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Guide to Google Cloud Platform services in the enterprise

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Google's multi-cloud platform goes GA as Anthos

Google's Cloud Services Platform, now called Anthos, aims to make waves for hybrid and on-premises cloud management, but customers should be aware the GA tag has its limitations.

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Editor's note

As Google gains a foothold in the enterprise market, many IT admins and developers need to keep up with, and successfully implement, a diverse array of Google Cloud Platform services and tools.

Google's cloud services include features for compute, storage, networking, and automation and orchestration. But the cloud provider has also emphasized emerging enterprise technologies within these domains, including managed Kubernetes and container services, machine learning and serverless computing. Enterprise cloud customers, such as retailer Kroger, rely on a range of these services. They demand agility from containers and infrastructure as code, but they also need dependability to keep core business services operational as they migrate to the cloud.

In addition, Google must accommodate the hybrid cloud requirements of its enterprise customers, as evidenced with the debut of its Anthos platform, which became generally available at the vendor's Cloud Next '19 conference.

Use this in-depth Google Cloud Platform guide to keep up with the latest developments in the provider's services lineup, receive expert advice to more effectively deploy and manage GCP resources, and evaluate how the provider stacks up to its competitors, including AWS and Microsoft Azure.

Note: Also check out our guide to all the major news from Google Cloud Next 2019, and dig into what comprises Google's cloud services portfolio.

1 Google Cloud Next '19 news

Cloud computing services evolve rapidly -- and Google Cloud Platform is no exception. The public cloud provider grabbed headlines for a number of reasons at its Google Cloud Next conference, including the release of its multi- and hybrid cloud platform Anthos. Formerly known as Cloud Services Platform, Anthos aims to provide a way to centrally deploy and manage containerized applications that span on-premises and cloud environments. In addition, Google also made news around open source software, Microsoft database support and elsewhere.

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Google's multi-cloud platform goes GA as Anthos

Google's Cloud Services Platform, now called Anthos, aims to make waves for hybrid and on-premises cloud management, but customers should be aware the GA tag has its limitations. Read Now

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Google, open source vendors join for cloud managed services

Google has partnered with seven prominent open source software providers, including MongoDB and Redis, to tap customer demand for managed OSS services in the cloud. Read Now

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Google expands Windows support with managed SQL Server

Google's decision to add SQL Server to its Cloud SQL family of managed database services is an appeal to Google Cloud Platform customers with ample Windows workloads. Read Now

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Google Cloud Code extends VS Code, IntelliJ for the cloud

Google Cloud Code's plugins for IntelliJ and Visual Studio Code aim to make Google Cloud Platform more attractive for developers that build cloud-native apps. Read Now

BLOG

Google Cloud CEO Kurian conducts enterprise-savvy concert at Google Next

Google Cloud CEO Thomas Kurian's keynote at the Google Next show delivered a measured balance aimed to resonate with large enterprises as they weigh various cloud strategy options. Read Now

2 Google Cloud resource deployment and operations

Price shouldn't be the only factor when choosing a cloud provider. Before selecting a vendor, determine the features and tools you'll need to run and manage cloud workloads as efficiently as possible. Google Cloud services, including Deployment Manager, Cloud Composer and Cloud Scheduler, deliver automation, orchestration, job execution and other capabilities to reduce admins' manual efforts and save time. In addition, Google Compute Engine templates ensure consistent configurations across different VM instances. Other Google cloud management tools, such as Access Transparency, provide IT teams with deeper insight into the actions performed on their infrastructure resources -- even those by Google's own internal admin team.

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Get started with Google Cloud Deployment Manager

Deployment Manager is Google's infrastructure-as-code tool. Learn about its features and how to automate use of resources such as Compute Engine, GKE and BigQuery. Read Now

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Manage Google cloud instances with images, templates

Recent additions to Google Compute Engine, particularly around images and templates, streamline how admins can create and manage VMs. Read Now

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Google Cloud Scheduler brings job automation to GCP

Google's Cloud Scheduler managed service assists with job execution and management for cloud workloads, and it evens another score with AWS and Azure. Read Now

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How Google Cloud Composer manages workflow orchestration

Before users get started with Google Cloud Composer, a workflow orchestration service, they need to grasp key concepts of the Apache Airflow software that underpins it, including DAGs. Read Now

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Google tool signals move to greater cloud transparency

Access Transparency users can review the work Google admins did on their cloud accounts. It's a step toward greater accountability, but large organizations will want even more. Read Now

3 Managing Google Cloud Platform containers and functions

The major public cloud providers have bet heavily on containers and serverless platforms, and Google is no exception. The company behind Kubernetes, the de facto standard for container orchestration, has made the open source technology a centerpiece of its cloud services through Google Kubernetes Engine. It has also expanded the capabilities of Google Cloud Functions for developers who want to build event-driven architectures. And while serverless and containers are often seen as competing development technologies, Google is spearheading an effort to bridge the two with its Knative open source project.

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Compare management options for Google Kubernetes Engine

Google supports various management options for its Kubernetes Engine service, and while each has its pros and cons, you should base your decision largely on experience. Read Now

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Google Stackdriver enhances alerts, adds Kubernetes support

A recent round of updates to Google's monitoring tool gives IT and development teams more options to set up alerts, track usage and support Kubernetes, both in the cloud and on premises. Read Now

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Knative project stokes interest in event-driven IT ops

The Knative project is nascent, but Kubernetes users said they believe it could facilitate the next generation of IT infrastructure management. Read Now

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Write your first Google Cloud Function with these three tips

To build a serverless function, many developers require a shift in mindset. Use these three tips to create a cost-effective and high-performing function in Google Cloud Platform. Read Now

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Choose the right workloads for serverless platforms in cloud

Serverless might be the next big thing in cloud, but that doesn't mean it's a fit for all enterprise workloads. See if your requirements align with these common use cases. Read Now

4 Google machine learning and AI services

The public cloud is a good fit for AI and machine learning. Data scientists can quickly access massive amounts of compute power and storage capacity to test a project and train models; enterprises with limited AI experience can turn to API-based services to incorporate speech analysis and image recognition. Google has a long history with AI internally, and it has extended that experience to its Google Cloud services with Tensor Processing Units and a growing list of prepackaged machine learning services.

Evaluate Google Cloud TPUs for machine learning apps

Machine learning apps have prompted a paradigm shift in the world of public cloud. Google is an early market leader with its TPUs and TensorFlow, but can it stay on top? Read Now

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Explore speech-to-text services from AWS, Microsoft and Google

AWS, Microsoft and Google can add speech-to-text capabilities to apps, but they're not your only option. Compare those cloud-based tools to other AI-infused transcription services. Read Now

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TensorFlow.js brings machine learning to JavaScript

Google has delivered a version of its TensorFlow machine learning library to support JavaScript developers, and the technology has proved to be a hit with users. Read Now

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Get to know these key Google machine learning services

Looking to infuse AI and machine learning into your cloud apps? Use this list of terms to explore which Google cloud services offer features for speech to text, image analysis and more. Read Now

5 Google vs. AWS vs. Azure

Google, AWS and Microsoft are the market leaders in public cloud computing and continually fight for enterprise workloads. AWS is the first choice for many IT pros, because of its maturity in the market and its large selection of offerings, but Azure is gaining momentum due to Microsoft's already-established presence in enterprises. Google takes third place, according to many industry analysts and experts, but the vendor's competitive pricing and new features -- particularly around containers -- could help it rise in popularity.

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Compare cloud container registries from AWS, Azure and Google

Many developers use the Docker Hub container registry, but there are other options from AWS, Azure and Google. Explore these provider-native registries, and their key differences. Read Now

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Evaluate cloud API management tools from top providers

While the API management tools from top cloud providers share some functionality, there are key differences that developers -- especially those in a multi-cloud model -- should know. Read Now

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How AWS, Azure and Google approach service mesh technology

While AWS, Azure and Google all offer service mesh technologies to streamline microservices management, they also have distinct differences users should understand. Read Now

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AWS, Microsoft and Google push on with hybrid cloud strategies

As enterprises' appetite for hybrid cloud grows, the rivalry between AWS, Microsoft and Google will increasingly revolve around on-premises environments. Read Now

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A look at serverless platforms from AWS, Azure and Google

AWS Lambda, Azure Functions and Google Cloud Functions are all key offerings in the FaaS market. Review the variations in language support, integration options and costs that set them apart. Read Now

Low-cost virtualization courses to build your VMware skills

Online courses are a great option for professional development, but they can be costly. Options from Udemy, LinkedIn and Global ...

Your starter guide to Docker troubleshooting

Though containers bring a lot of benefits, no container engine is perfect. Get an idea of what Docker troubleshooting involves, ...