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Google Cloud Pricing

Google Cloud Pricing vs AWS: A Fair Comparison?

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Google Cloud Platform (GCP) is the smallest of the big three cloud players but is quickly gaining popularity. When planning a Google Cloud migration, or considering a multi-cloud strategy, it is important to understand each cloud's service and pricing model, and how to compare pricing correctly. Because Google Cloud pricing is structured differently from Amazon in many cases, a direct comparison can be misleading.

In this cloud pricing comparison, we'll explain GCP vs. AWS pricing, where it makes sense to directly compare them and where it doesn't, and show pricing for common services side by side.

In this article, you will learn:

○ AWS vs. Google Cloud: Market Position

○ Google Cloud vs AWS Pricing: Compute Instances

   ○ On-Demand Google Cloud VMs vs. Amazon EC2 Instances

AWS vs. Google Cloud: Market Position

Gartner's 2020 Magic Quadrant for Cloud Infrastructure places Amazon Web Services as the clear leader, both in execution and completeness of vision. Google Cloud, also in the leaders quadrant, is in third place behind Microsoft Azure (see our article on Azure vs Google Cloud).

Source: Gartner

The following table summarizes Gartner's views about the relative strengths of each cloud provider, and their market share.

Provider	Gartner	Market Share
AWS	- Has the largest share of both infrastructure as a service (Iaas) and platform as a service (PaaS) segments	- AWS has 31% of the worldwide cloud market - AWS revenues were $45.3 billion in 2020, up 30% YoY

	- Strong performer in hybrid cloud and edge solutions - Strong financial health of AWS as standalone business	
Google Cloud	- Provides the most advanced hybrid cloud platform, Google Anthos - Leads in developer mindshare - Strong support for containers and Kubernetes - Low adoption among large enterprises	- Google has 7% of the global cloud market - Google Cloud Platform annual revenue was $13 billion in 2020, up 30% YoY - Growing faster than other providers in database as a service (DBaaS) and infrastructure as a service (IaaS)

Google Cloud vs AWS Pricing: Compute Instances

Let's have a look at the AWS vs. Google Cloud pricing for machine instances and object storage. Please check for the latest prices on the Google Cloud and AWS official pricing pages.

Also, for reference, check out our article about Azure vs Google Cloud.

On-Demand Google Cloud VMs vs. Amazon EC2 Instances

Below we provide a few examples of pricing for common instance sizes. AWS has a price advantage for general purpose and memory optimized instances,

while Google Cloud is cheaper for compute optimized, but take into account that Google instances provide almost half the quantity of RAM.

Instance Parameters	Google Cloud Per-Hour Price	AWS Per-Hour Price
On-Demand / Linux / General Purpose / 2 CPUs (Memory: AWS 8 GB / Google Cloud 7.5 GB)	$0.107	$0.100
On-Demand / Linux / Compute Optimized / 2 CPUs (Memory: AWS 3.75 GB / Google Cloud 1.8 GB)	$0.813	$0.100
On-Demand / Linux / Memory Optimized / 2 CPUs (Memory: AWS 15.25 GB / Google Cloud 13 GB)	$0.134	$0.133

Reserved Google Cloud VMs vs. Reserved Amazon EC2 Instances

Of AWS's four reserved instance options, only one is also offered by Google Cloud: per-month payments.

When directly comparing this option, Google Cloud offers very similar discounted pricing across most instance types. Again, the price should be offset by the fact that AWS instances offer more memory.

Another point to consider is that Google Cloud allows you to convert instance types during the commitment period, whereas AWS only offers this in a special

"Convertible Instance" tier which offers a substantially reduced discount.

See the table below to compare common instant sizes across the two clouds, for a 1-year reserved instance term.

Instance Parameters	Google Cloud Per-Hour Price	AWS Per-Hour Price
Reserved 1 Year / Linux / General Purpose / 4 CPUs (Memory: AWS 16 GB / Google Cloud 15 GB)	$0.128	$0.123
Reserved 1 Year / Linux / Compute Optimized / 4 CPUs (Memory: AWS 8 GB / Google Cloud 3.6 GB)	$0.095	$0.107
Reserved 1 Year / Linux / Memory Optimized / 4 CPUs (Memory: AWS 32 GB / Google Cloud 26 GB)	$0.159	$0.159

AWS Upfront Payment Options

AWS offers bigger discounts for upfront payments, which can make it more attractive than Google Cloud if you are prepared to pay some of all of the instance cost upfront.

See the table below to understand the additional discounts you can get on AWS for prepayment. The discounts are for General Purpose instances.

	1 Year Reserved	3 Year Reserved
Monthly Payment	38%	57%

Partial Upfront Payment	41%	60%
Full Upfront Payment	42%	62%

Google Cloud vs. AWS Pricing: Storage

Let's See how Google Cloud and AWS compare on two major cloud storage categories—elastic object storage, and block storage attached to compute instances.

Object Storage Pricing

There are two important differences between Google Cloud Storage and Amazon S3:

- Google Cloud charges for network egress and per operation performed on objects in storage, so you need to model your data access.

- Google Cloud offers instant access to all infrequent storage tiers, while Amazon's archive storage option has configurable access times that range from minutes to hours.

See our article on AWS storage tiers to gain a better understanding of Amazon's cold storage options.

Here is a flat comparison of storage prices per GB across the Amazon S3 and Google Cloud Storage:

Storage Parameters	Google Cloud Price Per GB	AWS Price Per GB
Frequent Access / First 50 TB	$0.026	$0.0230
	$0.026	$0.0220

Frequent Access / 51-500 TB		
Infrequent Access	$0.010	$0.0125
Archive Storage	$0.070	$0.0040

This table summarizes the additional costs charged by Google Cloud for network egress and data usage:

Storage Types	Network Egress Outside GCP (except Asia)	Cost Per 10,000 Class A Data Operations	Cost Per 10,000 Class B Data Operations
Standard Storage	$0.08-0.12 (depending on data volume)	$0.05	$0.004
NearLine Storage	$0.08-0.12 (depending on data volume)	$0.10	$0.01
ColdLine Storage	$0.08-0.12 (depending on data volume)	$0.10	$0.01

See Google's definition for Class A operations (heavy operations like INSERT) and Class B operations (light operation like GET).

Block Storage Pricing

Google Cloud and AWS both offer block storage—Google Cloud calls it persistent disks, and in AWS it is the Elastic Block Store (EBS) service.

There are two key differences to understand in Google Cloud vs. AWS block storage pricing:

- Google provides high availability for persistent disks within an entire region (across availability zones) or across multiple regions, whereas AWS only provides redundancy inside the same availability zone.

- AWS charges extra for "provisioned IOPS", a type of credit bank that allows EBS instances to burst above the regular throughput rates. Google does not have an IOPS limit and does not charge for extra IOPS.

Block Storage Volume Type	Google Cloud Price Per GB	AWS Price Per GB
Local standard volume	$0.040	$0.045
SSD volume	$0.170 (unlimited IOPS)	$0.1 (additional cost for provisioned IOPS)
Regional standard volume	$0.080	N/A
Regional SSD volume	$0.340	N/A
Snapshot storage	$0.026	$0.05
Multi-regional snapshot storage	$0.026 in each multi-region	N/A

Additional Resources for Comparing Prices

Check out the calculators offered by AWS and Google to get deeper insights into your expected cloud costs for specific configurations.

Resource	Google Cloud	AWS
Pricing Calculator	Official Pricing Calculator	Official Pricing Calculator
Total Cost of Ownership Calculator	No official TCO calculator available	Official TCO Calculator

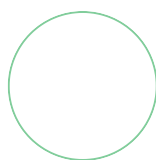| Storage Costs Calculator	NetApp GC Storage TCO Calculator	NetApp AWS Storage TCO Calculator—compare S3, EBS, EFS

Google Cloud and AWS Cost Optimization with Cloud Volumes ONTAP

NetApp Cloud Volumes ONTAP, the leading enterprise-grade storage management solution, delivers secure, proven storage management services on AWS, Azure and Google Cloud. Cloud Volumes ONTAP supports up to a capacity of 368TB, and supports various use cases such as file services, databases, DevOps or any other enterprise workload.

In particular, Cloud Volumes ONTAP provides storage efficiencies, including thin provisioning, data compression, and deduplication, reducing the storage footprint and costs by up to 70%, on both Google Cloud and AWS.

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