



Google Cloud Services

Part II

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3. Networking

State-of-the-art **software-defined networking (SDN)** products on Google's private fiber network

- Virtual Private Cloud (VPC) Network
- Cloud Load Balancing
- Cloud Content Delivery Network (CDN)



Virtual Private Cloud (VPC) Network

- VPC Network is a comprehensive set of Google-managed networking capabilities, including granular **IP address** range selection, **routes**, **firewall**, Virtual Private Network (**VPN**) and Cloud **Router**.



Cloud Load Balancing

- Cloud Load Balancing can put your resources **behind a single anycast IP** and scale your resources up or down with **intelligent Autoscaling**.



Cloud CDN

- leverages Google's globally distributed **edge points** of presence to **accelerate** content delivery for websites and applications served out of Google Compute Engine and Google Cloud Storage.
- Cloud **CDN lowers network latency**, offloads origins, and reduces serving costs.
- Once you've set up HTTP(S) Load Balancing, simply **enable** Cloud CDN with a **single checkbox**.



4. Big Data

- BigQuery
- Cloud Dataflow
- Cloud Dataproc
- Cloud Datalab
- Cloud Dataprep
- Cloud Pub/Sub
- Genomics
- Google Data Studio

The image shows the BigQuery logo, which is a stylized orange and yellow flame-like shape, set against a background of blue metallic-looking panels with silver screws.

BigQuery

- Fully managed, **petabyte scale**, low cost enterprise data **warehouse** for analytics
- **Serverless**
- can scan **TB in seconds** and **PB in minutes**
- **100,000** rows per second
- Fully Integrated
 - Cloud Dataflow, Spark, and Hadoop



Cloud Dataflow

- **Batch** and **Stream** Data Processing
- Integrated & Open Source
 - seamlessly integrates with **Cloud Storage**, **Cloud Pub/Sub**, **Cloud Datastore**, **Cloud Bigtable**, and **BigQuery**
- **ETL** (Extract-Transform-Load) Pipeline



Cloud Dataproc

- Fully-managed cloud service for running Apache **Spark** and Apache **Hadoop** clusters
- Automated **Cluster** Management
- can create **three to hundreds** of nodes
- each cluster action taking less than **90 seconds** on average
- **Resizable** Clusters



Cloud Datalab

- interactive **notebook** (based on **Jupyter**) to explore, collaborate, analyze and **visualize data**
 - The **Jupyter** Notebook is an open-source web application that allows you to **create and share documents** that contain live code, equations, visualizations and explanatory text.
- It is integrated with **BigQuery** and Google Cloud **Machine Learning**
- **Multi-Language Support**

The top of the slide features a blue background with a stylized orange and yellow logo resembling a map of Africa or a similar shape. The logo is partially obscured by the title text.

Data Studio

- turns data into informative **dashboards** and **reports**
- fully **customizable**
- Report **Templates**
- built with the same technology that underlies popular **GSuite** products
 - Docs, Sheets, and Slides



Dataprep

- an **intelligent** data service for visually **exploring, cleaning, and preparing** structured and unstructured data for analysis.
- Serverless
- Intelligent Data **Cleansing**
- Supports Common Data Sources of Any Size
 - **CSV, JSON**, or relational table formats



Cloud Pub/Sub

- Scalable Event Ingestion and **Messaging Middleware**
- allows you to **send** and **receive** messages between independent applications
- one-to-one, one-to-many, or many-to-many communication, with **push or pull** delivery
- Guaranteed Delivery
 - designed to provide “**at least once**” delivery by storing copies of messages in multiple zones
- Encryption
- End-to-End **Acknowledgement**



Genomics

- helps the life science community organize the world's **genomic information** and make it accessible and useful.



5. Internet of Things

- Cloud **IoT Core**
- allow easily and securely **connect, manage,** and **ingest IoT data** from globally **dispersed devices**
- process and **analyze/visualize** that data in **real time**
- **implement** operational changes and take actions as needed
- works seamlessly with **Android Things**



6. Machine Learning

- Cloud Machine Learning Engine
- Cloud Jobs API
- Cloud Natural Language API
- Cloud Speech API
- Cloud Translation API
- Cloud Vision API
- Cloud Video Intelligence API

The background of the slide features a blue, metallic-looking structure with a glowing orange and yellow flame-like shape in the center, which is the logo for Google Cloud Machine Learning Engine.

Cloud Machine Learning Engine

- Large Scale Machine Learning Service
- Create your model with the powerful **TensorFlow** framework
 - An open-source software **library** for Machine Intelligence
 - **Google Photos** to **Google Cloud Speech**
- can take any TensorFlow model and perform large scale **training** on a managed cluster
- **HyperTune** lets you automatically tune your model training to achieve better results faster



Cloud Jobs API

- Powerful **Job Search** and Discovery
- Attract candidates based on **commute search**
- Job-Specific Understanding
- Seniority Alignment



Natural Language API

- reveals the structure and **meaning of text**
- use it to **extract** information about people, places, events and much more, mentioned in text documents, news articles or blog posts
- use it to understand **sentiment** about your **product** on social media
- parse **intent** from customer conversations happening in a **call center** or a **messaging app**
- can **analyze text uploaded** in your request or integrate with your document storage on Google Cloud Storage



Natural Language API

- Syntax Analysis
 - create dependency **parse trees** for each sentence
- Entity Analysis
 - Identify entities and **label by types** such as person, organization, location, events, products and media
- Sentiment Analysis
 - Understand the overall **sentiment expressed** in a block of text
- Entity Sentiment Analysis
 - Understand the **sentiment** for each mention of an **entity** within a block of text.
- Multi-Language
 - English, Spanish, Japanese, Chinese (Simplified and Traditional), French, German, Italian, Korean and Portuguese etc.



Cloud Speech API

- enables you to convert **audio to text** by applying **neural network**
- recognizes over **110 languages** and variants
- Recognize **audio uploaded** in the request
- Noise Robustness
- Context-Aware Recognition
- Works With Apps Across Any Device
 - phones, PCs, tablets and IoT devices (e.g., cars, TVs, speakers)
- Word Hints



Cloud Translation API

- interface for translating an arbitrary string into any supported language



Cloud Vision API

- enables developers to understand the **content of an image**
- quickly **classifies** images into thousands of **categories** (e.g., "sailboat", "lion", "Eiffel Tower")
- detects individual objects and faces **within images**
- Optical Character Recognition (OCR)
 - finds and **reads printed words** contained within images
- image sentiment analysis
- Analyze images **uploaded** in the request
- Detect **Inappropriate** Content
 - SafeSearch, adult to violent content



Cloud Vision API

- Label Detection
- Explicit Content Detection
- Logo Detection
- Landmark Detection
- Optical Character Recognition
- Face Detection
- Image Attributes
- Web Detection



Cloud Video Intelligence API

- Label Detection
 - Detect **entities within the video**, such as "dog", "flower" or "car"
- Shot Change Detection
 - Detect **scene changes** within the video
- Regionalization
 - **Specify a region** where processing will take place (for regulatory compliance).



7. Management Tools: Stackdriver

- Stackdriver Monitoring
- Stackdriver Logging
- Stackdriver Error Reporting
- Stackdriver Trace
- Stackdriver Debugger
- Cloud Deployment Manager
- Cloud Console
- Cloud Shell
- Cloud Mobile App
- Cloud Billing API



8. Developer Tools

- Cloud SDK
- Container Registry
- Container Builder
- Cloud Deployment Manager
- Cloud Source Repositories
- Cloud Endpoints
- Cloud Tools for Android Studio
- Cloud Tools for IntelliJ
- Cloud Tools for Eclipse
- Cloud Test Lab

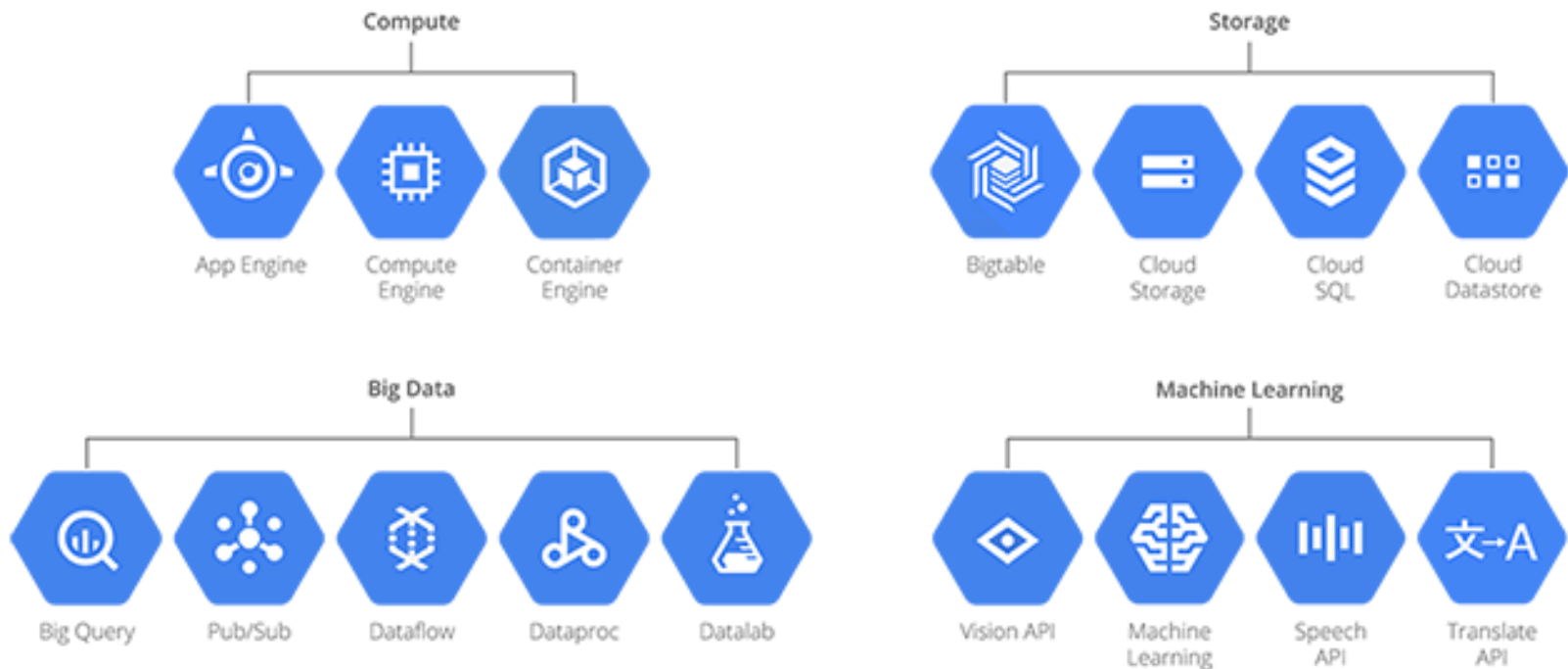


9. Identity & Security

- Cloud Identity & Access Management (IAM)
- Cloud Identity-Aware Proxy
- Cloud Data Loss Prevention API
- Security Key Enforcement
- Cloud Key Management Service
- Cloud Resource Manager
- Cloud Security Scanner

Summary

Google Cloud Platform





Thank YOU



*Behind every cloud is another
cloud.*
Judy Garland