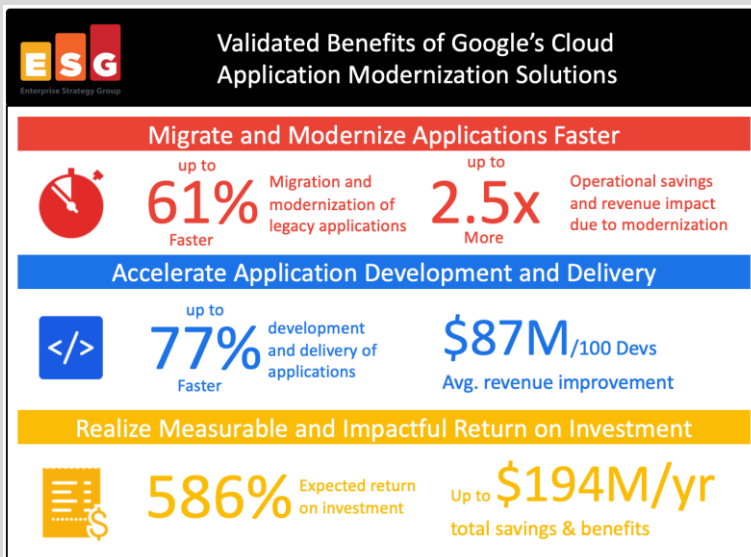ESG Economic Validation

The Economic Benefits of Google's Cloud Application Modernization Solutions

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Executive Summary

Enterprise organizations that have adopted a software-first strategy understand that the key to business success going forward hinges on their ability to effectively optimize the people, processes, and technologies around the planning, development, and delivery of their software. But any application modernization journey is fraught with risk and akin to changing the tires on a racecar while it's in motion. The organization must continue to deliver on existing revenue-generating initiatives while planning dramatic change across the organization, migrating to new technology platforms, and modernizing software architectures.

ESG validated that the Google Cloud's Application Modernization solutions can help organizations with the proven experience, expertise, and technologies required to

Validated Benefits of Google's Cloud Application Modernization Solutions

Migrate and Modernize Applications Faster
up to **61%** Faster — Migration and modernization of legacy applications
up to **2.5x** More — Operational savings and revenue impact due to modernization

Accelerate Application Development and Delivery
up to **77%** Faster — development and delivery of applications
$87M/100 Devs — Avg. revenue improvement

Realize Measurable and Impactful Return on Investment
586% Expected return on investment
Up to **$194M/yr** total savings & benefits

take every step of the journey. From initial assessment and migration to streamlined optimization of application development and delivery across hybrid and multi-cloud environments, Google Cloud has the ability to help organizations achieve their goals. Organizations that had leveraged Google's services and technologies were able to complete each step of the journey more quickly and effectively, with less risk to the organization, and the added flexibility to further optimize resources and strategies as they see fit. ESG's economic analysis shows how organizations can save significant time and money and maximize revenue while modernizing platforms, applications, and development processes, resulting in measurable return on investment to the business.

Introduction

This ESG Economic Validation focused on the quantitative and qualitative benefits organizations can expect when leveraging Google's Cloud Application Modernization Solutions to ensure success and accelerate the transformation towards effective application modernization processes and platforms.

Challenges

The continued success and efficiency of software development organizations hinges on their ability to transition towards agile and flexible operations, which requires a fundamental change in the way that they operate throughout the software lifecycle. This requires a successful transformation to modern platforms, architectures, and processes. Application modernization begins with containerization to improve operational efficiency across the distributed cloud, which includes on-premises environments, multiple public clouds, and edge locations. ESG discovered that while organizations are at various levels of transformation, the majority (87%) of organizations are currently using or planning to use containers for custom applications.[1]

While containerization of applications can help make supporting, securing, and maintaining visibility and control of applications easier, transformation challenges are often compounded as many organizations struggle to find and retain the required Kubernetes and security expertise to design, deploy, and maintain a container management and orchestration solution that works seamlessly across on-premises and public cloud environments. This has led many organizations towards managed container orchestration services, which are quickly becoming their preference. In fact, ESG research shows that more than 90% of managed container orchestration users have reported increased visibility into resources as well as significant improvements in updating, managing, and troubleshooting hybrid and multi-cloud environments.[2]

Figure 1. Top Reported Improvements to Container-based Applications Provided by Managed Solutions

Increased use of infrastructure patching / reduced downtime during updates

Ease of use / user interface

Hybrid-cloud and multi-cloud management features

Faster troubleshooting and Increased visibility

Source: Enterprise Strategy Group

To ensure successful application modernization across all locations (data center, multi-cloud, and the edge), organizations need a container-based, application modernization platform that can be deployed anywhere and that does not require extensive time to build, manage, and maintain. By leveraging a managed service, their application teams and developers can focus their efforts on modernizing applications across distributed cloud strategies.

The Solution: The Google Cloud Application Modernization Solution

Every business encounters a unique application modernization journey since no two have the same existing application portfolio, level of application modernization expertise, or strategic goals. Google Cloud's application modernization solutions are designed to help companies at any stage innovate faster while lowering costs, improving time to value, and reducing risk. Google offers a consistent development and operations experience with the platforms, tools, and guidance

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[1] Source: ESG Custom Research commissioned by Google, *Measuring Application Modernization Maturity and its Impact*, March 2020.
[2] Ibid.

necessary to successfully modernize the right apps at the right pace. Google's application modernization solutions and strategies include:

- **Application migration and modernization:** Migrate traditional apps away from virtual machines and modernize into native containers. Migrate for Anthos and GKE has an automated approach that extracts critical application elements from the VM and inserts those elements into containers in Google Kubernetes Engine (GKE) or Anthos clusters without the VM layers (like Guest OS) that become unnecessary with containers.

- **Anthos hybrid and multi-cloud application platform:** Build, deploy, and optimize applications anywhere, simply, flexibly, and securely, with Google Cloud's consistent development and operations experience for hybrid and multi-cloud environments.

- **Cloud-native application development:** Leverage Google Cloud's end-to-end platform to accelerate developer productivity, simplify operations, and build cost-efficiency, security, and compliance into the software delivery process.

- **Application development and delivery with serverless:** Develop, deploy, and scale applications fast, securely, and cost-effectively in a fully managed serverless environment. Google Cloud's serverless compute platform abstracts away all infrastructure management.

- **DevOps:** Help embrace organizational and cultural movement that aims to increase software delivery velocity, improve service reliability, and build shared ownership among software stakeholders.

- **Integrated observability tools:** Better troubleshooting capabilities with Cloud Monitoring, Cloud Logging, and Cloud Trace, which are pre-integrated with the platform and offer deep insights into systems and applications.

Figure 2. Google Cloud's Modern Application Delivery End-to-end Solution
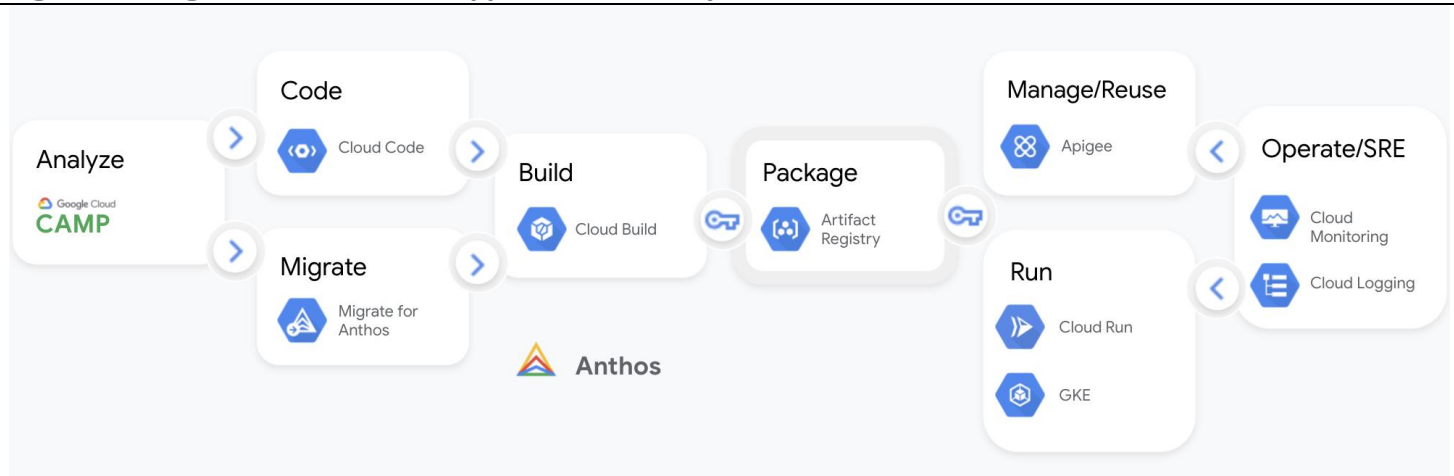
ESG Economic Validation

ESG completed a qualitative and quantitative economic analysis of several of the components that make up Google's Cloud Application Modernization Solutions.

ESG's Economic Validation process is a proven method for understanding, validating, quantifying, and modeling the economic value propositions of a product or solution. The process leverages ESG's core competencies in market and industry analysis, forward-looking research, and technical/economic validation. ESG conducted in-depth interviews with end-users to better understand and quantify how Google has helped organizations achieve key steps along their application modernization journey. ESG's interviews consisted of discussions with end-user customers and systems

integrators that had migrated on-premises workloads or optimized CI/CD delivery by leveraging Google technologies such as Anthos, GKE, and Cloud Run. The qualitative and quantitative findings were used as the basis for several economic modeled use cases that quantify some achievable savings and benefits that can be expected by organizations.

Application Modernization with Google: Validated Savings and Benefits

ESG's economic analysis validated that Google technologies helped organizations to achieve and accelerate key steps along their application modernization journey. ESG found that by modernizing application development and delivery with Google technologies and services, organizations were able to increase revenue and gain market share while providing significant cost savings.

Increased Revenue

By migrating on-premises workloads to GKE or Anthos and optimizing application development and delivery with a streamlined CI/CD process, organizations were in a far better position to deliver applications, features, and functionality in a more agile manner, enabling them to react more quickly to changing markets and opportunities and ultimately leading to increases in revenue and profitability. Customers reported:

- **Increased Development Capacity** – Improvements to the CI/CD pipeline, decoupling of services, and use of Google serverless tools, such as Cloud Build and Cloud Run, enabled developers to be up to 30%-54% more productive while eliminating up to 80% of the tasks that DevSecOps used to perform manually. This allowed them to focus on delivering fully tested services into applications up to 95% quicker. Organizations were able to support applications with fewer developers and take on new projects, effectively increasing the application revenue per developer.

> *"About 15% of our traffic was based on old technology that we were unable to monetize. Containerizing and modernizing these workloads on the Google Cloud allowed us to make it available as paid-for, revenue-generating content."*

- **Increased Business Agility** – Customers reported that after streamlining their development and delivery operations and enabling new application functionality with Google's flexible global infrastructure and services, they were in a much stronger position to react to changes in the market and were able to quickly pivot to address market opportunities in a successful manner. Revenue was increased by delivering a broader set of features and functionality, improving the average selling price of products and retaining customers who otherwise might look to other products.

- **Ability to Scale Faster** – Customers reported that microservices architecture supported with a service mesh, containerization with GKE or Anthos, and serverless technologies like Cloud Run allowed them to scale faster to meet the growing needs of applications when opportunities presented themselves and reduce costs during off-peak times. Customers reported they could easily scale applications to support any number of users without trying to predict or overprovision resources or balance workloads to avoid negative impact to customer experience and potential disruption of service that can negatively impact revenue.

Increased Market Share

The benefits of application modernization that contribute to increased revenues (increased development capacity, business agility, and scalability) provide the organization and the software a competitive advantage in the marketplace that directly translates to improved product quality, added capabilities, improved support, and product differentiation. ESG found that organizations that had successfully modernized their applications with Google's Cloud Application Modernization Solutions reported gains in market share realized through:

"Services and functions can now be developed in much smaller chunks and delivered much easier. Before, a single developer could not do more than a single release per day, and now they can deliver maybe three per day."

• **Increased Development Agility** – While some organizations took advantage of the increased development capacity to redirect resources to new projects, others benefited by being able to allocate resources in an agile manner where and when needed. These organizations were able to achieve faster delivery, improved support, and expanded capabilities for existing products. These organizations reported that they were in a better position to proactively support the changing needs of their customer base, add features to attract new customers, and expand capabilities to enter new markets and opportunities.

• **Improved Time to Market** – Organizations reported that they were able to shorten the release cycle of applications and features by up to 88% after modernizing their applications. The ability to quickly release new products and incorporate and support new and emerging technologies and features in a shorter time frame helped to differentiate the product against competitive offerings and often resulted in first mover advantage and quick gains in market share.

"With the old technologies we were using before, we couldn't move fast. With Google, we can bring up a whole region of the world in 12 hours. That's access to hundreds of millions of new, potential customers."

Cost Savings

While the process of application modernization is often thought of as an additional cost in terms of time and money that an organization must invest to compete in the future, ESG found that most of the organizations we spoke with reported significant cost savings of between 40% to 50% going forward in the areas of improved operations, lower operational cost, and reduction in risk and licensing costs.

• **Reduced Inefficiencies**– ESG found that organizations that had successfully assessed, measured, and redesigned their processes uncovered a wealth of inefficiencies (or rework) that they were able to improve upon by automating their software development process. A great example came from customers running Anthos across hybrid and multi-cloud environments who reported a large benefit from being able to design, develop, and test workloads for a single platform (Anthos) rather than repeating work to make sure software worked for each on-premises and cloud platform individually.

• **Reduced Risk of Business Interruption** – Customers reported that by leveraging the assessment, practices, platform, and tooling provided by Google, they were able to decrease the risk of downtime and speed the resolution of issues and restoration of services. Customers reported far fewer incidents of downtime since modernizing with Google, as well as the ability to resolve issues or restore services faster should they arise. Application degradation and downtime can be extremely costly to organizations, costing millions of dollars per year.

"The total cost reduction that we are seeing right now is about 40%."

• **Reduction in Licensing Costs** – Customers reported that by moving to containerized applications and implementing microservice architecture, they were able to eliminate or reduce license costs for hypervisors, operating systems, and middleware.

ESG Analysis

ESG leveraged the information collected through vendor-provided material, public and industry knowledge of economics and technologies, and the results of customer interviews to create three modeled scenarios that illustrate some of the operational and financial benefits of leveraging Google's Cloud Application Modernization Solutions to help accelerate an organization's application modernization journey. ESG's interviews with customers who have recently made the transition, combined with experience and expertise in economic modeling and technical validation of Google's products and methodologies, helped to form the basis for the assumptions behind our modeled scenarios.

Scenario 1: Migrate and Modernize Legacy Applications Faster on Google Cloud with GKE and Anthos
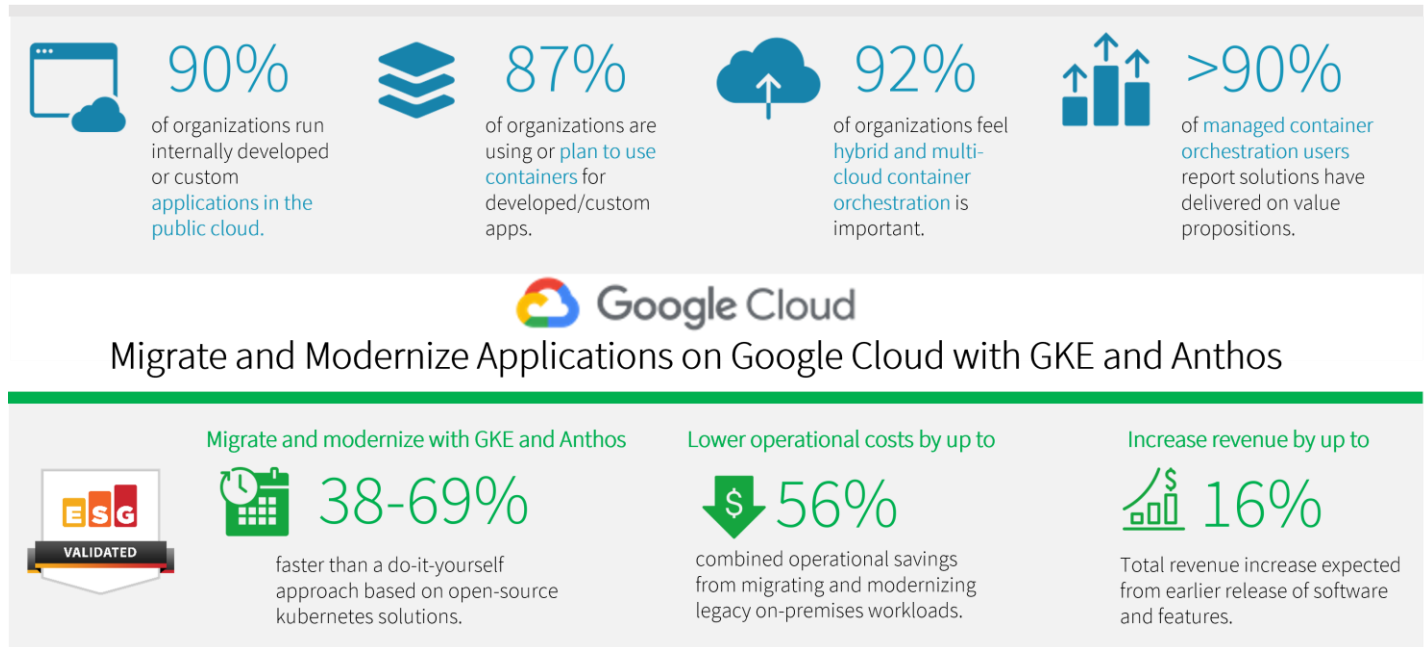
The first scenario examined how an organization can leverage Google's experience, products, and services to accelerate the migration and modernization of legacy on-premises applications. ESG's models compared the time, cost, and benefits received when migrating and modernizing traditionally architected applications (such as JAVA and .NET)—first by leveraging in-house expertise, open source and commodity tools, and alternative containerization platforms and then by using Google's platforms, automated tools, and methodologies to help accelerate time to value, minimize cost and risk, and increase business agility.

ESG's assumptions are based on discussions with Google subject matter experts, case studies, and discussions with end-users and systems integrators who successfully managed the migration of on-premises legacy applications to cloud-based containers with GKE and/or Anthos and then modernized these applications to run at scale in the cloud. ESG compared three scenarios:

- **Do-it-yourself Kubernetes (DIY):** This scenario assumed the organization had the in-house expertise and capabilities to have built an on-premises Kubernetes solution, migrated their legacy applications to the platform, refactored the applications on-premises, and then finally migrated the containerized services to the cloud.

- **Migrate THEN Modernize:** This scenario assumed the organization first migrated existing legacy applications to Google Cloud VMs, then re-platformed these VMs to GKE system containers, and finally refactored the applications into scalable, containerized services hosted in the Google Cloud.

- **Migrate AND Modernize:** This scenario assumed the organization leveraged Migrate for Anthos and GKE to automate the re-platforming and migration of on-premises VMs directly to system containers hosted on GCP, before refactoring the applications into scalable, containerized services hosted in the Google Cloud.

ESG's models considered the expected time that it would take an organization with 5 line-of-business applications (each contributing an average $10M of revenue directly annually) to successfully reach each key stage of the modernization process and the expected operational benefits that might be realized once achieving these stages. ESG assumed a baseline operational cost based on 15 FTEs working to supply services for applications on a VM-based platform hosted on on-premises infrastructure, including servers, virtualization, storage, networking, application, web, and security services.

ESG then modeled the conservative operational savings that would be expected as each use case hit an operational milestone: moving from on-premises to cloud-based VMs (20% reduction from baseline operational cost), moving from VMs to system containers (20% to 30% reduction from baseline), and finally moving from system containers to application containers (60% to 65% reduction from baseline).

Since applications would not be refactored all at once, ESG modeled a "transitional period" in which applications were being refactored, realizing only partial operational savings until complete (denoted by the rising edge on the dark green portion of Figure 3. ESG modeled the expected operational costs over a 2-year period, with each scenario starting at baseline condition and eventually reaching a modernized application "steady state" for the remainder of months.

Why This Matters

Modernization can result in significant benefits to the business, but teams often run into technical or organizational hurdles when attempting to do it on their own.

ESG's analysis found that by migrating and modernizing legacy applications using Google Cloud's application modernization platforms and solutions, organizations were able to start realizing the benefits of application modernization **54%** earlier than with an unmanaged solution, resulting in an estimated **$7.4M** in underlined savings and revenue for a modeled organization.

ESG research has shown that organizations that have modernized their platforms (containerization), applications (refactoring to microservices), and application delivery (CI/CD and DevOps transformation) have increased revenues by an average of 41% annually over those that have not. Leveraging this data, ESG assumed that roughly half of this benefit (21% increase) was realized once an organization was operating a containerized platform and had refactored their applications to microservices.

Using similar logic to the operational savings model (calculating baseline revenue (100%), transitional revenue (111%), and steady state revenue periods (121%) based on weeks to completion for each stage in the journey, ESG calculated the expected total revenue increase for each of the three scenarios. Figure 3 summarizes ESG's findings, indicating the number of weeks to reach each stage as well as the total expected 2-year operational savings and improved revenue benefits for each of the three scenarios described earlier.

Figure 3. The Benefits of Migrating and Modernizing Legacy Applications with Google
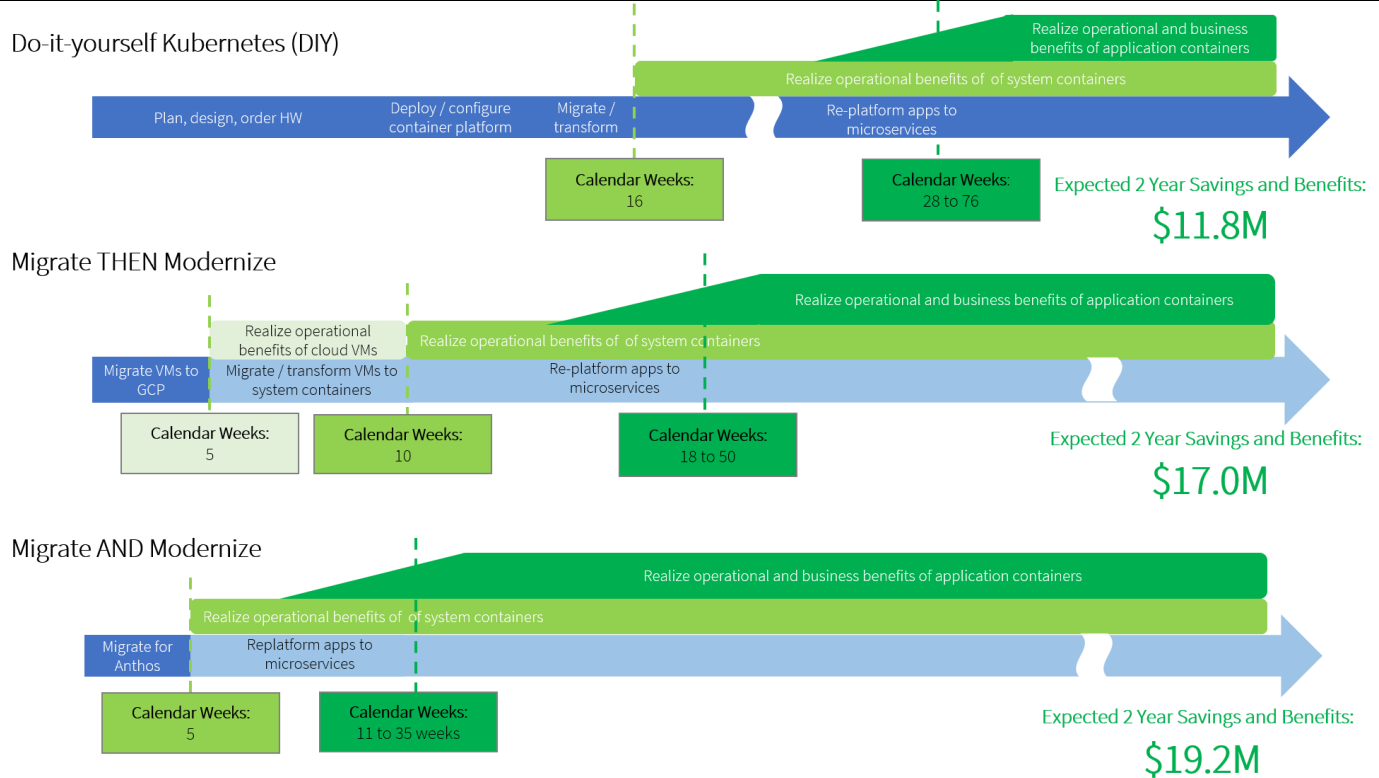
Source: Enterprise Strategy Group

ESG found that organizations applying the DIY scenario completed their application modernization journey in 76 weeks (just about 1.5 years), while the Google solutions provided a 34% to 54% faster journey, completing in as fast as 35 weeks (just over 8 months) with Migrate for Anthos. While even migrating and modernizing in the DIY scenario provided substantial operational savings of $1.5M and revenue increases of $10.2M, migrating and modernizing with Google solutions allowed the organization to reach each step of their modernization journey earlier, maximizing both the operational savings ($3.1M- $3.2M) and expected revenue increases ($13.7M-$16M) over the two-year period.

The requirements, configurations, applications, and resources are different for every business, so it would be impossible to model a scenario that predicted the time to migrate and modernize and the revenue benefits for every organization. While the reported savings and benefits here may overestimate, or in many cases underestimate, the benefits that your organization might see, ESG hopes the methodology and considerations help organizations to perform their own analysis.

Scenario 2: Accelerate Application Development and Delivery with Google Platforms and Serverless Tools

ESG Research shows that organizations that had modernized their applications, modernized their platforms, and adopted DevSecOps best practices are :

2.6x More likely to have extensively accelerated application development.

2.3x More likely to have extensively lowered operational costs.

2.9x More likely to have extensively reduced vulnerabilities in internally developed applications.

61% of organizations are using or plan to use serverless functions within the next 12 to 24 months.

Google Cloud

Accelerate Modern DevSecOps strategies with Google Platforms and Serverless Tools

ESG VALIDATED

46-77% Faster development lifecycle
Complete development projects up to 8X faster, freeing months of developer time.

2 to 14 Additional major releases per year
by avoiding rework and allowing developers to spend more time on new products and features.
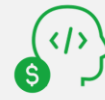
Average of **$87M** Annual revenue increase per 100 Devs
More productive developers avoid the need to increase headcount and provide increased revenue.

Migrating to a modern containerized platform and re-platforming legacy applications to modern microservices architectures are the first steps towards application modernization. The next step is an organizational shift toward agile, quick, and efficient development, delivery, and maintenance of new and existing applications.

ESG leveraged our knowledge and experience of the industry along with validation with Google customers as the basis to create a model that compared the expected time to develop, test, secure, and deploy releases of software using each of three methods:

- **Baseline:** traditional waterfall development practices consisting of serialized sets of activities performed between development, test, security, and operations silos on virtualized infrastructure. These organizations typically are able to deliver a new release of software once per month.

- **Google Cloud with CI/CD:** an organization that has implemented a continuous integration/continuous delivery strategy supported by an effective dev/sec/ops framework that is able to eliminate silos, measure and optimize efficiency, leverage Google Cloud's containerized platforms (Anthos and GKE), development, and automation tools, and release a fully tested deployment of software on a daily basis.

- **Google Cloud with CI/CD and Serverless Tools:** an organization that leverages an effective CI/CD and DevOps strategy but has also reduced operational overhead and maximized time to value by leveraging Google Cloud's containerized platforms and development tools and serverless technologies like Cloud Run. These organizations are able to deploy several fully built, fully tested software releases per day.

Why This Matters

It should be the goal of every software development organization to maximize application development and delivery velocity while improving code quality and minimizing the time to restore service if required.

ESG's analysis shows that by modernizing platforms and streamlining operations with Google, organizations can speed application development and delivery by up to **77%** while improving code quality by **2x,** resulting in significant impact to revenue.

ESG's model assumed a team of 100 developers to develop new mobile applications that would be expected to generate roughly $417K of weekly revenue per application release ($5M annual revenue per application release). ESG assumed that the baseline organization took six months (26 weeks) to develop, test, and release a major application. During this time, the organization would have built and tested 6 total builds of the software for testing

and would then continue to release minor product updates on a monthly basis. By deploying on Google Cloud's containerized platform, and implementing an efficient CI/CD process, ESG assumed that products could be developed and released 1.9X faster, resulting in a new application every 14 weeks, with a new candidate release or product update to services delivered on a weekly basis. Finally, by leveraging a Google Cloud containerized platform and an efficient CI/CD process and adding Google developer tools and serverless infrastructure with Cloud Run, an organization would be capable of developing and deploying up to 8x faster, resulting in a new major application release being completed every 3.2 weeks, with improvements and updates to services released twice per day.

Using these assumptions, and assuming that applications were rolled out to 5 test environments per test release and 20 production environments per production release, ESG calculated the expected person hours required to deploy, test, and run security checks on each release. ESG found that, in addition to greatly increasing development productivity, Google technology and an effective CI/CD process could help lower the cost of operations by 70% to 79% and the cost of securing releases by 79% to 84%. Finally, ESG calculated the time to release new applications based on the analysis and modeled the expected weekly revenue based on the number of releases over a one-year period. Figure 4 summarizes the findings of ESG's analysis and shows how Google technology and an optimized CI/CD process can help improve development efficiency, speed the number of releases, and increase revenue for an organization.

Figure 4. Expected Annual Savings and Benefits Provided by Accelerating Application Development and Delivery with Google
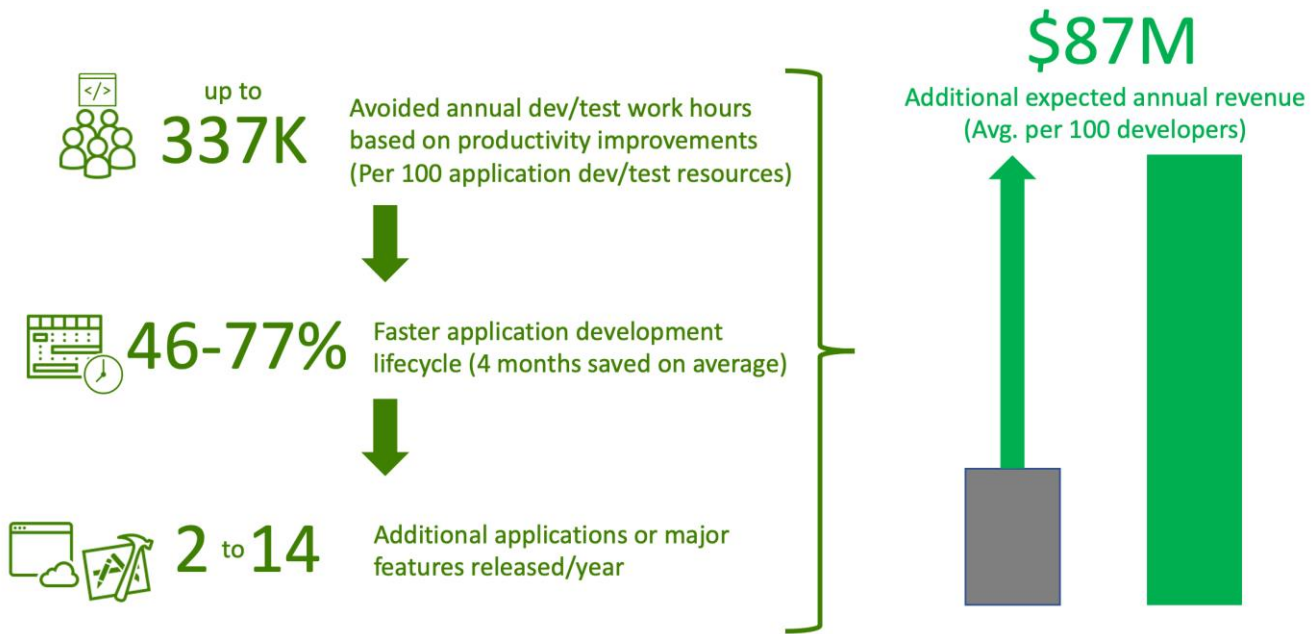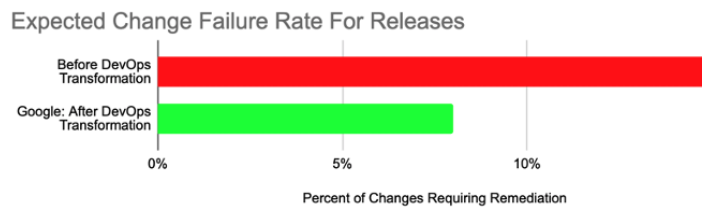

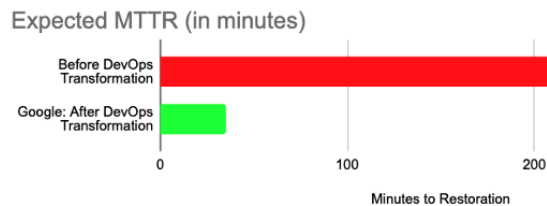*Source: Enterprise Strategy Group*

We found that, depending on the effectiveness of your CI/CD process and speed of Dev/Ops, our modeled organization would be able to increase developer efficiency by up to 18%, returning between 95K and 337K annual dev/test work hours back to the organization. The increase in developer efficiency, combined with the increases in deployment and security operations combine to provide up to 77% faster application development time, which in turn frees up teams to begin the next major update or feature to the application, allowing 2 to 14 additional value-added releases per year. In addition to simply releasing software faster, ESG research validated that transformed organizations produced code with up to 50% lower change failure rate (CFR) and a mean time to restore (MTTR) of just minutes versus hours for an untransformed organization. Figure 5 highlights the expected improvement in CFR and MTTR.

Figure 5. Expected Improvements to Change Failure Rate and Expected MTTR

Change Failure Rate
A lower change failure rate reduces the risk that new changes to production releases will result in service impairment that requires remediation in the form of a hotfix, patch, or rollback.

Expected Change Failure Rate For Releases

Before DevOps Transformation	
Google: After DevOps Transformation	

0%   5%   10%

Percent of Changes Requiring Remediation

Expected MTTR (Mean Time to Restore)
A lower MTTR provides faster resolution to disruption in services due to unplanned outage or service impairment and helps to limit financial impact.

Expected MTTR (in minutes)

Before DevOps Transformation	
Google: After DevOps Transformation	

0   100   200

Minutes to Restoration

Source: Enterprise Strategy Group

Scenario 3: Measuring the Expected ROI of Application Modernization with Google CAMP

ESG research shows that organizations that had modernized applications and platforms and adopted DevSecOps best practices reported :

41%
More revenue from the application development practice.

Expected to **grow development-attributed revenue** over the next two years by
$60M

21%
Reduction in total cost of ownership (TCO) of development operations.

Saving about
$1.3M
More in terms of development practice TCO.

Google Cloud

Google Cloud Application Modernization Platform (CAMP) Ensures ROI With Less Risk

ESG VALIDATED

$34M to $194M
Expected Annual Savings
For a development team of 100 provided by avoided cost of downtime, additional revenue gains, and improved productivity.

586%
Return on Investment (ROI)
Based on modeled $75.6M savings and benefits against $7M investment over 1 year.

1.75 Month
Year 1 Payback Period
Based on one-year costs versus savings and benefits. Actual payback period depends on several factors.

Leveraging the modeled results in the first two scenarios (migrating and modernizing applications and accelerating application development and delivery), ESG calculated the expected high-level return on investment for an organization that had successfully made the journey from a traditional organization running on premises to a transformed and streamlined organization running modern applications in the Google Cloud.

ESG started with the assumption that the expense of the transformation, including consulting, assessment, automation software, new hires, operational work hours to migrate, and extended training and reorganization, would require an investment of approximately $10M.

To estimate a single modeled ROI, ESG leveraged the average of the benefits highlighted in scenario 2 reduced by 40% to accommodate for the fact that full year-1 benefits would not be seen until the transformation was completed. We assumed an improved Dev/Test capability of $13M and increased revenues of $52M/year as a result of being able to deliver releases faster. Finally, ESG calculated an expected cost of downtime based on the expected deployment frequency and change failure rate (monthly release with 53% CFR affecting 50% of services reduced to weekly release with 15% CFR affecting 20% of services), expected MTTR improvement (4.3 hours down to 1 hour), and cost of downtime of $500K/minute of service downtime. Our calculations resulted in annual expected savings of just over $6M.

Taking this all into consideration, ESG calculated an expected **first year ROI of 586%** by dividing the total annual benefit of $68.6M by the expected cost of $10M with a simple payback period of only 1.75 months (cost/benefit * 12 months/year). A summary of the results is shown in Figure 6.
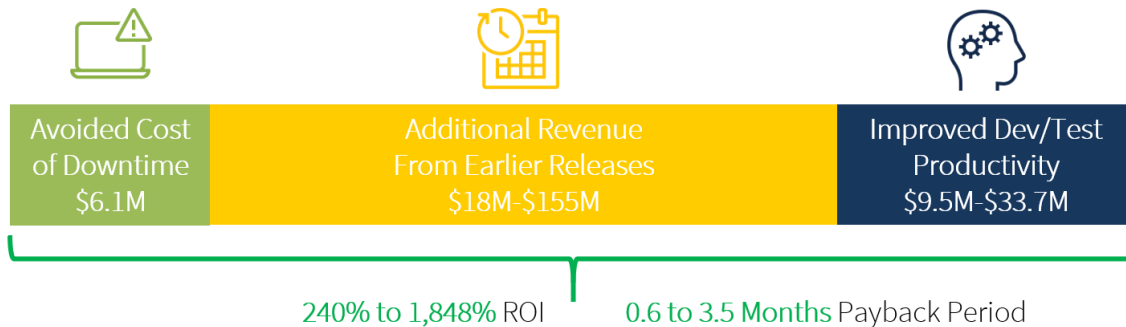
Why This Matters

Application modernization is a journey that each organization chooses to address at its own pace, using solutions that best meet its needs. There is no one single path or timeline that meets the needs of all.

Measuring the impact to the business and accurately calculating the return on investment for each modernization effort helps the organization to justify the investments made and quantifies the impact that the change has had across the organization.

Figure 6. Modeled ROI of Application Modernization with Google Cloud

Expected Annual Savings (Per 100 Developers):

Avoided Cost of Downtime $6.1M	Additional Revenue From Earlier Releases $18M-$155M	Improved Dev/Test Productivity $9.5M-$33.7M

240% to 1,848% ROI   0.6 to 3.5 Months Payback Period

ESG Note: While the average calculated payback period is shown, in reality, the cost of transformation would be paid several months before the benefits begin to accrue. Year 2 would be the first full year of benefits, and actual payback would be realized around the middle to end of Year 1. ESG's modeled ROI assumes the average values of the ranges shown and that only 60% of these total benefits are seen in the first year due to the time to complete the transformations.

ESG's modeled first-year analysis based on 60% realization of expected average annual benefits in Y1:

586% ROI   1.75 Months Payback Period

Issues to Consider

While ESG's models are built in good faith based on conservative, credible, and validated assumptions, no single modeled scenario could ever represent every potential environment. ESG recommends that every organization contact Google to help perform its own assessment and analysis of strategies, costs, and benefits to understand the differences between the solutions hopefully proven through proof-of-concept testing.

The Bigger Truth

Large software-driven enterprises know that, in order to cross the chasm and compete in tomorrow's markets, they will need to make a transition towards a successful application modernization strategy that allows them to deliver innovation quickly, securely, reliably, and continuously. A successful application modernization journey enables an organization to drive continuous developmental improvement without losing visibility or control across hybrid and multi-cloud environments, while leveraging the ideal processes and metrics that will drive critical business decisions going forward.

The larger and more established an organization is, the more it struggles with the challenges of identifying, understanding, and taking the first steps towards the future. Many organizations often struggle to understand and drive a unified and collaborative strategy that involves breaking down departmental silos and reinventing the roles, processes, and metrics that will ensure their success in the future, without grinding their current operations to a halt. Organizations that attempt to do it on their own often struggle to find the expertise and run into unexpected hurdles, incur heavy operational costs, and ultimately may take years to make the transformation.

ESG validated that Google's Cloud Application Modernization Solutions can help organizations to modernize faster while reducing risk, achieving greater operational savings, increasing business agility, and growing revenue. Our models predict that organizations can migrate and modernize applications with Google Cloud up to 61% faster while realizing up to 2.5x more operational savings than a DIY Kubernetes approach. ESG predicts that Google Cloud serverless tools can help organizations to accelerate application development and delivery by up to 77%, resulting in faster and more frequent releases, improved code quality, and improved revenue per developer. Finally, ESG calculated a conservative 586% first year ROI with annual savings and benefits between $34M and $194M for an organization with 100 developers.

For startup software organizations, leveraging the agility of cloud infrastructure, developing cloud-native applications, and establishing an effective DevSecOps framework from the ground up is a no brainer. For established organizations looking to protect or expand market share against nimble competition, the application modernization journey seems risky and complex, but it is unmistakably very necessary. Google's Cloud Application Modernization Solutions provide organizations the proven experience, expertise, and technologies required to take every step of the journey from initial assessment and migration to streamlined optimization of application development and delivery across hybrid and multi-cloud environments. If your organization is looking for an experienced partner to help accelerate the success and reduce the risk of your application modernization journey, ESG suggests you consider Google's Cloud Application Modernization Solutions.