What is Google Cloud Platform (GCP)?

Cloud Comparison | Fundamentals | GCP

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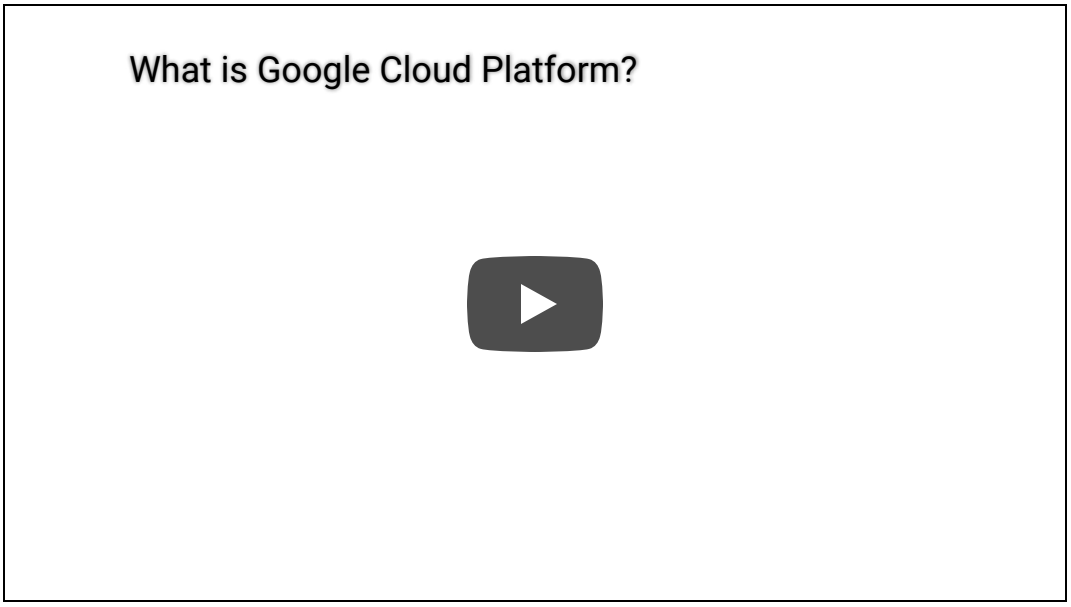
Have you ever heard of YouTube? How about Gmail or Google Maps? Most likely the answer is yes, but you *may* not have heard of Google Cloud Platform (or GCP).



What is GCP?

GCP is a public cloud vendor — like competitors Amazon Web Services (AWS) and Microsoft Azure. With GCP and other cloud vendors, customers are able to access computer resources housed in Google's data centers around the world for free or on a pay-per-use basis.

GCP offers a suite of computing services to do everything from GCP cost management to data management to delivering web and video over the web to AI and machine learning tools.

Google Cloud vs Google Cloud Platform

Google Cloud includes a combination of services available over the internet that can help organizations go digital. Google Cloud Platform (which provides public cloud infrastructure for hosting web-based applications and is the focus of this blog post) is a *part* of Google Cloud.

provides identity management for organizations, Gmail, and collaboration tools.

- Enterprise versions of Android and Chrome OS. These phone and laptop operating systems are ways for users to connect to web-based applications.
- Application programming interfaces (APIs) for machine learning and enterprise mapping services. These provide software-to-software communication.

While Google's GCP cloud infrastructure is the backbone of applications like Google Workplace, these applications *aren't* what we're talking about when we talk about GCP. For this post, we're focusing on Google Cloud Platform.

The history of Google Cloud Platform

Backing up a bit, let's start with the history of GCP.

GCP first came online in 2008 with the launch of a product called App Engine. In April 2008, Google announced a preview release of App Engine, a developer tool that allowed customers to run their web applications on Google infrastructure. (For perspective, this was two years after Amazon had launched its cloud computing service, starting with the release of S3 cloud storage and EC2.)

According to Google, the goal of App Engine was to "make it easy to get started with a new web app, and then make it easy to scale when that app reaches the point where it's receiving significant traffic and has millions of users."

To source the feedback needed to make improvements to this preview release, App Engine was made available to 10,000 developers. These early-adopter developers could run apps with 500 MB of storage, 200 million megacycles of CPU per day, and 10 GB of bandwidth per day.

Today, Google Cloud Platform is one of the top public cloud vendors in the world. Google Cloud customers include Nintendo, eBay, UPS, The Home Depot, Etsy, PayPal, 20th Century Fox, and Twitter.

Google Cloud Platform infrastructure, regions, and zones

Google's global infrastructure currently has 24 locations around the world where Google Cloud Platform resources are offered.

Locations start with a region and within a region are availability zones. These zones are isolated from a single point of failure. Some resources such as the HTTP global load balancer are global and can receive requests from any of the Google edge locations and regions.

Other resources, like storage, can be regional. The storage is distributed across multiple zones within a region for redundancy.

And finally zonal resources, including compute instances, are only available in one specific zone within one specific region.

When deploying applications on GCP, you must select the locations depending on the performance, reliability, scalability, and security needs of your organization.

What are Google Cloud Platform services?

Each GCP region offers a category of services. Some services are limited to specific regions. Major services of Google Cloud Platform include:

- Computing and hosting
- Storage and database

You can view a full list of GCP products here.

GCP competition

Google has services comparable to AWS and Azure. AWS is in the clear lead with Microsoft gaining ground and Google Platform is growing. (More on this in just a second.)

Check out our other cloud platform overviews:

Curious about how various aspects of different cloud providers compare to GCP's offerings? Check out our overviews comparing serverless, NoSQL databases, IAM services, and virtual machines (VMs).

Google Cloud Platform pros and cons

GCP strengths

Google is my cloud of choice. In my experience, it feels like using LEGO to build architectures. Each service has its own use case and was designed to work with the next service and their well-defined rules of engagement.

- When it comes to strengths, Google Cloud Platform documentation is second to none. (Reading the docs is a career-changing art, by the way.) A crowd favorite is how Google incorporates the actions into GCP's documents. They're divided into an overview section, followed by a hands-on section, walking the reader through an implementation of the feature or service.

- Another strength for GCP is the global backbone network that uses advanced software-defined networking and edge-caching services to deliver fast, consistent, and scalable performance. Yes, the premium-tier global network costs a little more, but in my opinion, designing architectures using a virtual private cloud (VPC) that automatically routes traffic on a global network is worth it.

Creating a virtual private network and subnetworks is the foundation of using resources or any infrastructure within GCP. Try our hands-on lab to learn how to use Terraform to create a Terraform VPC and public subnet. Learn to create a VPC and subnet through Infrastructure as Code so you can test and launch GCP resources as necessary.

GCP weaknesses

- In addition to that, GCP has an opinionated model of how their cloud services should be used — and that's geared towards software developers.

The main takeaway is that Google is investing in GCP rather than seeking market dominance or growth. My thoughts are that Google has a hard time prioritizing GCP over the bigger revenue drivers of search, ads, and YouTube.

Google Cloud Platform use cases

Here's a few of the ideal GCP scenarios.

- If you're a large organization that needs to set a lot of permissions while working on projects, Google has an excellent organizational hierarchy that allows you to set policy at the top level and forget it. This enables departments to move fast yet remain bound to organizational constraint.

  In GCP, all resources belong to a specific GCP project. And when that project is deleted, all the resources are removed from the platform preventing left behind resources that lead to increased costs.

In addition, there's an excellent feature that allows projects to be assigned to different billing accounts over time.

- Another ideal use case for using GCP is for organizations that need the benefits of advanced Big Data, machine learning and analytics.

  Businesses can ingest the data into GCP and then data mine the key performance indicators for their products — or gather customer data to recommend additional purchase suggestions based on buying history.

Ready to learn GCP?

- Keep up with all the latest in Google Cloud Platform news with our original series GCP This Month.

- If you're new to cloud, you might start with Google's new introductory, fundamental-level Cloud Digital Leader certification.

- If you have a little tech experience, I recommend getting started with the Google Certified Associate Cloud Engineer (ACE) preparation course. It does an excellent job of introducing the main infrastructure components of the Google Cloud Platform while providing you with a solid foundation for working directly with Google cloud resources. After the Associate Cloud Engineer exam, there are many GCP certification paths to consider. If you want to test your skills, the Google Certified Professional Cloud Architect exam is one of the most challenging certifications in the industry today.

If this article has piqued your interest in Google Cloud Platform, check out our rotating lineup of free courses or get a free trial to start your journey!

What is GCP?

GCP is a public cloud vendor that offers a suite of computing services to do everything from data management to delivering web and video over the web to AI

What is the difference between Google Cloud and Google Cloud Platform?

Google Cloud includes a combination of services available over the internet that can help organizations go digital. Google Cloud Platform provides public cloud infrastructure for hosting web-based applications and is the focus of this blog post is a *part* of Google Cloud.

How did Google Cloud Platform start?

GCP first came online in 2008 with the launch of a product called App Engine: a developer tool that allowed customers to run their web applications on Google infrastructure. By late 2011, Google pulled App Engine out of preview mode and made it an official, fully supported Google product. In the decade since, Google has built and acquired more services and products to enhance the user experience of its cloud platform.

What are Google Cloud Platform services?

There are many services that GCP offers, but just to name a few: Computing and hosting, Storage and database, Networking, Big Data and Machine learning

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