insuretech concept

The Infrastructure Part - Ivandjoh

The Infrastructure

For this purpose, we would have 2 IaaS providers, they are :

- **Amazon Elastic Compute Cloud (EC2)** forms a central part of Amazon's cloud-computing platform, **Amazon Web Services (AWS),** which supports both Amazon's retail services and cloud services.

- **Google Compute Engine** is the IaaS component of Google Cloud Platform which is built on the global infrastructure that runs Google's search engine, Gmail, YouTube and other services.

- Digital Ocean - Build web apps faster with industry leading price-performance and predictable costs on DigitalOcean - the simplest cloud platform for developers and teams. (Alternate Cloud Provider)

AWS Vs Google Cloud – Establishment

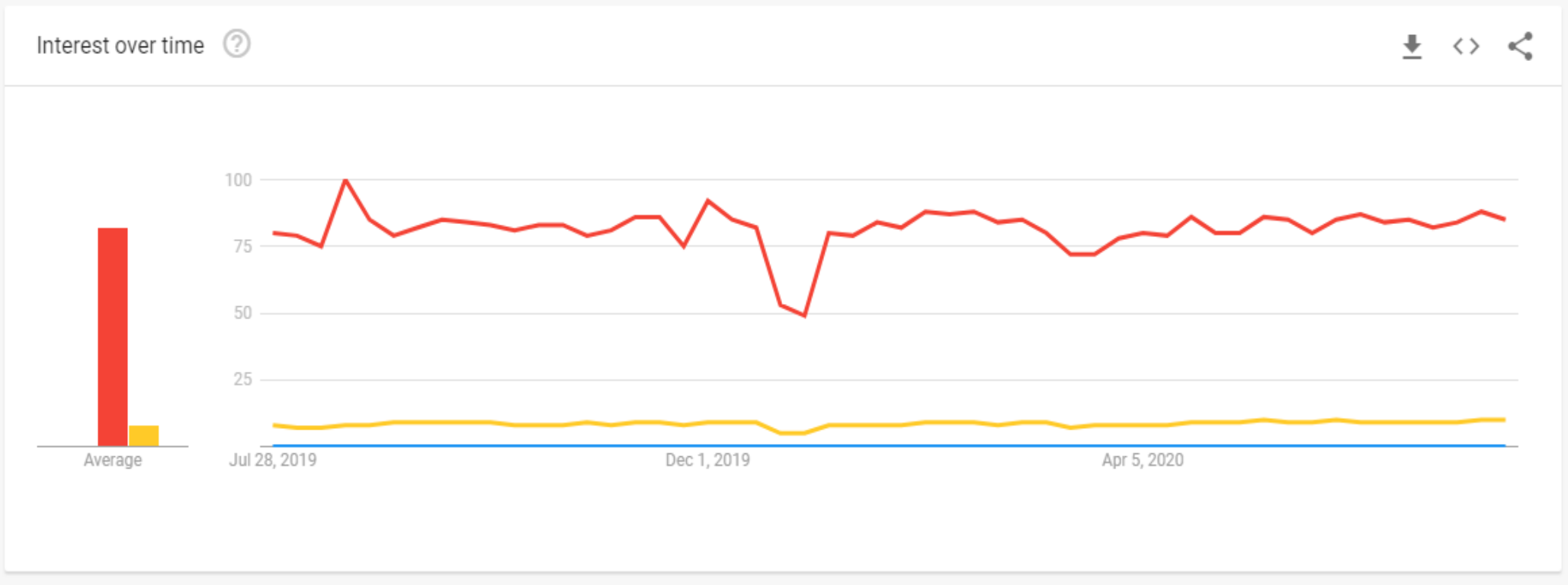
Establishment

Amazon Web Services is a subsidiary of Amazon, which provides an on-demand Cloud Computing platform to individuals, companies, and governments on a paid subscription basis.

Establishment

Google Cloud Platform (GCP), which is offered by Google, is a suite of Cloud Computing services that runs on the same infrastructure that Google uses internally for its end user products such as Google Search engine, YouTube, and more.

AWS Vs Google Cloud – Trends



Source : https://trends.google.com/trends/explore?date=today%205-y&q=%2Fm%2F0hgmp6j,aws,gcp

AWS Vs Google Cloud – Trends

Compared breakdown by region

Region

Cloud-computing comparison aws gcp

Color intensity represents percentage of searches LEARN MORE

Sort: Interest for Cloud-computing comparison

51	Indonesia	
52	Russia	
53	Turkey	

Include low search volume regions

Showing 51-53 of 53 regions

Source : https://trends.google.com/trends/explore?date=today%205-y&q=%2Fm%2F0hgmp6j,aws,gcp

AWS Vs Google Cloud – Trends

Compared breakdown by region

Region

Cloud-computing comparison aws gcp

Color intensity represents percentage of searches LEARN MORE

Sort: Interest for Cloud-computing comparison

1	China	
2	Singapore	
3	Ireland	
4	South Korea	
5	St. Helena	

Include low search volume regions

Showing 1-5 of 54 regions

amazon web services

Google Cloud Platform

Source : https://trends.google.com/trends/explore?date=today%205-y&q=%2Fm%2F0hgmp6j,aws,gcp

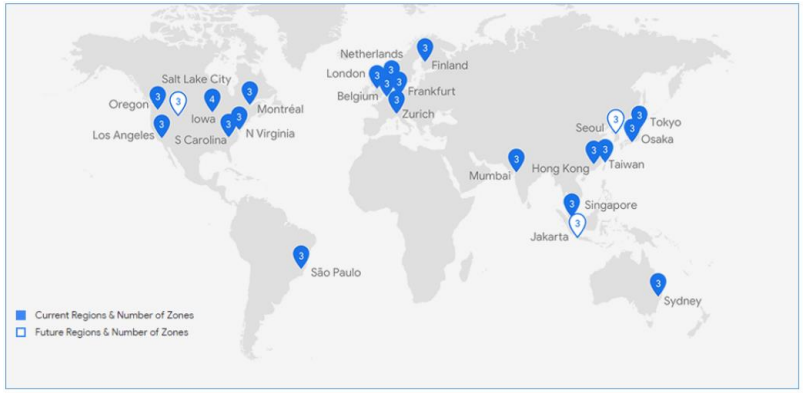
AWS Vs Google Cloud – Availability Zones

Availability Zones

AWS has 66 availability zones with 12 more on the way.

Availability Zones

Google Cloud Platform has been made available in 20 regions all around the world with 3 more on their way, and it has 61 zones worldwide.



AWS Vs Google Cloud – Pricing Models

Here's a comparison between the pricing models of AWS and GCP on the basis of the machine type that they offer.

Machine Type	amazon web services	Google Cloud Platform
Smallest Instance	In the case of AWS, a very basic instance that includes two virtual CPUs and 8 GB of RAM will cost you around US$69 per month.	Compared to AWS, GCP will provide you the most basic instance, containing two virtual CPUs and 8 GB of RAM, at a 25 percent cheaper rate. So, it will cost you around US$52/month.
Largest Instance	The largest instance offered by AWS that includes 3.84 TB of RAM and 128 vCPUs will cost you around US$3.97/hour.	GCP takes the lead here with its largest instance that includes 3.75 TB of RAM and 160 vCPUs. It will cost you around US$5.32/hour.

AWS Vs Google Cloud – Pros and Cons

PROS

- Scalability. There is basically no limitation in expanding system resources when using AWS. The advantage of this is that we can increase resources for business systems and projects at a click of a button.
- Easy to use even for beginners, Free tier for 1 year with access to most offerings, Pay only what you use model, Helpful & quick real-time support, Highly reliable and fault tolerant.
- AWS allows us to scale up (or down) depending on our busy season. Our software has fairly predictable "busy" seasons, so this allows us to properly spend on infrastructure based on needs.

CONS

- Support Costs. AWS has various support options which includes Developer, Business and Enterprise support. Depending on the business requirement, the support costs can increase significantly since the basic support option may not meet the requirement of certain businesses.
- For larger scale applications using AWS becomes expensive, better to go for on-premise servers.
- Understanding the AWS bill is very confusing. Sometimes it is nearly impossible to track what charges are for which particular service is using which feature.

AWS Vs Google Cloud – Pros and Cons

PROS

- Storage is fast with uncapped bandwidth with strongly consistent listings. BigQuery, BigTable and lots of other services have "no-ops" so there's no overhead other than getting your work done. Support is also flat rate and not a ripoff percentage.
- Networking is 2gbps/core upto 16gbps/instance with low latency, high throughput, and solid consistency regardless of zone and doesn't need placement groups. VPCs are globally connected across all regions and can be peered and shared easily across projects so that they're maintained in one place across multiple teams. Fast global load balancing with a single IP across many protocols and immediate scaling.

CONS

- Poor documentation and broken SDKs. Many products seem to be in beta stage for years, which means no SLA guarantees. Pace of development and new features is also behind AWS and Azure.
- General lack of managed services, and limited and outdated versions for what they do offer. Currently only has Postgresql and MySQL which are both outdated and severely locked down with less extensions and options open than anywhere else.

Digital Ocean – Pros and Cons

PROS

- Ease of use - You can get set up with a new server in a matter of minutes. It doesn't get any easier than that.
- Pricing - We're only paying $10/mo for a solution that gives our customers more confidence in us and is a selling point for us.
- Technical issues that we have encountered, or problems with setting up website related services have been very quickly and professionally dealt with.
- Super scalable - As long as you're not changing a disk/SSD size, all the components of a cloud instance are editable, and seamlessly integrate with other DigitalOcean products like their DNS records manager, load balancers, and floating IPs.

CONS

- Limited products - DigitalOcean only recently introduced their Kubernetes product, which was offered by cloud computing competitors a long time before.
- As they are growing the quality has downgraded a little, integrations with some apps (in my case Laravel Forge) had suffered because of this; hopefully they will get their act straight.
- Enabling backups on exisiting droplets was a bit of a pain, but they fixed that.
- Their feature set is more focused than other providers like AWS, GCE, or Azure.

AWS Vs Google Cloud – Conclusion

After we described and saw all of those comparison between two Giant Cloud Providers, for my personal Opinion and Suggestion I will choose GCP instead AWS.

Here are several reason from my side :

- Google Cloud offers $300 credit for 12 months to use on any service and always free services. If we are not using service over the free limit you don't have to pay after 12 months – they always free.
- For instance, one f1-micro VM instance per month is always free if it's in a qualified US region. Compared to AWS and Azure it's a marginally better deal. Marginally because free limits in Google cloud are still pretty low.
- On the surface, Google offers best packages overall for new startups. They have 3 options which give $3K, $20K and $100K credits for 1 year in Start, Spark and Surge packages correspondingly.
  (https://cloud.google.com/developers/startups/)

AWS Vs Google Cloud – Conclusion

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Linux VMs

CPU	RAM	AWS	Azure	Google
2	8GB	$70.28	$70.08	$24.27
4	16GB	$140.55	$140.16	$97.09
8	32GB	$281.09	$280.32	$194.18

https://alisher.io/aws-vs-azure-vs-google-cloud-which-is-better-for-startup/#:~:text=If%20your%20startup%20is%20referred,go%20with%20the%20provider%20offering.&text=If%20the%20startup%20is%20in,is%20still%20the%20best%20option.