How to Turn Your Data Into

# Business Outcomes

splunk> | Google Cloud

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# Data is everywhere

Data is at the center of digital initiatives and cloud technologies that are transforming businesses. Organizations are leveraging all of their data to innovate, enable new business operating models and operate with efficiency. Today, digital transformation efforts are necessary to accelerate time to market, adapt to rapidly changing market conditions, improve customer experiences and create new sources of competitive advantage.

These cloud-driven initiatives are generating troves of data with every newly digitized artifact in an organization becoming a new source of information. This introduces a new brand of complexity as data increasingly grows in volume, variety and velocity with each new source and destination ranging from IT systems, apps or other business technologies. The companies best positioned for the new world awash with data are those that are prepared to drive business outcomes with visibility across these disparate systems and processes to identify business opportunities and potential threats.

Only by harnessing all of that data and making fast, data-driven decisions can organizations generate positive business outcomes.

## Market insights for data are everywhere

### Data Explosion

IDC predicts that by 2025, the world's data will comprise 175 zettabytes, spread across three spheres: the core, the edge and endpoints.[1]

There are more than 22 billion connected devices worldwide.[2]

### Data Volume

Enterprise data is growing at 63% a month on average with 90% of organizations storing data in cloud data warehouses.[3]

### Data Fragmentation

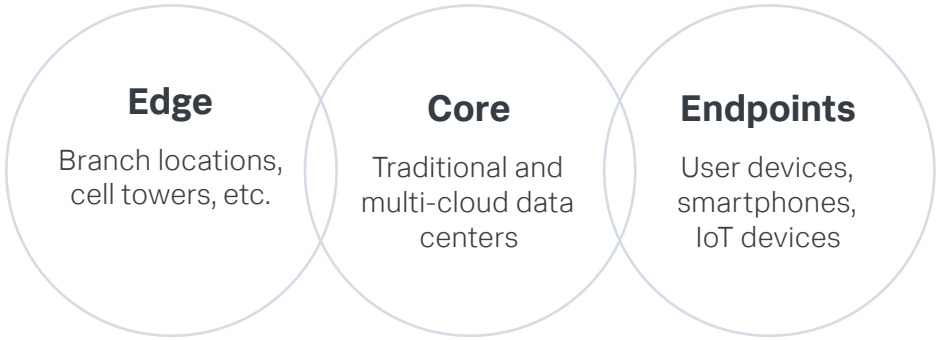
Companies with over 1,000 employees draw data from over 400 disparate data sources to power analytics.[4]

1 "IDC: Expect 175 zettabytes of data worldwide by 2025," Network World, December 23, 2018.
2 "Number of connected devices reached 22 billion, where is the revenue?" Help Net Security, May 23, 2019.
3 "Optimizing Business Analytics by Transforming Data in the Cloud"Projects, Yet Making Data Available for Insights Is A Barrier for 90% of Enterprises." IDG.
4 "Optimizing Business Analytics by Transforming Data in the Cloud"Projects, Yet Making Data Available for Insights Is A Barrier for 90% of Enterprises." IDG.

# Data is meaningless without visibility

Most organizations agree that data is vital for making informed decisions that lead to growth, evolution and operational efficiency. Further, the health and performance of applications impact an organization's customer experience. Application managers need a platform that transcends the silos — incorporating and analyzing data from the various sources that influence performance and availability. Tapping into the data across every aspect of your organization is the key to drive actionable insights.

## Data is now spread across three spheres




## Market insights for analytics

By 2023,

# 40%

of I&O teams will **use AI-augmented automation** in large enterprises, **resulting in higher IT productivity** with greater agility and scalability[5]

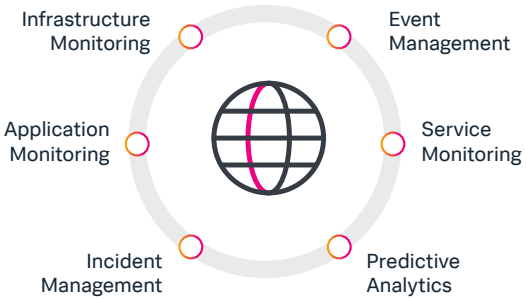
5 "Gartner Top 10 Strategic Technology Trends for 2020", Gartner, October 21, 2019.

# Organizations are solving business problems with data

Customers are using solutions that can scale to meet and exceed their requirements to accommodate trillions of events and petabytes of logs per day to power solutions for real-time monitoring, observability and security. They are gaining insights from their data and application stack across hybrid infrastructures,containers, and orchestration layers to fully support their cloud and DevOps journeys. The end result is faster debugging and root cause analysis to detect and prevent outages before they happen.

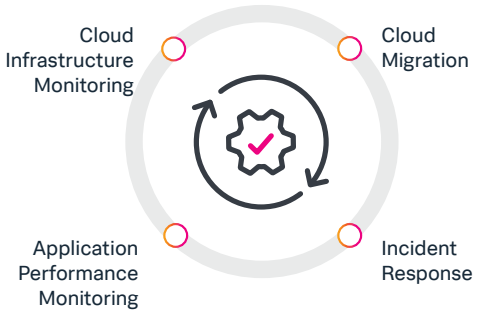
## Data at the Center of Your Data Journey

### IT Use Cases




### Security Use Cases


### DevOps Use Cases



# Unlock the value of ALL your data

The volume of data that is stored in the cloud is growing rapidly. An IDG study found that, on average, enterprise data volumes are growing at 63% per month. Organizations are trying to use all of their data to make more informed decisions about their business. However, the data is spread across disparate data sources. In fact, the IDG study reported that companies are drawing from an average of 400 different data sources to power analytics. How can you bridge these data sources to leverage their value?

### Observability

Organizations of all sizes need the ability to turn data into real-time action and use AI and ML-powered visibility to drive beneficial business outcomes. Sharing critical data between applications and drawing insights from holistic sets of data extracted from their hybrid, multi-cloud environments drive positive business outcomes from data, regardless of location or structure. Accessing data across silos enables better, faster decisions with the entire enterprise in mind.

### Accelerate digital transformation

A simplified and scalable approach for end-to-end visibility across cloud, on-premises, and hybrid environments frees IT time to accelerate digital initiatives.

IT teams can proactively alert, investigate and monitor IT environments, enabling IT to scale more efficiently, rapidly and securely to the cloud. IT teams have a holistic view of their data that improves efficiency and frees up time to focus on more strategic digital initiatives.

### Boost profitability

By making better use of their data, organizations surveyed had materially increased revenue and reduced operational costs, boosting their profitability by an average of $38.2 million, or about 12.5% of their total gross profit.[6]

### Operational efficiency

IT can gain operational and cost management insights across existing on-premises and multi-cloud infrastructures by collecting events, logs, performance metrics, billing data and more. This enables IT Ops teams to gain visibility across their entire infrastructure, decrease mean time to resolution (MTTR), and simplify toolsets.

### Reduce outages

Machine learning capabilities including anomaly detection, predictive analytics and clustering enable you to continuously analyze your data environment and automatically identify, classify, predict and self-heal IT, security, and business issues before they become problems.

6 "What is Your Data Really Worth?", Research conducted by ESG.

# Challenges of becoming insight-driven

The advantages to uncovering business insights are clear, but accessing enterprise data and turning it into business outcomes is challenging. Enterprise data is scattered across core, edge and endpoints. It's a struggle to manage the volume and variety of data let alone glean necessary business insights.

Application complexity, emerging architectures and siloed IT infrastructures bring new challenges to application management. The health and performance of applications directly impact an organization's customer experience. The ability to monitor and measure applications across the application stack and supporting infrastructure keep applications running at top performance.

## Infrastructure management challenges exist

Data ingestion capacity

High storage costs

Ability to scale quickly

A secure and reliable network

Resource and skill gap

Protecting systems, data and users as data moves to the cloud is a top concern for organizations as they look to the cloud for business advantage. Integrating various data sources, including an expanding set of cloud data sources is necessary to draw insights around access management and information sharing. Other infrastructure challenges are high storage costs and the ability to scale infrastructure based on demand. Many organizations lack resources for ongoing management and deployment of instances that are needed to support their digital projects.

# Cloud adoption increases management and security complexity

As organizations continue to embrace digital initiatives and cloud technologies to accelerate innovation and growth, a new level of complexity emerges. IT teams are tasked with monitoring and securing multiple systems and as more cloud applications are deployed across hybrid and multi-clouds, it becomes difficult to manage. In 2025, IDC predicts that 49% of the world's stored data will reside in public cloud environments. As the number of systems in the cloud rises, the amount of complexity grows at about 1.75 times the growth of systems, both on-premises and in the cloud.

Using different cloud solutions, each with its own native tools for monitoring and security means that IT teams can't efficiently see across the whole stack to tell if service degradation or downtime is due to a particular service, or if the system is working as intended. Reduced visibility across the stack means that security teams spend much more time trying to figure out where and why outages occur, having to transition between multiple monitoring systems to correlate and analyze event data to gain a complete understanding of the issue.

Additionally, the threat landscape is growing with data across clouds, and the proliferation of the Internet of Things (IoT) devices, smartphones, web portals, and applications. The IT environment complexity makes it even more challenging for security teams to secure and protect their organization's data. Every minute counts in a service outage or malicious attack and the additional complexity of a multi-cloud system has a direct impact on the bottom line. Companies not only have to manage and secure their data centers on-premises but their cloud environments as well. Maintaining consistent security policies between multiple environments is complex and increases the risk of a security breach.

## The right data matters

Leaders are taking new approaches to harness all of the data generated by cloud-driven digital transformation. Doing so helps them realize the promises of the cloud and thrive in this more complex environment. Ingesting all data — from cloud to on-premises — and connecting it together supports organizations on their digital transformation journey and their ability to draw meaningful insights.

Granular insights along with rich context empower every user to understand not just 'what is happening' but 'why it's happening' to drive better, faster decisions encompassing information beyond siloed systems and facilitating observations across the organization.

Most digital modernization efforts involve the good work of multiple cross-functional teams and stakeholders. Getting the relevant data in the hands of the right people becomes a time-sensitive task, especially when supporting critical business applications.

## A shift to DevOps

To meet business demands and deliver better customer experiences, organizations need to deliver applications and services at a high velocity. The transition to a DevOps model enables evolving and improving products at a faster pace than traditional software development processes. The use of cloud-native technologies and software-defined infrastructures like containers and orchestration technologies, such as containers, Kubernetes, Serverless and microservices help organizations innovate faster.

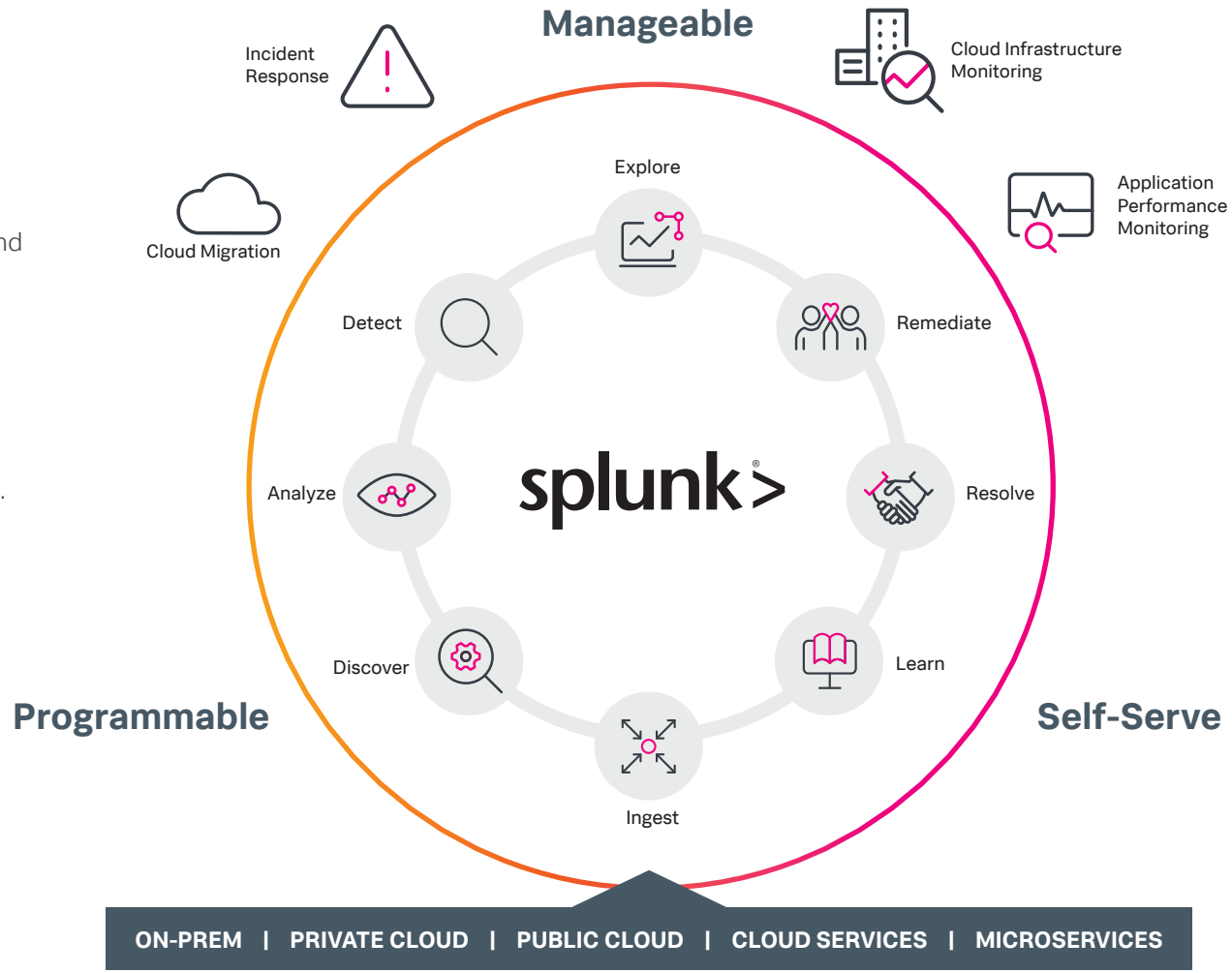
Delivering software quickly, reliably, and safely is at the heart of technology transformation and organizational performance. Digital transformation has led to modernizing monolithic applications to microservices or serverless apps and building net-new, cloud-native applications. A DevOps

model enables developers and operations teams to increase the frequency and pace of releases. DevOps practices embody the “you build it, you run it” mentality with continuous integration/continuous delivery pipelines for more reliable and frequent deployments on a weekly, daily, sometimes hourly basis.

The shift to a DevOps culture of releasing code faster and building with more complex interdependencies causes unpredictability and risk across the entire IT team. The expanding universe of real-time data requirements — applications, servers, and databases — is a challenge. IT Ops teams need the ability to manage a more distributed network and manage costs, performance and provisioning.

## Bringing Observability To Life

### Key criteria to enable your cloud-native journey



# Benefits of a Data-to-Everything platform

Using a Data-to-Everything platform enables organizations to proactively alert, investigate and monitor their IT, security, DevOps, and business operations; analyze their hybrid and multi-cloud environment using AI and ML-powered insights, and act on the insights to drive beneficial business outcomes.

## Expertly investigate any large scale data

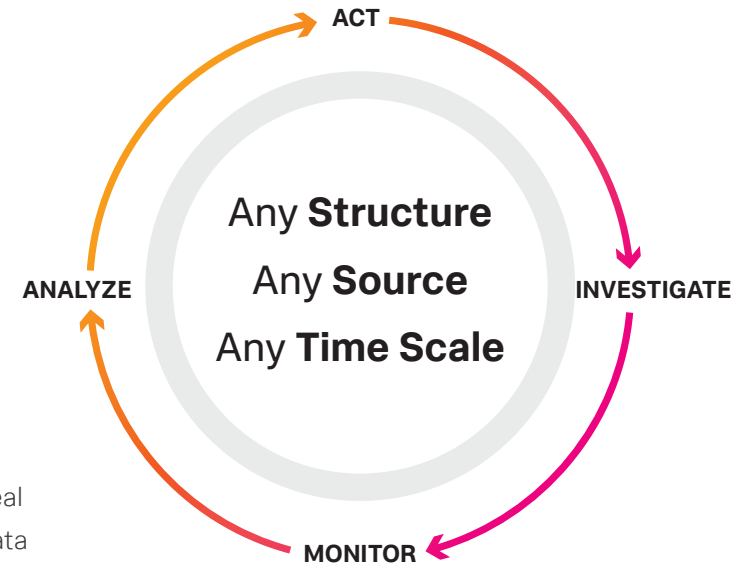
The ability to tap into unstructured or structured large-scale data from all systems in near real time enables better and faster decisions. Accessing data from a hybrid world, where your data might live on-premises, in the cloud, or both give you access to the right data to derive business outcomes. Integrating all data sources, including an expanding set of cloud data sources enables the ability to answer for a variety of business, IT and security functions.

## Use Artificial Intelligence and Machine Learning to gain insights

The visibility, control and management of the right data through AI and ML-powered solutions provide business insights and favorable outcomes. Machine learning capabilities including anomaly detection, predictive analytics, and clustering give you the tools to continuously analyze your data environment and automatically identify, classify, predict and self-heal IT, security, and business issues before they become problems.

## A complete data platform for an observable enterprise

The ability to collect raw data — big or small, structured or unstructured, in one place or many — enables data-driven decision making. A complete view of data provides deep analysis, all the way through visualized insights and automated action.




**IT**

**Security**

**DevOps**

# Deliver business outcomes with Splunk and Google Cloud

## Purpose-built infrastructure with Google Cloud

Google Cloud's platform has everything you need to get started immediately, flexibility to adapt as your business model changes, and scale as your business grows. As you embrace digital transformation and move your data to the cloud, Google Cloud's infrastructure provides security, scale and reliability. It's the largest privately-owned global network and is secure with five layers of data protection, enhanced with Artificial Intelligence (AI). The platform is integrated for containerization, security and virtualization built for devsecops to support your digital transformation efforts.

Whether you are moving workloads to the cloud with a lift-and-shift approach or building new cloud-native apps, the Google Cloud platform provides scalability and cost advantages for storage. Use your enterprise data for an advantage by ingesting data from different sources quickly with Google Cloud's smart infrastructure for faster time to insights.

Innovation is weaved into Google Cloud's infrastructure so you can transform it at your own pace. Hybrid solutions, like Anthos, is a platform to modernize your applications and deliver software faster and at your own pace. Use the Anthos platform to build your apps once, and run them anywhere at the speed your business needs. Create an unmatched competitive advantage in your business using integrated AI applications, or voice and image recognition and bring intelligence into everything. Go full-stack serverless and focus on innovation with almost no effort on operations. Google Cloud's open architecture provides cutting edge capabilities, along with a culture of innovation to bring new ideas to your business.

Extensive Splunk and Google Cloud native integrations:

- Google Data Sources
- Google Cloud Console
- Security Command Center
- Anthos

# Splunk Cloud on Google Cloud

Splunk® Cloud™ delivers the capabilities of Splunk as Software-as-a-Service (SaaS), enabling you to make confident decisions and take decisive action on insights from your data without the need to purchase, manage and deploy additional infrastructure. Ensure fast time to value, security and reliability by outsourcing your infrastructure management and admin tasks to Splunk, and let your employees focus on high-priority activities core to your operations.

## With Splunk Cloud you benefit from:

**The fastest time to value.** You can go live in as few as two days and minimize delays in change management processes for upgrades. In addition, you'll be able to expand your Splunk deployment quickly — 1TB incremental capacity is available within two days — and operate Splunk IT Service Intelligence and Splunk Enterprise Security within weeks.

**The ability to maximize value from your resources**. Splunk takes care of the infrastructure management and administration so you don't have to, allowing your employees to focus on higher priority initiatives. In addition, the total cost of ownership (TCO) is often less than the cost of running Splunk on your own.

**Robust security and compliance.** Splunk Cloud on Google Cloud environment is ISO27001 certified. Splunk provides dedicated cloud environments for each customer as well as encryption intransit and optional encryption at rest.

# Apps are now at the heart of your business

Before, customers were loyal to brands. Now, they are loyal to experiences. If a customer doesn't get a response fast enough from one app, or the desired product is out of stock, they'll immediately switch to another. The competition is literally one click away.

It doesn't matter if you are a business that's been around for centuries or you are a brand new startup, building your own apps is critical to your business outcomes. To meet business demands and deliver better customer experiences, DevOps teams are using cloud-native technologies such as containers, Google Kubernetes Engine, and serverless for faster innovation. They are modernizing monolithic applications to microservices or serverless apps or building net-new cloud-native applications. Delivering software quickly, reliably, and safely is at the heart of technology transformation and organizational performance.

Organizations are adopting DevOps practices so teams can work more collaboratively and with better agility and responsiveness. They are managing, releasing, and securing the code being shipped on a daily basis to ensure applications are providing desired customer experiences.

# Observability to find the root cause of the problem

The data sources commonly referred to as the three pillars of observability are metrics, traces and logs. Metrics prompt us if there is a problem, traces guide us where the problem might be occurring across the distributed system and logs help determine the root cause of the problem.

SignalFx Infrastructure Monitoring is the real-time metrics solution to address the needs of ephemeral cloud, containers, and serverless environments with high-cardinality at a massive scale. Splunk uses a patented streaming architecture to ingest, store, and retrieve data to provide insights and take action in real-time — dashboards refresh, alerts fire and automation tasks trigger within seconds.

### Out-of-the-box Dashboards

SignalFx provides instant, pre-built dashboards for Google Cloud Services such as Compute Engine, App Engine, GKE, Cloud Bigtable, Cloud Functions, Cloud Spanner, Cloud Storage, Cloud Pub/Sub Subscriptions, Cloud Pub/Sub Topics and more.

### Real-time Monitoring and AI-driven Analytics for Google Kubernetes Engine

Kubernetes Navigator enables DevOps and SRE teams to understand and manage the performance of containerized applications using out-of-the-box UI that navigates through the entire Google Cloud Kubernetes environment. AI-driven analytics automatically suggests filters associated with performance anomalies to expedite troubleshooting.

### Manage Application Performance with SignalFx Microservices APM

SignalFx Microservices APM provides NoSample™ full-fidelity distributed tracing to observe and analyze every single transaction and capture all outliers and anomalies. AI-driven analytics and directed troubleshooting help DevOps teams to quickly identify and troubleshoot performance anomalies.

## IT Ops impacts overall business

As organizations embrace the benefits of Google Cloud and move workloads, spin up new VMs or move SAP, the response time of mission-critical applications and the infrastructure they run on is critical. IT Ops is dealing with intricacies of too many tools, siloed views of data and long times to resolve. They are managing hybrid cloud and multi-cloud environments that are growing at an unprecedented rate.

Splunk ingests and correlates data from multiple sources to provide IT with tools to fight downtime and predict problems. Using Splunk, IT Ops teams are freed from spending all their time managing infrastructure and allow them to spend more time on digital transformation efforts to support new business models. IT Ops not only improve operational efficiency, but they also reduce time to resolve issues, prevent problems to protect revenue, and deliver exceptional customer experiences.

# Optimize your security stack

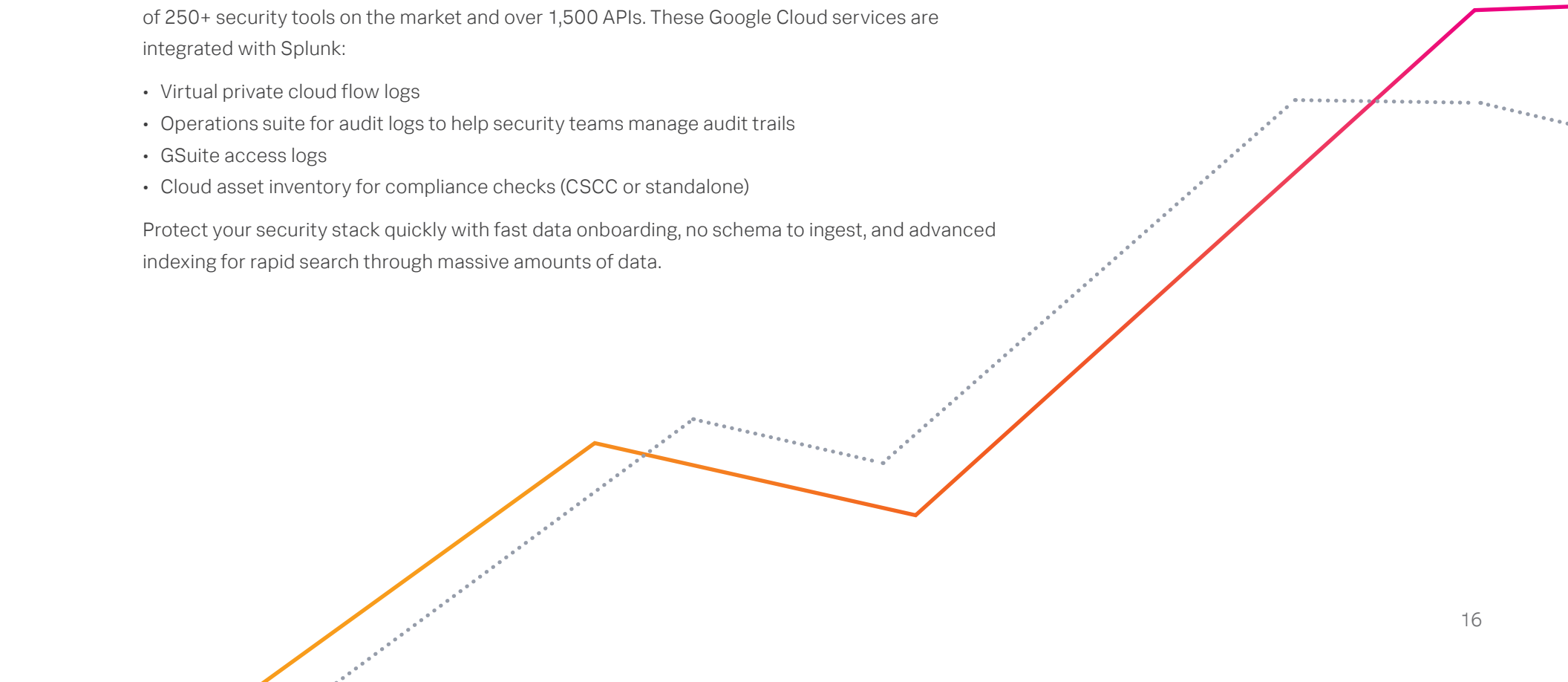
Security teams are on the front lines identifying, analyzing and mitigating threats against a growing landscape. With the cloud's adoption, instead of just protecting information inside the firewall, security teams have to protect data flowing across an expanded attack surface from the core to the edge and out to the endpoints.

Strengthen cyber defenses and reduce risk, while optimizing your security stack with Splunk and Google Cloud. Security logs are captured at scale from diverse data sources in one place or many to provide a single source of truth. Flexible out-of-the-box analytics and visualizations help to strengthen security posture by accelerating detection and response.

Splunk provides a comprehensive security platform that integrates and extends capabilities of 250+ security tools on the market and over 1,500 APIs. These Google Cloud services are integrated with Splunk:

- Virtual private cloud flow logs
- Operations suite for audit logs to help security teams manage audit trails
- GSuite access logs
- Cloud asset inventory for compliance checks (CSCC or standalone)

Protect your security stack quickly with fast data onboarding, no schema to ingest, and advanced indexing for rapid search through massive amounts of data.



# Choose Splunk on Google Cloud

Drive business outcomes with Splunk on Google Cloud for organizations that need visibility into their business across disparate data sources. Glean actionable insights from data across core, edge and endpoints to ensure you can evolve with a changing business climate. Maximize application performance and accelerate innovation for better customer experience. Splunk on Google Cloud is the Data-to-Everything Platform that provides a single-pane view for security and IT alerting, investigations and monitoring to reduce mean-time-to-resolution and detect potential security threats.

### Purpose-built Infrastructure

Run your business on a near-zero downtime platform with the security, scalability and reliability to transform your business.

### Elevate your DevOps process to deliver new apps

Google Cloud's expertise with Google Kubernetes Engine and microservices enables DevOps teams to maximize their platform's value.

### Real-time Observability

Splunk's observability solution provides real-time monitoring and microservices and applications to support every stage of a cloud journey from lift-and-shift to cloud-native apps use predictive analytics and cutting edge machine learning to prevent incidents from happening.

### IT Ops

Splunk unifies data silos from Anthos, to Google Cloud and across multi-clouds to deliver actionable insights to help transform IT from reactive to predictive.

### Security

Optimize your security stack so that your team can pursue digital initiatives with the confidence that your data adheres to stringent data and security regulations

# Get your business outcomes with Splunk Cloud Software-as-a-Service (SaaS)

Enable better, faster decisions with real-time visibility across your enterprise running Splunk on Google Cloud as a SaaS. Onboard your data regardless of where it exists, organize, and analyze then get actionable insights for business outcomes.

### Provides Service Excellence

Supports the most rigorous security and compliance standards in the industry. The SaaS solution is operated by the Splunk experts to optimize the software for your business needs.

### Delivers Maximum Value

The solution rapidly ingests varying data from different sources across core, edge, and endpoints to deliver the fastest time-to-value. Eliminates infrastructure challenges that impede digital transformation efforts.

### Fast and Flexible

One solution to manage, monitor and secure hybrid infrastructures to accelerate digital projects without delays.

# Conclusion

The business need for agility and OpEx pricing models propelled data to the cloud and across disparate environments, making it challenging to access the data for insights. As the data expanded, the environments where it resides did too, creating data silos. In a world where your business is changing rapidly, ensuring application uptime, accelerating application development faster by correlating data and accessing all data for insights is essential. Industry leaders in Google Cloud and Splunk provide organizations with a Data-to-Everything Platform that is secure and reliable in turning all your data into business outcomes.

## Get Started turning your data into business outcomes by visiting splunk.com/googlecloud or cloud.google.com/splunk



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