Solving for Operational Efficiency with Google Cloud

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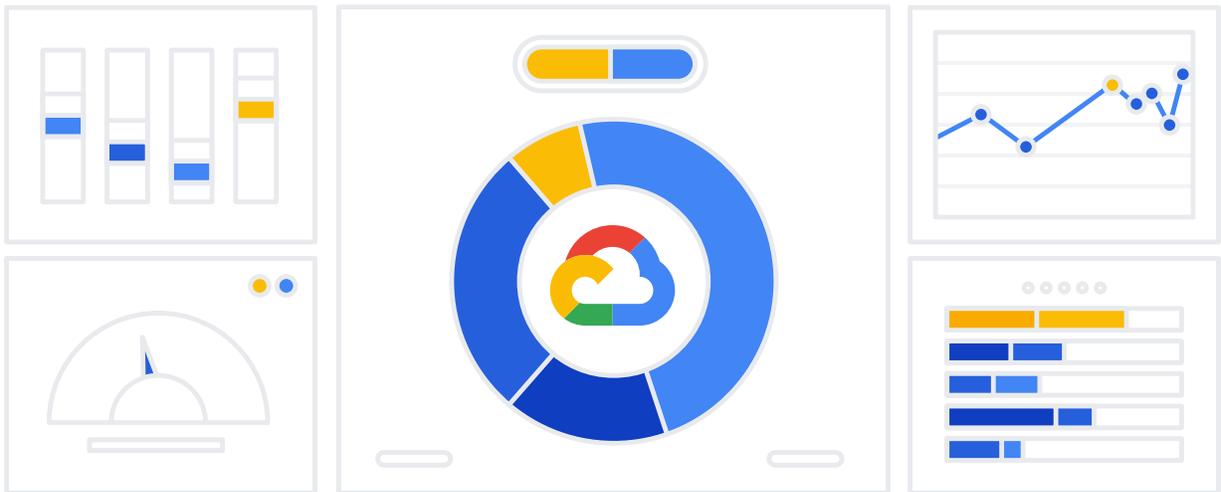
Why operational efficiency matters now

As businesses consider how to weather the road ahead, many are finding they need to make tough decisions about how to allocate resources. For most, it's not simply about spending less, it's about knowing which projects to prioritize, even if with limited funding, in order to maintain business continuity and ensure longevity.

But this is easier said than done. Evaluating which projects will generate the right business outcomes and cost efficiencies presents a specific set of challenges, such as:

- **Unpredictable business conditions**—Businesses must keep pace with dramatically changing requirements to survive, and thrive. To innovate quickly, IT teams need solutions that decrease their time to market, while also providing the agility and scalability they need to address any requirement thrown their way.

- **New investment needs**—Businesses must adapt to new business models while also ensuring their teams have the tools they need to be productive from locations outside the office. IT must now prioritize projects that weren't in the budget to ensure the survival of the business and the productivity of their workforce.

- **Limited visibility and control**—Not all businesses have the complete picture of their IT spend to make educated decisions about where and how to reduce costs, or whether to reinvest in other strategic areas. IT needs granular visibility and intelligent services that take the guesswork out of cost and resource optimization, while also providing robust governance that reduces the risk of overspending.

With current business conditions, it's essential to be empowered with facts, knowledge, and best practices so you can prioritize your investments and optimize your costs. This paper provides an

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overview of the key areas we see our customers prioritizing their investments, creating operational efficiencies, and the many ways Google Cloud can support you in this journey.

Read on for Google Cloud operational efficiency best practices, which include:

- Adopting Anthos for agility and IT cost reduction

- Driving greater agility and a higher return on your ERP investment by migrating SAP to Google Cloud

- Avoiding costly hardware refreshes and reducing on-premises infrastructure costs by migrating VMs to the cloud

- Modernizing your data warehouse for scalability and seamless access to advanced analytics

- Migrating your on-premises Apache Hadoop clusters for easier and more cost-effective management

- Running specialized workloads in the cloud with a cost-effective and scalable Bare Metal Solution

- Migrating Windows workloads to increase agility and decrease on-premises investments

- Offloading your mainframe environment and embracing a modern architecture for scalability and cost efficiencies

- Applying AI to rapidly respond to customers

- Moving beyond your data center

- Gaining more visibility and control with billing and cost management tools

- Transforming the way teams work together

Optimizing costs in the present, and planning for a more agile and scalable future in the cloud

For many businesses, the impact of COVID-19 has brought the benefits and limitations of their IT landscape into stark focus. As these businesses plan their way forward, many will need to consider how to meet the needs of their new business realities with limited resources.

This is a challenge ideally suited for IT—particularly at businesses overly reliant on legacy infrastructure. A recent McKinsey study[1] found that these legacy systems account for 74% of a company's IT spend while hampering agility at the same time. Making fundamental IT changes like migrating on-premises workloads to the cloud can reduce costs, increase agility, and pay ROI dividends down the line. These modernization tasks will likely look different for businesses of varying sizes, in varying industries. The options that cloud offers will let you migrate flexibly, on your timeline, whether you're starting with VMs, your data warehouse, or the entire mainframe.

Adopt Anthos for agility and IT cost reduction

In times of uncertainty, you need an architecture that gives you the agility and flexibility to help you weather change—or even take advantage of it. New container-based "cloud-native" tools and services have emerged to serve this need, but enterprises need solutions from a trusted company that truly understands these technologies. These solutions can help you get started without any infrastructure change so you can develop, secure, and manage apps at scale across their growing hybrid cloud environments.

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1   McKinsey Digital "Unlocking business acceleration in a hybrid cloud world," Aug 2019

Anthos is Google Cloud's application modernization platform for hybrid and multi-cloud environments. It includes a packaged and integrated set of cloud-native tools and services based on leading open source technologies, that aim to simplify and accelerate app modernization both on-premises and in public clouds. Anthos helps you cut licensing and training costs, and increase development speed and the efficiency of your operations teams. Forrester Research suggests that the total economic benefits of Anthos range from $15.3 million to $42.8 million over three years. To find out more, check out Forrester's New Technology Projection: The Total Economic Impact of Anthos report.

Drive greater agility and a higher return on your ERP investment by migrating SAP to Google Cloud

SAP can be amongst the most business-critical applications in the enterprise—and the most costly. In the current market environment, businesses in industries like consumer products, retail, and distribution are depending more than ever on their SAP systems, especially for e-commerce and supply chain analytics, and are encountering scalability and concurrency constraints. Others are looking for cost reduction opportunities, such as migrating non-production workloads like disaster recovery, test, and development to pay only for usage as it happens.

Moving to the cloud offers a way to solve all these challenges, and paves the way for greater business agility. In many cases, a simple lift-and-shift of SAP infrastructure to Google Cloud can be accomplished in as few as 6-8 weeks, and our approaches to migrating systems of record like SAP to the cloud can result in a 46% lower three-year cost of operations[2]. Google Cloud also offers a Cloud Acceleration Program that provides free IaaS and rebates to pay for partner services to migrate SAP systems to Google Cloud—you don't start paying until you're ready to go live in production. Learn more about SAP migration strategies.

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2   IDC Business Value Paper, "Google Cloud Capabilities for SAP," June 2020

Avoid costly hardware refreshes and reduce on-premises infrastructure costs by migrating VMs to the cloud

The cloud offers enterprises a wealth of benefits, from cost efficiencies and access to managed services, to more agile development. Plus there's the cost benefit of not owning or operating your own data centers or paying for an additional virtualization layer. But many find the process of migrating VMs daunting. You can understand the cost benefit of moving to the cloud with tools from our partners, which can help you develop a simple strategy for migration.

When you're ready to migrate, you have two easy ways to get your VMs into Google Cloud. First, if you want to purely lift and shift your VMware VMs, you can migrate to a fully managed VMware environment on Google Cloud using our new Google Cloud VMware Engine. This is a great option for businesses that understand the benefits of moving to the cloud, but consider migration challenging— after all, it's not just moving applications, it's moving disaster recovery, backup, and changes in security policies, monitoring, and more. By taking advantage of our Google Cloud VMware Engine service, you can run VMware natively in the cloud, just like you do on-premises.

This means your existing VMware-based workloads can benefit from the performance, scale, and security of the cloud without having to refactor them when you migrate. With Google Cloud, you can provision your VMware environment in minutes and migrate your VMware-based environments without major modifications. You will benefit from the management, networking services, operating platform and backend infrastructure run at scale by Google Cloud. Learn more about Google Cloud VMware Engine.

For those looking to migrate their VMs and run them directly in Google Compute Engine, try Migrate for Compute Engine, a product available at no additional cost, which can migrate your VMs from on-premises or other clouds directly into Compute Engine, delivering a fast, frictionless migration. Google Cloud VMs are billed on a
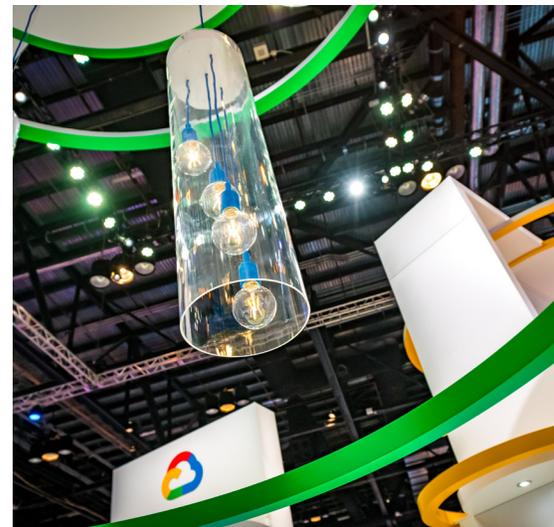
per-second basis with no up-front costs or termination fees, saving you more even as your needs grow. With automatic, app-specific sizing recommendations and custom machine types, VMs on Google Cloud give you exactly what you need and boot in a matter of seconds. And running them in Compute Engine makes them easier to modernize into containers, for example, running on Google Kubernetes Engine by using Migrate for Anthos, at a later date.

Estimate your cloud migration costs with a free assessment, or learn more about Migrate for Compute Engine and Migrate for Anthos.

Modernize your data warehouse for scalability and seamless access to advanced analytics

According to IDC[3], the amount of data will grow from 33 ZB in 2018 to 175 ZB by 2025. Legacy data warehouses such as Teradata, built for a batch processing paradigm, were not designed to handle today's explosive data growth, and are not optimized to run advanced analytics or scale quickly and efficiently. They're also extremely expensive to purchase and maintain, and easily run out of capacity, leaving them unable to keep up with increased business analytics demands. Data warehouse modernization allows you to solve for today's growing analytics needs by increasing agility and efficiency with serverless analytics—all at a lower cost.

Cloud data warehouses such as BigQuery drive insights and actions faster as consumer behavior rapidly shifts in today's climate, which will help you make smarter, informed decisions and improve business operations. And the rest of Google Cloud's smart analytics platform makes it easy to ingest data from various sources in the most cost-efficient way for your business—it also provides easy access to advanced analytics through AI and machine learning.

To learn more, take the data warehouse maturity assessment, or learn more about our data warehouse migration offer to jump-start your modernization journey.

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3   IDC *"The Digitization of the World From Edge to Core,"* November 2018

In addition, to get the most value out of data while controlling costs, companies must leverage their data infrastructure to connect people with data in new, smarter ways. This requires a new approach to BI, analytics, and data processing. Looker is the analytics layer that leverages BigQuery so organizations can go beyond traditional reports and dashboards—to transform their businesses and make smarter use of data.

Organizations that use data effectively are 2.3x more likely to succeed during industry disruptions (Forrester). They are 6x more likely to retain customers and 19x more likely to be profitable (McKinsey). With Looker and BigQuery together, data teams can leverage the power of a modern data platform to put data in hands of those who need it. Organizations that use Looker and BigQuery together will optimize costs, manage demand, and drive better business outcomes.

To learn how you can get insights faster and cut your analyst workload by 70% using a centralized data model, visit Looker & BigQuery: A match made for the cloud.

Migrate your on-premises Apache Hadoop clusters for easier and more cost-effective management

Popular data processing tools like Apache Hadoop and Apache Spark require a careful balancing act between cost, complexity, scale, and utilization. Unfortunately, this means you focus less on what is important—your data—and more on what should require little or no attention—the cluster processing it. Dataproc, our managed Apache Spark and Hadoop cloud service, rectifies that imbalance. ESG research shows that hosting the same data using Dataproc is 57% less expensive than using on-premises servers.

Dataproc is a fast, easy-to-use, fully managed cloud service for running managed open source, such as Apache Spark, Apache Presto, and Apache Hadoop clusters, in a simpler, more cost-efficient way. Not only is Dataproc easier to manage, but many of our

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Google Cloud

customers have migrated their big data workloads to the cloud to gain cost advantages with per-second pricing, idle cluster deletion, autoscaling, VM flexibility, and more. These purpose-built, short-lived clusters allow data engineers, data scientists, and data analysts to quickly spin up and down resources without larger upfront IT costs to accelerate analytics development. Learn more about optimizing Dataproc costs.

Run specialized workloads in the cloud with a cost-effective and scalable Bare Metal Solution

Many businesses want to embrace the cloud without disrupting their existing IT landscape or upgrading all their legacy applications. This presents a conundrum, as most legacy applications were not designed to run in the cloud. Google Cloud wants to help you craft a migration strategy that lets you run what you want, where you want, how you want. Bare Metal Solution consists of all the infrastructure you need to run your specialized workload, such as Oracle Database, close to Google Cloud. This infrastructure is connected with a dedicated, low-latency, and highly resilient interconnect, and connects to all native Google Cloud services. By deploying Oracle workloads on Bare Metal Solution, customers can reduce up to 50% of their licensing cost compared to other public cloud vendors[4]. Many of the workloads that run on Bare Metal Solution have demanding CPU and I/O requirements. Bare Metal Solution provides a cost-effective and scalable architecture based on state-of-the-art x86 servers and high-performance, resilient storage.

Learn more about our bare metal solution.

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4   The hardware for Bare Metal Solution is located in a colocation facility close to a Google data center. Therefore, customers can continue to pay the same on-premises licensing costs rather than cloud licensing costs and leverage cloud-like features like no upfront hardware investment.

Migrate Windows workloads to increase agility and decrease on-premises investments

As businesses look for more ways to control costs in the present and manage future needs, many feel stuck between maintaining a legacy platform and planning a future with fewer Microsoft licensing dependencies. Solving for this involves a strategy that combines migration, optimization, and modernization.

Moving Windows workloads to Google Cloud enables companies to increase their IT agility and reduce their on-premises footprint. Tools like Migrate for Compute and Migrate for Anthos can help you migrate and even upgrade during migration.

In addition to on-demand licenses, Google Cloud provides you with the flexibility to bring your existing licenses and run them on Compute Engine. Use Sole-Tenant Nodes to run on dedicated hardware with configurable maintenance policies to support your on-premises licenses while maintaining workload uptime and security through host-level live migration. Managed services for SQL Server and Active Directory also reduce total cost of ownership.

Google Cloud also provides an open path to modernization—containerization of Windows servers, managed services, cloud-native development practices, and multi-cloud readiness. By choosing Google Kubernetes Engine (GKE), customers can pave the way for running Windows across different clouds with Anthos. You can learn more about the advantages of running Microsoft on Google Cloud in our webinar "Microsoft on Google Cloud: The path to reducing costs and gaining efficiency."

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Offload your mainframe environment and embrace a modern architecture for scalability and cost efficiencies

For decades, companies relied on a mainframe architecture to run their mission-critical workloads, but in the current environment, many are seeing a growth in costs that outpace revenue growth, and a shrinking pool of talent to operate them. Google Cloud can help optimize your mainframe environments by programmatically breaking down mainframe code and offloading processes into cloud-native services with minimal risk and high business continuity.

We'll help you conduct an assessment on your entire mainframe environment, utilizing our G4 Platform modernization tooling platform, and then be able to present a view of your system with logical clusters that highlight your organization's services. Based on this outcome, you will be able to create a roadmap to a modern services architecture, making it easier to plan your path to the cloud. You can convert legacy languages to cloud-enabled programming languages like JAVA or .NET, as well as legacy database technology to our open source and highly performant cloud database technologies to prepare your applications for modern environments. In addition, automated data migration means you can easily move your mainframe data to unlock its value and drive new innovative use cases in data analytics and data warehousing. Learn more by reading Google Cloud acquires Cornerstone Technology to help you migrate your mainframe.

Apply AI to rapidly respond to customers

As entire industries have shifted to meet customer needs in new and unexpected ways, many organizations are experiencing dramatic spikes in customer questions and support requests. Applying AI speech and language understanding models can help businesses answer simple questions promptly, freeing up contact center agents to focus on more complex customer needs. Contact Center AI was designed to do exactly that, providing a first line of response through

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24/7 conversational self-service support via chat or over the phone. Organizations can stand up new chatbot-based services within two weeks to help respond to their customers more quickly and efficiently, especially as it relates to critical information around COVID-19. Learn more about Contact Center AI.

Move beyond your data center

The legacy stack your company depends on may include any number of on-premises databases, data lakes or warehouses, virtual and physical machines, and more. But for many organizations, it's time to get out of the hardware game. Whether you're lifting and shifting legacy apps, rewriting them for the cloud, or building them from scratch on top of a cloud-native serverless environment, getting to a new cloud-based infrastructure is easier when you collaborate closely with your cloud provider, and many of the solutions discussed here can help. Learn more by talking to Google Cloud experts.

Gaining more visibility and control with billing and cost management tools

Once you've migrated to the cloud, having a complete picture of your costs, plus controls in place that help you optimize resources, can help you drive greater efficiency. To help with this, Google Cloud provides a robust set of no-cost billing and cost management tools that can give you the visibility and insights you need to keep up with your cloud deployment.

Billing reports can give you an at-a-glance view of your costs, and you can use labels to attribute costs back to departments or teams, and build your own custom dashboards for more granular cost views. You can also use quotas, budgets, and alerts to closely monitor your current cost trends and forecast them over time, to reduce the risk of overspending.

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To learn more about Google Cloud Cost Management tools and resources, see our Guide to Cloud Billing and watch our Beyond Your Bill video series. Be sure to also check out these hands-on training courses: Understanding your Google Cloud Costs and Optimizing your GCP Costs.

In addition, built-in cloud operations tools like Cloud Monitoring and Logging let you view performance, uptime, and health metrics, with flexible alerting and reporting options. Cloud Monitoring also lets you easily see multiple cloud sources with support for AWS and on-premises apps and systems.

Transforming the way teams work together

Migrating to the cloud is only one part of operational efficiency; teams also need tools that allow them to collaborate seamlessly and work from anywhere. But keeping teams connected and productive outside the office has never been more challenging than it is right now. For many businesses, this has meant needing to quickly shift to cloud-based collaboration tools to support effective remote work and collaboration.

G Suite is a complete, cloud-based productivity solution that includes video meetings, group chat, and document collaboration apps that were built in the cloud from day one and are trusted by 6 million companies and organizations worldwide, making it possible for organizations to shift entire workforces to remote work quickly. To support businesses in this unprecedented time, we made advanced features in Google Meet, our premium video meeting solution, available to all G Suite customers for free until October so businesses can host meetings with up to 250 participants, record meetings for later viewing, or livestream to up to 100,000 people within a domain.

Adopting G Suite can also pay dividends in other ways as well—many have seen revenue growth, increased efficiency, risk reduction, and cost savings by switching to G Suite. To learn more, read our whitepaper on the total economic impact of G Suite, or try out the G Suite business value calculator.

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Looking ahead

While there are a vast number of benefits to moving to the cloud, many businesses still find the process daunting. Every business will have its own unique needs and considerations, which is why it's critical to understand the advantages and disadvantages of the options at your disposal. One great way to achieve this is working with Google Cloud. Together, we can:

- Assess your portfolio.
- Help develop your cloud roadmap.
- Support you at every step in the process.
- Prepare for success as you drive new channels of revenue by reusing existing services.
- Ensure efficient optimization for the long term.
- Support your staff during and after migration to ensure success.

Let's solve for operational efficiency today so we can help secure your growth tomorrow. Please contact a Google Cloud partner today to have a conversation on cost with a cloud expert.

About Kin + Carta

A global consulting firm built for the 2020s, Kin + Carta helps make the journey to becoming a digital business as profitable, tangible and sustainable as possible. By building digital twins to replace existing analogue processes, Kin + Carta seamlessly integrates the strategic consulting, software engineering and marketing technology needed to help businesses Make It Happen.

Headquartered out of London and Chicago, clients have access to a global ecosystem of 1,600 strategists, engineers and creatives across four continents.

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