporting us with installation, maintenance, and monitoring. They are still involved with Google Cloud, but they're saving time and stress and hassle from having to manage the hardware to now purely focusing on the software."*

TABLE 4 IT Infrastructure Management Team Efficiencies

Average per Organization	Previous/Other Solution	With Google Cloud for SAP	Difference	Change (%)
Staff time to manage infrastructure for equivalent SAP workloads per organization (FTEs)	6.7	2.3	4.4	66
Equivalent value of staff time to manage infrastructure per organization per year	$672,000	$228,500	$443,500	66

n=5   Source: IDC, 2020

Similarly, study participants also reported database administration (DBA) team efficiencies as the result of higher-performing databases and integration across their Google Cloud environments. Table 5 quantifies these improvements. As shown in Table 5, database administrators working on SAP environments on Google Cloud were reported to achieve 39% efficiencies on average, resulting in an annual financial benefit per organization of $162,200.

TABLE 5 Database Administration Team Efficiencies

Average per Organization	Previous/Other Solution	With Google Cloud for SAP	Difference	Change (%)
Staff time to manage infrastructure for equivalent SAP workloads per organization (FTEs)	4.1	2.5	1.6	39
Equivalent value of staff time to manage infrastructure per organization per year	$412,000	$249,900	$162,200	39

n=5   Source: IDC, 2020

Further, security teams also benefit from having SAP environments run on Google Cloud. Study participants cited built-in functionalities including encryption and threat detection capabilities as helping them secure these environments more efficiently and effectively. Table 6 quantifies the security-related benefits. IDC calculates that security staff at interviewed Google Cloud customers will realize 60% average efficiencies, resulting in an annual financial benefit of $50,700 per organization.

TABLE 6 IT Security Team Efficiencies

| Average per Organization	Previous/Other Solution	With Google Cloud for SAP	Difference	Change (%)
Staff time to manage infrastructure for equivalent SAP workloads per organization (FTEs)	0.8	0.3	0.5	60
Equivalent value of staff time to manage infrastructure per organization per year	$84,400	$33,700	$50,700	60

n=5   Source: IDC, 2020

Enhanced Agility for SAP Environments

Study participants described making their SAP environments much more agile and flexible by running them on Google Cloud. Previously, they struggled to extend or scale their SAP environments to match actual demand, resulting in time-consuming lags that could inhibit their businesses. With Google Cloud, interviewed organizations have a robust cloud infrastructure platform through which they can access additional capacity with little lead time, and they also can leverage platform functionalities such as autoscaling to further reduce touch points required to deliver needed IT resources to their businesses. Study participants commented on the benefits of running their SAP environments on Google Cloud in terms of agility and scalability:

● **Much faster provisioning of new compute:** *"With Google Cloud, we can deploy a new instance in one day. Previously, just buying a server took two to three months because we didn't have partners with stock in the local market."*

● **Changing perceptions of IT and enabling DevOps:** *"We can scale up or down with Google Cloud, which means a completely different philosophy for dealing with our IT environment and culture."*

● **Scalability to meet customer demand:** *"Being able to scale our SAP environment up and down with Google Cloud has unequivocally helped us meet customer demand. In our old environment, there was no chance we could have done this."*

Figure 4 shows the extent to which use of Google Cloud has completely changed the capabilities of interviewed organizations when it comes to deploying new compute, storage, and other IT resources to support their SAP environments. On average, interviewed Google Cloud customers reported going from needing almost two weeks (8.8 days) to just over one hour to put in place new compute or storage capacity, a 98% reduction in time. Likewise, the staff time required to plan and execute these deployments has seen a commensurate benefit of 98%, with organizations saving an average of over 2 days of staff time per deployment.

FIGURE 4 Impact on Time to Deploy New IT Resources

n=5 Source: IDC, 2020
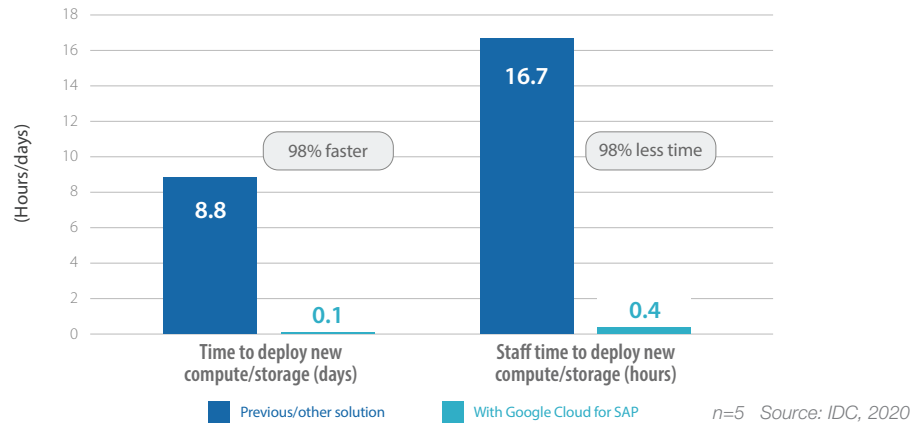
Developers working on Google Cloud are among employees at interviewed organizations who benefit most directly from this enhanced agility. With compute and other IT resources more easily accessible, they move faster to develop, test, and deploy new applications and features. In turn, this leads to increased productivity for these developers, which IDC calculates at an average of 11% higher as the result of working on the Google Cloud.

Business and Operational Impact

Study participants also made clear that moving their SAP environments to Google Cloud has enabled their businesses. While quantifying the impact of Google Cloud can be tricky for some organizations, they spoke of advantages in terms of speed of deployment, agility, and performance that materially affect their ability to execute business operations. Interviewed Google Cloud customers provided specific examples of the effect improved agility, scalability, and performance related to their SAP environments is having on business activities:

- **Fast execution of migration enables business continuity:** *"We migrated all six of our core SAP systems to Google Cloud one month before our biggest shopping season. It was executed seamlessly with no downtime or degradation in the shopping experience. It was transformational for us."*

- **Business decisions benefit from high-quality, rapid reporting:** *Because our SAP systems remained stable during a busy period on Google Cloud, we were able to get reports out in a timely fashion. Previously, if our systems were slow and we were processing as much hourly reporting that we count on during (our high periods), it would not be smooth … Throughout the holiday week, reports were on time, everything ran on time, and everyone got all the facts that they needed."*

- **Ability to quickly scale to meet needs arising from significant acquisition:** *"We acquired another company, so basically overnight we needed to be able to deal with that increase. We doubled our footprint overnight, and we had to take on hundreds of additional employees. We needed a platform that we could easily scale up if we required, and that's the benefit of running SAP on Google for us."*

- **Scaling up and down to match specific business needs:** *"We benefit from being able to scale quickly, change SAP machines quickly to provision, and increase capacity with Google Cloud … Scaling up and down on Black Friday and Cyber Monday are good examples where we doubled our capacity."*

Several of these examples pertain to interviewed organizations' ability to get SAP environments up and running and then to make upgrades in a timely fashion, including business-critical SAP S/4HANA and other SAP ERP systems. The velocity with which Google Cloud allows for migrations and upgrades benefits employees whose work touches or depends on their SAP environments. Study participants reported completing their migrations to Google Cloud an average of 35% faster than they otherwise could have by taking advantage of templates and automation within the platform. By bringing down this migration time by an average of 1.4 months, the organizations allowed employees to leverage improved performance and capabilities of their SAP environments, which in turn resulted in higher productivity levels for employees. IDC calculates that these productivity gains are worth an average of 11 additional hours of productive time per impacted user, which results in higher productivity worth an annualized $363,400 per interviewed organization (see Table 7).

TABLE 7 Business Operations Impact — User Productivity Impact and Migration Efficiencies

|	Per Organization	Per 100 users
Number of users impacted	2,628	
Months saved on average (migration)	1.4	
Hours of productive time gained per user (faster migration)	11.1	
Equivalent net productivity gain (FTEs)	15.6	0.6
Total recognized value of higher productivity (annualized over three years)	$363,400	$13,800

n=5   Source: IDC, 2020

Note: Data is based on 2,628 users, 35% average productivity loss from unplanned downtime applied + 15% assumed margin.

Cost of Operations and ROI Summary

For interviewed companies, cost and staff time efficiencies related to using Google Cloud combined to substantially lower the overall cost of running SAP workloads. IDC calculated that on a three-year basis, interviewed organizations will save an average of 46%, which will be worth almost $70,000 per VM (see Figure 5).

FIGURE 5 Three-Year Cost of Operations per VM

n=5   Source: IDC, 2020
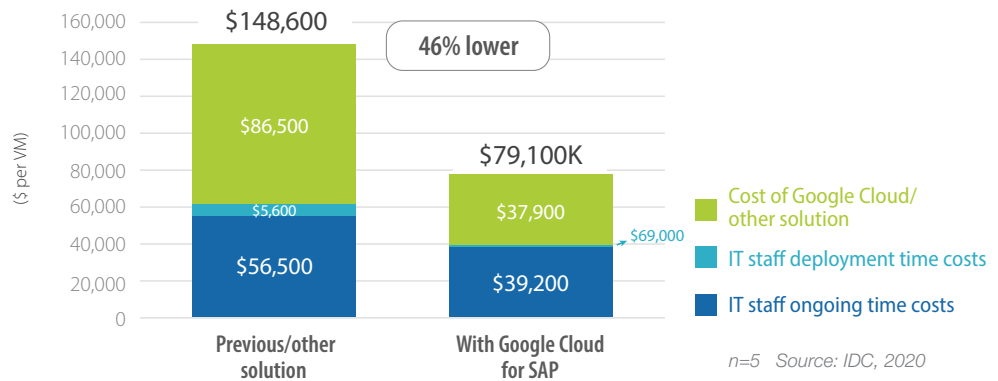
IDC's analysis of the financial and investment benefits related to study participants' use of Google Cloud for SAP environments is presented in Table 8. IDC calculates that interviewed organizations will achieve average discounted three-year benefits of $4.83 million per organization ($183,700 per 100 users) based on infrastructure cost savings, staff efficiencies, and employee productivity and revenue gains as described. These benefits compare with projected average discounted investment costs over three years of $1.30 million per organization ($49,300 per 100 users). IDC calculates that at these levels of benefits and investment costs, the organizations will achieve a three-year ROI of 272% and break even on their investment in five months.

TABLE 8 ROI Analysis

	Three-Year Average per Organization	Three-Year Average per 100 Users
Benefits (discounted)	$4.83 million	$183,700
Investment (discounted)	$1.30 million	$49,300
Net present value (NPV)	$3.53 million	$134,300
Return on investment (ROI)	272%	272%
Payback period	5 months	5 months
Discount rate	12%	12%

n=5   Source: IDC, 2020

OPPORTUNITIES AND CHALLENGES

There are numerous examples of large and successful SAP migrations that can and should be consulted during the planning stage. The library of lessons learned and migration patterns offers an excellent starting point for developing a comprehensive case for the move to Google Cloud. Organizations should invest the time during planning to determine how they will assess and prioritize SAP workloads targeted for migration based on performance objectives and the impact on processes and workflows. The objectives contained in the business case serve as the North Star for this journey, along with digital transformation imperatives that require changes to the processes and workflows supported by the workloads. It is likely that the processes and workflows impacted by moving SAP workloads to Google Cloud have been in place for a long while and were designed to accommodate slower legacy technology that required considerable manual effort. With the help of partners, there is an opportunity to discover the most common migration strategies, use cases, and options when moving SAP systems to the cloud. Planning the move to cloud presents the perfect opportunity to reimagine how the business could operate when legacy infrastructure limitations are removed — think automation and streamlined business processes. The implications for structural and cultural change should not be underestimated.

History shows that successful SAP migrations prioritize the impact on user and customer experience. These companies engaged users early and often throughout the process, establishing a cloud center of excellence (COE) or business office to communicate and share experiences. A poor user experience increases resistance and slows adoption and can have a devastating effect on customer experience. While every journey to cloud is unique, there are

common characteristics for businesses to understand and tailor to their specific needs. One example is the creation of a framework to understand and assess the key characteristics of each workload, the controls and standards to apply, and the proper action-based desired outcomes. A framework might include the following characteristics:

● **Materiality:** The material impact on the business and its customers (critical for regulated workloads)

● **Security constraints**

● **Inertia:** The time it will take to move the SAP workload to Google Cloud

● **Complexity:** Integration and customization attached

● **Criticality:** Potentially halts the operation if it were to go down

● **Data:** Protection, replication, storage, transfer latency, and cost

Google Cloud engineering and support are an extension of an organization's internal team. A common challenge is a lack of cloud skills and experience. This does not have to slow down the processes. Google Cloud engineering and support continue to demonstrate their commitment to customer success by working closely with stakeholders before, during, and after migration. Organizations should be sure to take full advantage of these resources and the knowledge shared when moving SAP workloads to Google Cloud.

CONCLUSION

IDC's study demonstrates the value proposition of Google Cloud for running SAP environments. Study participants cited the reliability, performance, and agility of Google Cloud as enabling them to generate greater value with their business-critical SAP environments, increasing revenue and user productivity levels while reducing unplanned outages and completing SAP migrations and upgrades faster. Further, interviewed organizations addressed cost and staff efficiencies of Google Cloud, helping them optimize infrastructure costs and ensure that their IT teams have the bandwidth to focus on high-impact business and innovation-generating work rather than on day-to-day management of operations. Based on these interviews, IDC puts the total benefits that these Google Cloud customers will realize as worth almost four times more than their total investment costs, which would result in an average three-year ROI of 272%. Just as important, Google Cloud customers have significantly improved their ability to adapt to the velocity of change caused by digital transformation and quickly make the necessary pivots during periods of increased disruption.

APPENDIX

Methodology

IDC's standard Business Value methodology was utilized for this project. This methodology is based on gathering data from current users of Google Cloud to run their SAP environments, including various SAP applications and workloads. Based on interviews with organizations using Google Cloud to run their SAP environments, 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 Google Cloud to run their SAP environments. In this study, the benefits included IT cost reductions and avoidances, staff time savings and productivity benefits, and revenue gains.

- 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 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 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 productivity savings. For purposes of this analysis, 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.

- Further, because running SAP environments on Google Cloud requires a deployment and migration period, the full benefits of the solution are not available during deployment

and migration. 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.

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