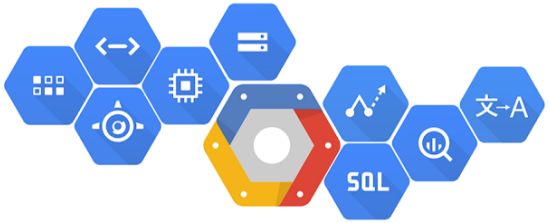
Google CLOUD PLATFORM

presentation by Joe Cosenza

What is it?



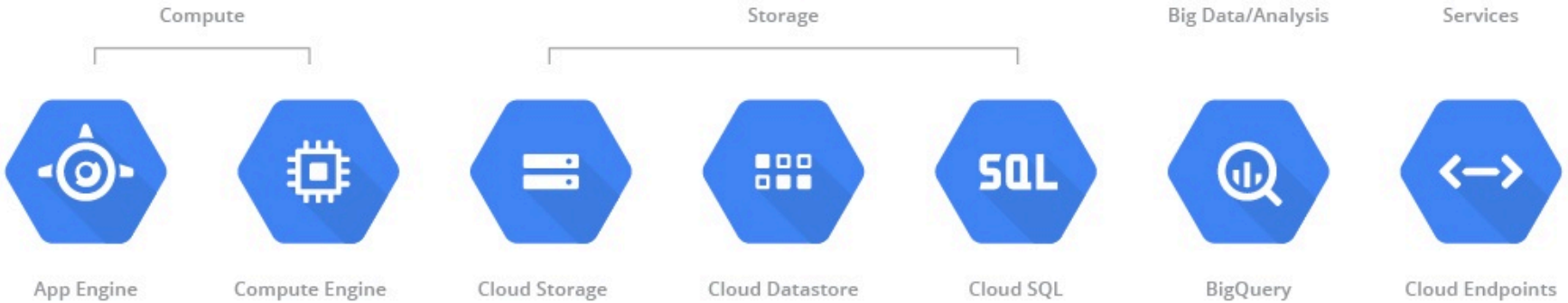
- The Google Cloud Platform is a series of products and services maintained by the user and run on Google's servers.

- *"Build on the same infrastructure that allows Google to return billions of search results in milliseconds, serve 6 billion hours of YouTube video per month and provide storage for 425 million Gmail users"*

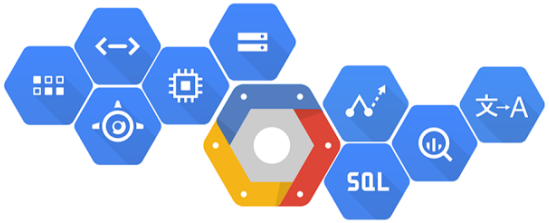
https://cloud.google.com/why-google/

Product Overview

- Computational
- Storage
- Networking
- Big Data
- Management
- Application Services
- Management
- Development Tools

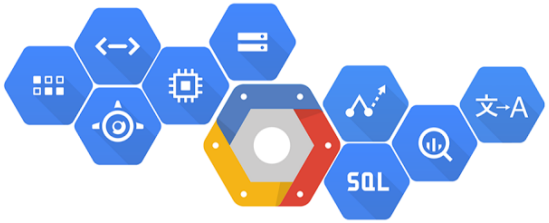


Computing Services



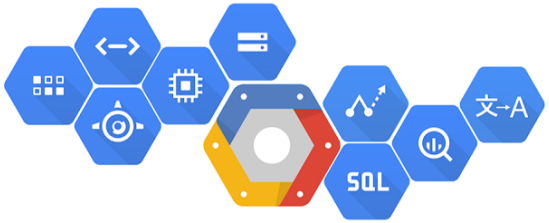
- Computational Engine
  - The computational engine is the use of Google's infrastructure-as-a-Service (IaaS) for running large scale workloads through a virtual machine.
- Application Engine
  - The application engine is the use of Google's Platform-as-a-Service (Paas) which is the use of Google's built in services through an SDK download.
- Container Engine
  - Google's container engine runs Docker containers on the Google Cloud Platform. The container maintains the virtual machine cluster, scales your application and records operational logistics such as logging, monitoring, and health management.

Storage Services



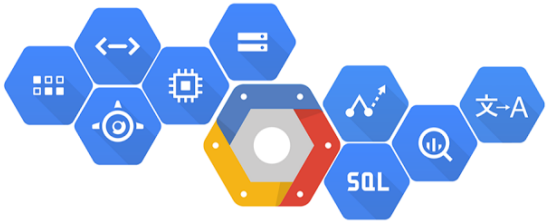
- Cloud Datastore
  - Provides managed NoSQL, schemaless database for non-relational data. Supports SQL-like queries
  - Automatically scales size as needed.
- Cloud SQL
  - A managed relational MySQL database. Replication and patch management is managed by Google.
- Cloud Storage
  - An object storage service. Google manages versioning, and an SLA that provides a simple API to manage data.

Networking Services



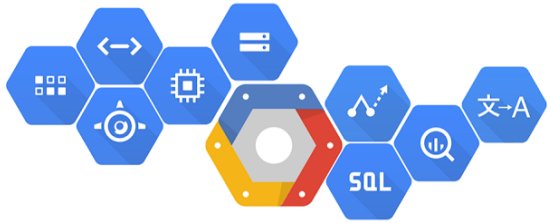
- Load Balancing
  - Traffic balancing between Compute Engine instances
  - Supports HTTP or network TCP/UDP
- Interconnect
  - Connects user's network to the Google Cloud Platform services through different methods such as VPN or ISP.
- Cloud DNS
  - Low-latency DNS serving from Google's Anycast DNS servers.
  - Maintain DNS records with Google's command line tool.
  - Includes a RESTful API to customize the service.

Big Data Services



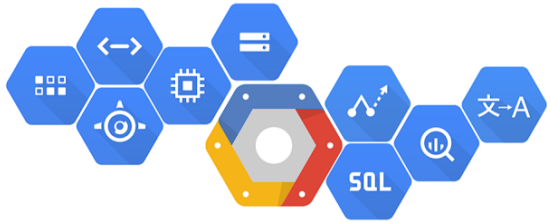
- BigQuery
  - Quarries execute asynchronously in the background
  - Can access jobs/history through Google Developers Console
  - Separate interfaces for administration and developers
- Dataflow
  - Unified programming model
  - Provides unified programming primitives for both batch and stream-based data analysis
  - Session analysis
  - Anomaly detection
  - Funnel analysis
  - Manageable resource life-cycle
- Cloud Pub/Sub
  - Real-time messaging
  - Ability to create adaptable changes to data inputs, outputs, formats and security policies on the fly

Management Services



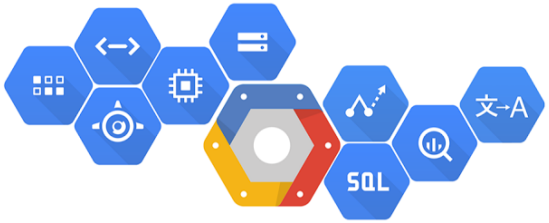
- Cloud Monitoring
  - Monitors applications and provides useful statistic information and alerts
- Cloud Logging
  - Manages metadata of application logs and creates application statistic logs
  - One log per application contained in the ‘log string’
  - Allows integration of third party logs
  - Ability to view logs in real-time
  - Still in beta

Development Tools



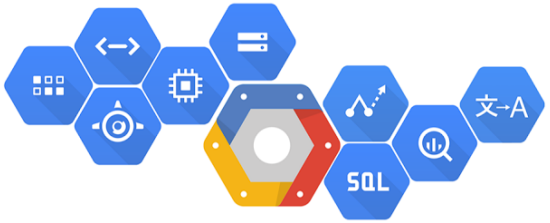
- Google Cloud SDK
  - Provides tools and libraries to create and manage resources on the Google Cloud Platform
  - Examples include
    - Manage development workflow
    - Build a web app and host it on the Google App Engine
    - Launch large compute clusters on Google Compute Engine
    - Store vast amounts of data on Google Cloud Storage
    - Analyze Big Data in the cloud with Google BigQuery
- Cloud Playground
- Android Studio
  - Provides Android OS backend to support Android applications with build in librarys
  - Updates automatically (with Android)
- Google Plugin for Eclipse
  - Creates and deploys app engine applications with the Eclipse environment
  - Provides Google support for Java IDE application development

Other Services



- Cloud Endpoints
  - Create RESTful services from your code and make them accessible to iOS, Android, and Javascript clients.
  - Wraps code to build an API server available in Java, Python, Go and PHP
- Translate API
  - Create multilingual applications and translate text into other languages programmatically
  - Thousands of preconfigured language pairs
- Prediction API
  - Use Google's machine learning algorithms to analyze data and predict future outcomes
  - Uses a RESTful interface

Pricing



- Pricing is calculated using their service calculator, where the user provides the services they wish to use

Google Compute Engine

Servers

Number of servers *

What are these servers for?

Operating System: Free: Debian, CentOS, OpenSUSE, CoreOS, Free

Instance type: f1-micro (vCPUs: shared, RAM: 0.60 GB)

Or

CPU Cores *: shared

Memory (RAM) *: 0.6 GB

Local SSD: 0

Datacenter location: United States

Average hours per day each server is running *: 24

Average days per week each server is running *: 7

Add to Estimate

Persistent Disk

SSD Persistent disk storage: GB

Persistent disk storage: GB

Snapshot storage: GB

Add to Estimate

Load Balancing

Number of Forwarding Rules

Network Traffic Processed: GB per month

Add to Estimate

GCE Network Bandwidth

Egress - Americas and EMEA: GB per month

Egress - Asia/Pacific: GB per month

Egress - Australia: GB per month

Egress - China: GB per month

GCI Egress to United States: GB per month

GCI Egress to Europe: GB per month

GCI Egress to Asia/Pacific: GB per month

Egress to a different Zone in the same Region: GB per month

Egress to a different Region within the US: GB per month

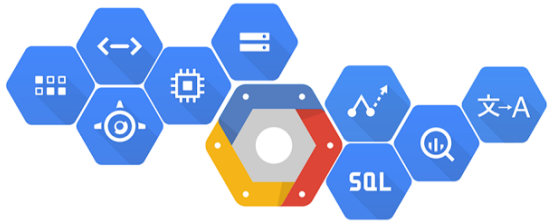
(All data ingress into GCP is free).

Add to Estimate

[1] The estimated fees provided by the Cloud Pricing Calculator are for discussion purposes only and are not binding on either you or Google. Your actual fees may be higher or lower than the estimate. A more detailed and specific list of fees will be provided at time of sign-up To sign up for the Cloud Platform and purchase services, please click on one of the product links above.

Looking for the older prices?

Get Started



- Google is currently offering a ‘free trial’ where they give the user $300 worth of services over 60 days
- Go to cloud.google.com and apply for the service you wish to utilize
- Google provides the Google Cloud launcher to launch many server hosted applications/websites at https://cloud.google.com/launcher/explore