Google Cloud

aws

Microsoft Azure

Cloud Ace

July 2023 ver.

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Overview of 3 major cloud services

Cloud Ace

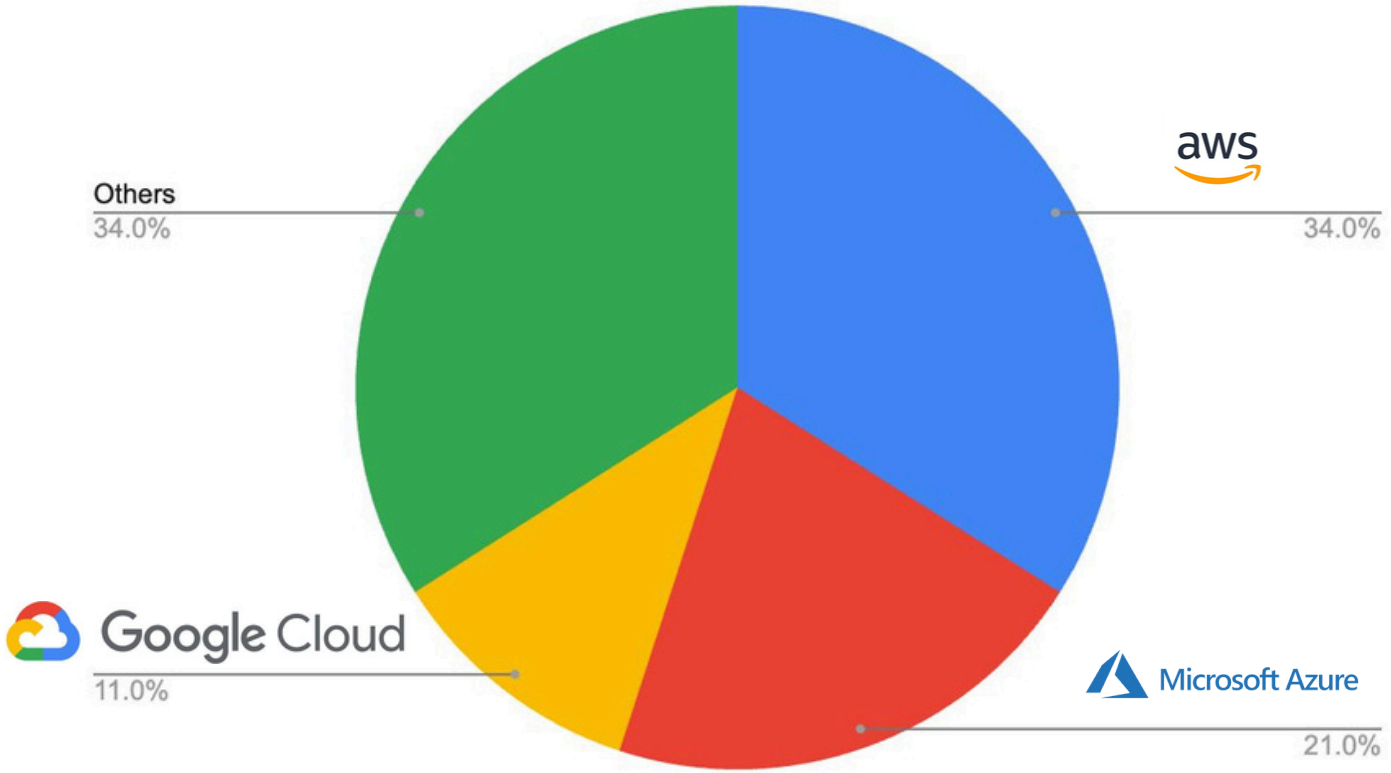
Google Cloud	aws	Microsoft Azure
A cloud computing platform provided by Google. It is characterized by scalability, high performance, robust security, and rich data analysis capabilities, and is used in a variety of applications such as web applications, data processing, artificial intelligence, and machine learning.	A cloud computing platform provided by Amazon.com. It provides a wide range of services, high scalability, reliability, and security, and is used by many companies and startups. No.1 global share.	A cloud computing platform provided by Microsoft. It is highly integrated with Microsoft products and services, supports hybrid cloud environments, and is used by many companies. Easy to integrate with Windows/Office, etc.
• Highly scalable data processing and advanced machine learning services • Global infrastructure • Innovation and openness	• Deep functionality with hundreds of services and a wide range of applications • Large customer base and rich experience • Ease of building and operating a hybrid cloud environment	• A wide range of AI and machine learning services in areas such as image recognition, audio processing and natural language processing. • High interoperability with Microsoft environments • Enterprise features to meet the needs of large organizations

Overview of 3 major cloud services

Cloud Ace

	Google Cloud	aws	Microsoft Azure
Number of products	165+	205+	265+
Number of Regions	39 plus 10 more by end of 2024	36	60
Domestic Region	N/A, closest is Singapore, Taiwan, Tokyo	N/A, closest is Singapore, Mumbai, Tokyo	N/A, closest is Singapore, Hong Kong, Japan
Compatible countries/regions	200+	245	140
Charging	per second billing	per second billing	per minute

Market share



Companies using cloud services

Cloud Ace

Google Cloud	aws	Microsoft Azure
Globe kumu tonik St. Luke's Medical Center We love life.	UnionBank KFC Globe RareJob	PLDT ATRAM SECURITY BANK Coca-Cola Beverages Philippines, Inc.
Case study ~~link~~	Case study ~~link~~	Case study ~~link~~

IaaS product comparison

Cloud Ace

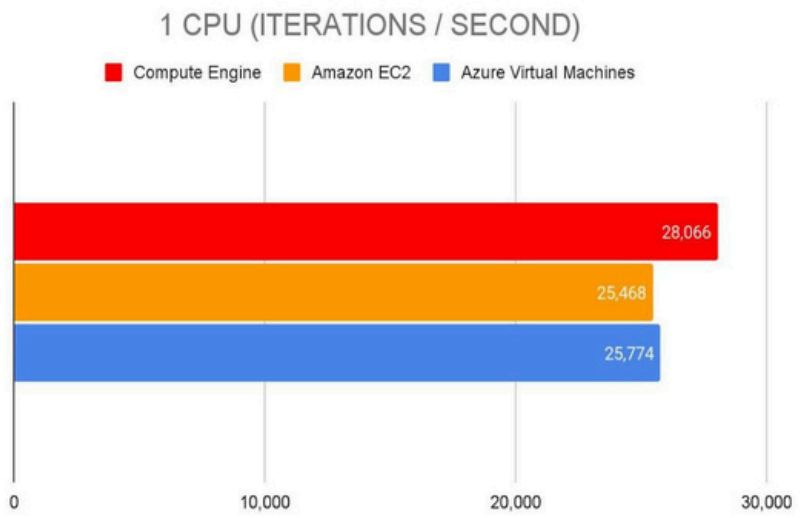
	Google Cloud	aws	Microsoft Azure
Cost*	$58.296/month	$59.692/month	$58.704/month
OS	Linux, Windows	Linux, Windows, Mac OS	Linux, Windows
CPU and RAM	vCPU: up to 416 RAM: up to 11.75 TB Select a set of prepared vCPU/RAM or customize as needed	vCPU: up to 448 RAM: up to 24 TB Select a set of prepared vCPU/RAM	vCPU: up to 416 RAM: up to 12 TB Select a set of prepared vCPU/RAM
Fault Tolerance	● Automatic restart ● Live migration function (A running instance without rebooting migrate the host to another host in the same zone possible) etc.	● Instance automation in case of failure recovery etc.	● Automatic shutdown ● Live migration function (A running instance without rebooting migrate the host to another host in the same zone possible) etc.

*All prices are calculated based on Tokyo region, Linux OS, 4 vCPUs, 16GB RAM, 100GB SSD

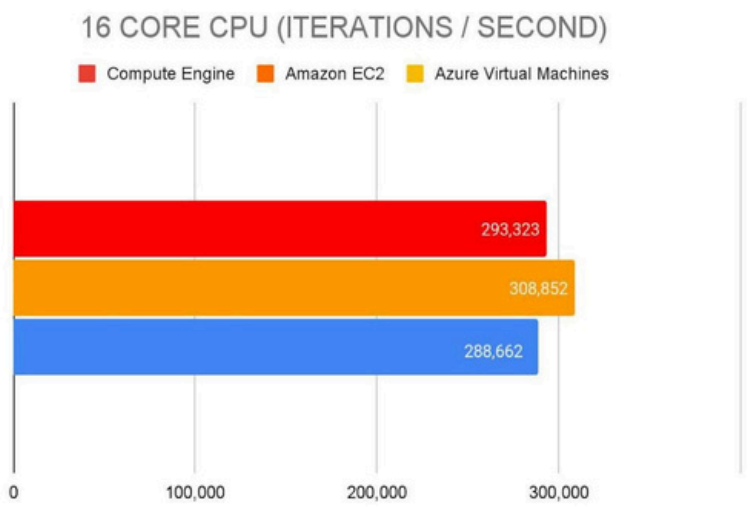
IaaS product comparison

Cloud Ace

Single core testing



Multi core testing



Google Cloud achieves highest score, 10% higher than AWS and Azure optimized machines

*Google Cloud: Intel Cascade Lake, c2-standard-16
AWS: Intel Cascade Lake, m5d.4xlarge
Azure: Intel Cascade Lake or Skylake, Standard_E16ds_v4

*Google Cloud: AMD EPYC 7002, n2d-highcpu-16 AWS: Graviton2, m6g.4xlarge
Azure: AMD EPYC 7452, Standard_D16as_v4

*Source: Cockroach Labs, 2021 Cloud Report

PaaS product comparison

Cloud Ace

	Google App Engine	aws Elastic Beanstalk	Azure App Service
Strength	Strengths Simple scalability, high availability, automatic performance tuning, ease of deployment, scalable storage	Easy application deployment, automatic scaling, monitoring, support for operations management etc	Easy deployment, scalability, high availability, backup and restore capabilities, integrated monitoring, etc.
Weakness	Limited flexibility, which may make certain customizations difficult	Limited infrastructure flexibility may make it difficult to accommodate specific requirements	Some advanced customization and control may be difficult
Recommended Users	Startups, individual developers, small businesses Users who want to build scalable applications in a short period of time, such as for business purposes.	Developers and small to medium- sized businesses Enterprises seeking scalability and high availability	Developers and small to medium-sized businesses Enterprises seeking scalability and high availability

PaaS product comparison

Cloud Ace

	Google App Engine	aws Elastic Beanstalk	Azure App Service
Supported Language	Python, Java, Node.js, Go, Ruby, PHP, .NET	Python, Java, Node.js, Go, Ruby, PHP, .NET	Python, Java, Node.js, Ruby, PHP, .NET, .NET Core
Storage Option	Cloud Storage, Datastore, Cloud SQL, Firestore	S3, RDS, DynamoDB	Blob Storage, SQL Database, Table Storage
User Authentication	Firebase, Cloud Identity, OAuth 2.0, Open ID	AWS Cognito, Microsoft AD, Open ID, Social ID's Providers	Azure Active Directory, Open ID, Social ID's Providers
Auto Scaling	Y	Y	Y
Monitoring	Y	Y	Y
Load Balancing	Y	Y	Y
Blue Green Deployment	Y	Y	Y

Storage product comparison

Cloud Ace

Strength	Easy to integrate with other Google Cloud services and can be used for processing such as data analysis and machine learning	Can be widely used for data processing and analysis. You can choose the most suitable storage class depending on the frequency of data usage.	Easy to use for data processing, analysis, machine learning, etc. You can choose the storage type that best suits your needs.
Weakness	Initial settings and configuration management may be a little more complicated than other services	Complicated fee structure. Requires understanding of initial settings and security configuration	Fee structure and fee calculation are somewhat complicated. There are also reports of performance degradation in some regions.
Recommended Users	Businesses and developers already using Google Cloud, and users focused on data analysis and machine learning.	Businesses using AWS and users who need large amounts of storage, backup, or web application hosting.	Businesses and developers using Microsoft Azure who need to store large amounts of unstructured data, back up data, or host web applications.

Storage comparison

		Google Cloud Storage	amazon S3	Microsoft Azure Blob Storage
Fee *1 (TB/month)	Standard *2	$23	First 50 TB: $25 Next 450 TB: $24 500 TB or more: $23	First 50 TB: $20 Next 450 TB: $19.2 500 TB or more: $18.4
	Cold line *3	Storage: $6 Data retrieval: $20	Storage: $13.8 Data retrieval: $10	Storage: $4.5 Data retrieval: $30
	Archive *4	Storage: $2.5 Data retrieval: $50	Storage: $2 Data retrieval: $22	Storage: $2 Data retrieval: $22
Short term storage minimum billing time		1 second	1 day	1 day
Long term storage removal time		within 1 second	within 12 hours	within 15 hours
Companies		Spotify, Snapchat, The Home Depot	Dropbox, slack, Pinterest	Adobe, Daimler, DocuSign

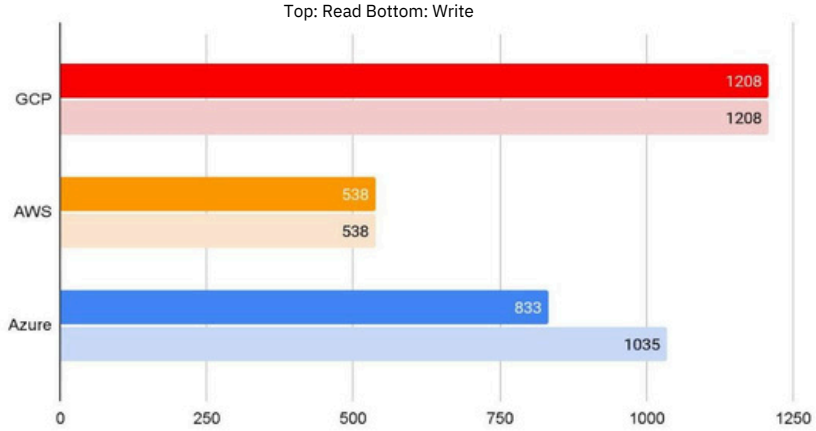
*1: Tokyo region
*2: Storage used for frequently accessed data or data stored for a short period of time
*3: Storage used to store data that is accessed infrequently.
*4: Storage used for data archives, online backups, and disaster recovery

Cloud Ace

Storage benchmark test

Maximum data transfer amount per second

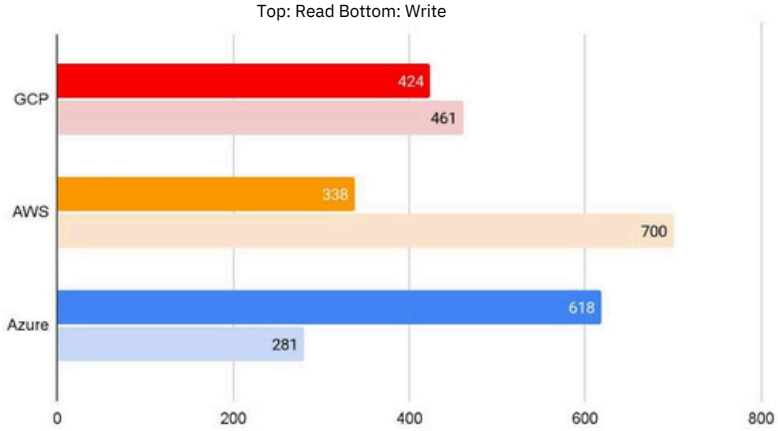
Google Cloud is cheaper and has higher read and write storage I/O throughput than Azure or AWS.



*GCP: n2-standard-16 pd-sdd
AWS: m6g.4xlarge ebs-io2
Azure: Standard_L16s_v2 ultra-disk

Read/write latency

Storage I/O read and write latencies are different for each cloud.



*GCP: n2-highmem-16 (pd-ssd)
AWS: x1e.4xlarge (ebs-io2)
Azure: standard-m16s (ultra-disk)

*Source: Cockroach Labs, 2021 Cloud Report

Big Data comparison

Cloud Ace

	Google Big Query	amazon REDSHIFT	Azure Synapse Analytics
Strength	Easily analyze large datasets with high query performance and seamless integration.	Seamless integration with AWS. It also features high query performance and flexible scaling.	Flexible scaling and performance, and integration with the Azure ecosystem. Easily integrates with real-time data processing and machine learning.
Weakness	The pricing structure is somewhat complex, with fees incurred for each data storage and query execution.	Requires specialized knowledge for data loading and cluster management, and some operations are restricted.	Complex fee structures, settings, and management may be required. Some advanced functions may require specialized knowledge.
Recommended Users	Data-driven businesses, organizations that require big data analytics, and users using GCP.	Enterprises and organizations that rely on AWS and require big data processing and analysis.	Enterprises using Azure, organizations that require big data analytics and real-time processing.

Big Data comparison

		Google Big Query	amazon REDSHIFT	Azure Synapse Analytics
Fee *1 (TB/month)	Storage	$23	$26.1	$23.55
	Quer y	$6	$5.5	$6
	Data transfer *2	from $10	$20	25/DIU time*3
Management		Completely serverless Provision is automatic	Options for serverless o dedicated is available	Options for serverless o dedicated is available
Scale		Auto scaling	Serverless: Auto Dedicated: Manual	Serverless: Auto Dedicated: Manual
AI/ML		Machine learning and prediction with BigQuery ML Measurement modeling possible	Integration with other products Data conversion required	Integration with other products Data conversion required
Companies				

*1: Tokyo or Osaka region
*2: Transfer to a different region
*3: Abbreviation for data integration unit. A measure of the power of a single unit (a combination of CPU, memory, and network resource allocation)

Cloud Ace

Database comparison

Cloud Ace

	Google Cloud		amazon web services		
	Google Cloud SQL	AlloyDB	amazon RDS	Amazon Aurora	Microsoft Azure SQL Server Database
Strength	It is a managed service, which can reduce the operational burden. Easy scaling and performance tuning Can also be integrated with the GCP ecosystem	High security level and industry-specific extensions	Integration with the AWS ecosystem, reduced operational load, and simplified management tasks such as automatic backups.	Tight integration with AWS infrastructure maximizes performance and availability.	Integration with Azure ecosystem, automatic scaling and high availability. Since it is a managed service, the burden of operational management can be reduced.
Weakness	The choice of database engines is limited, and there are restrictions when using other database engines. High traffic and large-scale data processing may incur additional costs.	The choice of database engines is limited, and there are restrictions when using other database engines. High traffic and large-scale data processing may incur additional costs.	Performance may be somewhat limited compared to other options. It has limited management features and customization options that may not meet your specific needs.	Can be somewhat complex to deploy and manage compared to other database engines. Some functionality and SQL syntax may be limited due to database engine compatibility.	Advanced features and configurations that may be difficult for first-time users. Management and tuning require specialized knowledge. It is a commercial product and licensing costs are high compared to other open source databases.
Recommended Users	Companies and developers using Google Cloud, companies using MySQL and PostgreSQL	Applications for defense, aerospace, automotive, finance, and other industries	Companies and developers deploying applications on AWS	Large applications and high traffic environments	Existing SQL Server users, companies using Azure, and companies wanting to use managed services

Database comparison

Cloud Ace

	Google Cloud		amazon web services		
	Google Cloud SQL	AlloyDB	amazon RDS	Amazon Aurora	Microsoft Azure SQL Server Database
Fee *1	$271.79 *2	$303.78 *3	$385.91 *4	$259 *5	$402.46 *6
Processing power	10-100 milliseconds	The transaction is 4x more than standard PostgreSQL, For analytical queries, standard PostgreSQL up to 100x degree	10-200 milliseconds	Standard PostgreSQL 3x performance. Latency is typically in the millisecond range	10-100 milliseconds
Integration	Can be linked with App Engine, Kubernetes Engine etc.	Can be lined with MySQL, PostgreSQL etc.	Can be linked with EC2, Lambda	Can be linked with Lambda, Redshift etc.	Can be linked with Functions, Logic Apps etc.
AI/ML	Designed for storage of machine learning apps		Need to migrate to Data Warehouse		Need to migrate to Data Warehouse
Companies	Snapchat	PLAID B4A	airbnb	SAMSUNG Nintendo	FedEx Adobe

*1: Calculated based on Tokyo region, Total hours per month: 730.0
*2: Number of instances: 2, instance type: db-standard-2, SSD Storage: 30.0 GB, Backup: 10.0 GB
*3: Primary instance: CPU: 2 - RAM: 16 GB, Regional cluster storage: 30 GB, Backup storage: 10 GB
*4: Number of instances: 2, instance type: db.m3.large, SSD Storage: 30.0 GB, Backup: 10.0 GB
*5: vCPU: 2, Memory: 16 GiB, Storage amount: 30 GB, Backup storage: 10 GB
*6: Number of instances: 2, instance type: Standard series (Gen5), SSD Storage: 30.0 GB, Backup: 10.0 GB

AI/Machine Learning comparison

Cloud Ace

	Google Cloud AutoML Vision	Amazon SageMaker	Azure Machine Learning
Strength	Provides an easy-to-use interface for business users and developers with limited machine learning expertise. Leverage Google's powerful resources to achieve highly scalable model training.	Automatically selects features, optimizes hyperparameters, evaluates models, etc., allowing for rapid model construction and deployment.	Able to automatically try combinations of multiple algorithms and hyperparameters to find the optimal model. Easy integration and high scalability with Azure cloud infrastructure.
Weakness	Some limited customizability and limited flexibility to meet specific needs.	Limited customizability and may be difficult to optimize and tune for specific use cases.	Can take a long time to compute for large datasets and complex models. Not highly customizable.
Recommended Users	Companies using Google Cloud can quickly create and train machine learning models.	Developers with limited machine learning knowledge. Recommended for companies looking to create models quickly and effectively	Users who want to develop models quickly or those with limited machine learning expertise

AI/Machine Learning comparison

Cloud Ace

	Google Cloud AutoML Vision	Amazon SageMaker	Azure Machine Learning
Fee	Y	Y	Y
Automatic Model creation	Y	-	Y
Model Optimization and selection	Y	-	Y
Data preprocessing and Feature engineering	Y	-	Y
Hyperparameter automatic adjustment	Y	-	Y
Selection of different algorithms	-	-	Y
Image data processing and selection	Y	-	-
Text data processing analysis	Y	-	-
Structured data processing analysis	Y	-	-
Model evaluation/deployment	Y	Y	Y
Supported data types	image data, text data	structured data	structured data

Enterprise Support

Google Cloud

Cloud Ace

	Standard	Enhanced	Premium
Overview	Recommended for workloads under development, kickstart your cloud journey with unlimited access to tech support. Troubleshoot, test, and explore.	Designed for workloads in production, with fast response times and additional services to optimize your experience with high-quality, robust support.	Designed for enterprises with critical workloads, with the fastest response time, Customer Aware Support, and a named Technical Account Manager.
Fee	$29/month + 3% of monthly charges	$500/month +3% of monthly charges	$12.5K/month +4% of monthly charges
Service Time	Support during business hours for events that have a major impact (Saturdays and Sundays off)	24/7 response for high- and critical-impact issues	24/7 response for high- and critical-impact issues
Language	English	English, Japanese, Mandarin Chinese, and Korean	English, Japanese, Mandarin Chinese, and Korean
Response Time	P2 cases: 4 hours P3 cases: 8 hours P4 cases: 8 hours	P1 cases: 1 hour P2 cases: 4 hours P3 cases: 8 hours P4 cases: 8 hours	P1 cases: 15 minutes P2 cases: 2 hours P3 cases: 4 hours P4 cases: 8 hours

https://cloud.google.com/support?hl=en

Enterprise Support

	Developer	Business	Enterprise On Ramp	Enterprise
Overview	Recommended for people who want to try out various AWS services or who want to test them.	Recommended for people with production workloads on AWS	Recommended for people who have production or business-critical workloads on AWS	Recommended for those who have business or mission-critical workloads on AWS
Fee	$29/month	$100/month	$5,500/month	$15,000/month
Architecture Guidance	General	Responding to individual cases	Application-based consulting assessment and guidance (once per year)	Application-based consulting assessment and guidance
Response Time	General guidance < 24 hours System failure < 12 hours	General guidance < 24 hours System failure < 12 hours Production system failure < 4 hours Production system down < 1 hour	General guidance < 24 hours System failure < 12 hours Production system failure < 4 hours Production system down < 1 hour Severe system down < 30 minutes	General guidance < 24 hours System failure < 12 hours Production system failure < 4 hours Severe system down < 15 minutes

https://aws.amazon.com/premiumsupport/plans/

Enterprise Support

Microsoft Azure

Cloud Ace

	Basic	Developer	Standard	Professional
Overview	Included for all Azure customers	Trial and non-production environments	Production workload environments	Business-critical dependence
Fee	Included for all Azure customers	$29/month	$100/month	$1,000/month
Service Time	N/A	Available only by email during business hours	24 hours after submitting a support request By email and phone 24/7 support	24/7 email and phone support after submitting a support request.
Architecture Support	N/A	General Guidance	General Guidance	Guidance from a pool of ProDirect delivery managers
Response Time		When there is a minor impact on business: within 8 business hours	When there is a minor impact on business: Within 8 business hours When partial impact occurs: within 4 hours When major impacts occur: Within one hour	When there is a minor impact on business: within 5 business hours When partial impact occurs: within 2 hours When major impacts occur: Within one hour

https://azure.microsoft.com/en-us/support/plans/

Free tier comparison

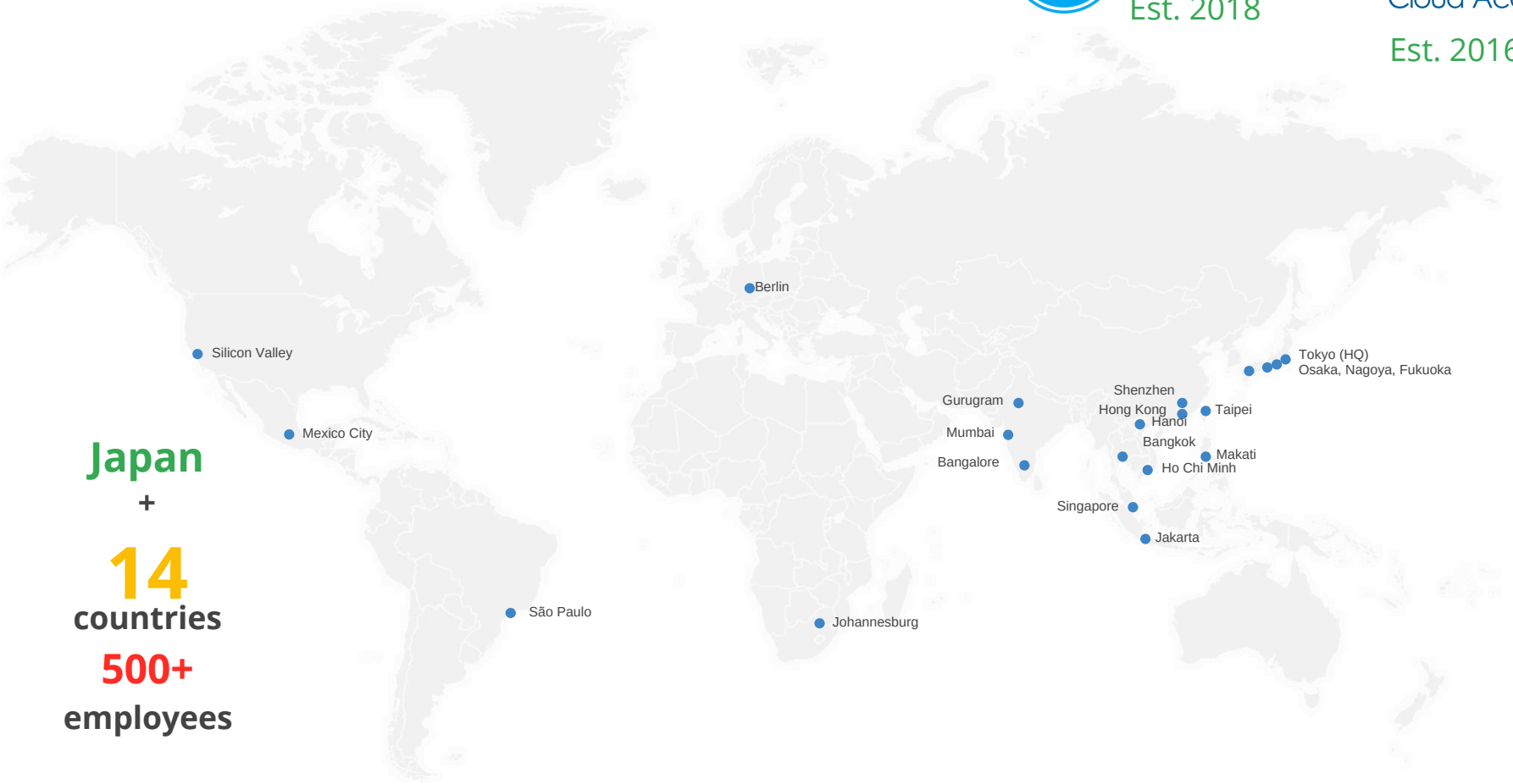
Cloud Ace

	Google Cloud	aws	Microsoft Azure
IaaS	**Compute Engine**: e2-micro VM instances/month, 30 GB/ month standard persistent disk, 5 GB/month snapshot storage	**Amazon EC2**: 750 hours/month of t2.micro or t3.micro instances	**Virtual Machines** : B1s burstable VMs of 750 hours/month for 12 months
PaaS	**App Engine**: 28 hours of F instances/day, 9 hours of F instances/day B instances/day, egress 1 GB/day Cloud Run: 2 million requests/month, 360,000 GB seconds of memory, 180,000 vCPU seconds of compute time, 1 GB of North American egress network		**Azure App Services**: 10 web, mobile, or API apps, 1 GB storage (1 hour per day)
Storage	**Cloud Storage**: 5 GB/month Regional Storage, 5,000 Class A operations/month, 50,000 Class B operations/month	**Amazon S3**: 5 GB/month standard storage	**Azure Blob Storage**: 5 GB locally redundant storage, 20,000 read and 10,000 write operations for 12 months
Big Data	**BigQuery**: 1 TB queries/month 10 GB storage/month	**Amazon Redshift**: 750 hours/month for 2 months DC2.Large node time	
Database	**Cloud Spanner**: 10 GB storage for 90 days	**Amazon RDS**: 750 hours/month	**SQL Database**: 250 GB S0 instance and 10 transaction units for 12 months
AI/ML	**AutoML Vision**: 40 node-hours training and online prediction, 1 node-hour batch classification prediction	**SageMaker**: 250 hours/month of ml.t3.medium in Studio Notebook	**Automated Machine Learning**: Develop and run R and Python models on any platform
Source	https://cloud.google.com/free?hl=en	https://aws.amazon.com/free	https://azure.microsoft.com/en-us/pricing/free-services

Cloud Ace Inc.

YOSHIDUMI HOLDINGS
Est. 2018

Cloud Ace
Est. 2016



Japan

+

14

countries

500+

employees

Awards Won

This awards recognized our outstanding innovation, collaboration, and dedication to customer success in APAC

Google Cloud
PHILIPPINES
Partner of the Year
Sales & Services
2024

Google Cloud
SEA
Partner of the Year
Sales
2024

Google Cloud
JAPAN
Partner of the Year
Services
2024

Google Cloud
ASIA-PACIFIC
Partner of the Year
Sales
2023

Google Cloud
JAPAN
Partner of the Year
Sales
2023

Google Cloud
JAPAN
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Expansion
2023

Google Cloud
JAPAN
Partner of the Year
Training
2023

Google Cloud
SERVICES
Partner of the Year
Japan
2019

Cloud Ace

Google Cloud Partner Billing

For companies, using Google Cloud (GCP) and/or Google Workspace (GWS) formerly known as GSuite, through a partner like Cloud Ace will have the following benefits! *Compared to applying and using Google (direct contract), there are advantages but no disadvantages. Google also recommends partner agreements!

1. Get invoice and official receipts for your GCP/GWS payments
2. Get discounts on your GCP and GWS usage fees
3. Training and Technical Support

Get more details on how we can help with your requirements, visit our website www.cloud-ace.sg or contact us at sg-sales@cloud-ace.com