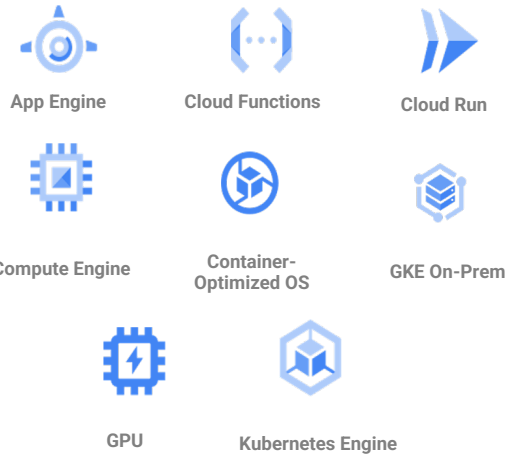
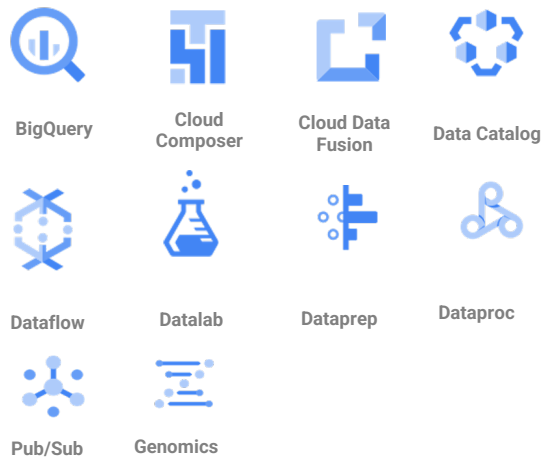
# GCP: Services ecosystem

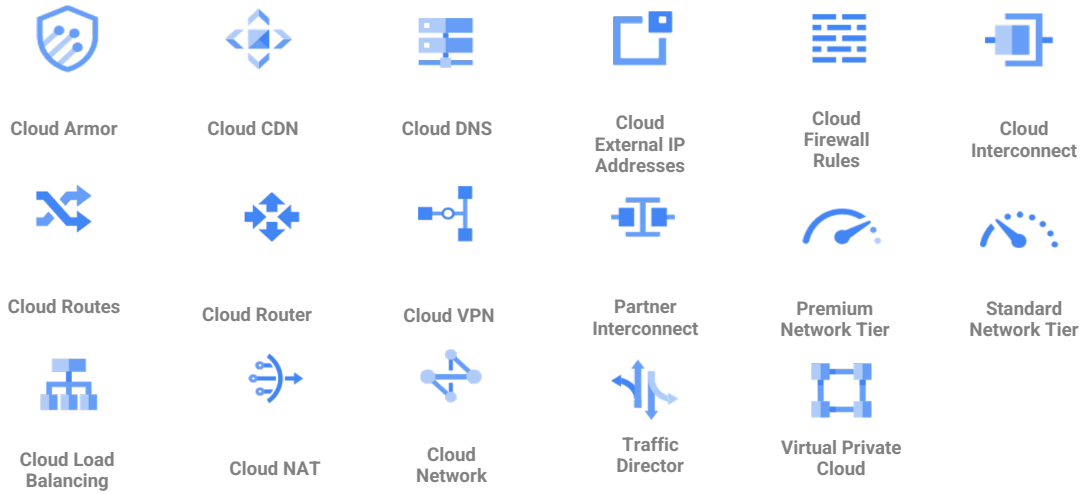
## Compute



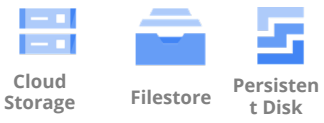

## Data Analytics



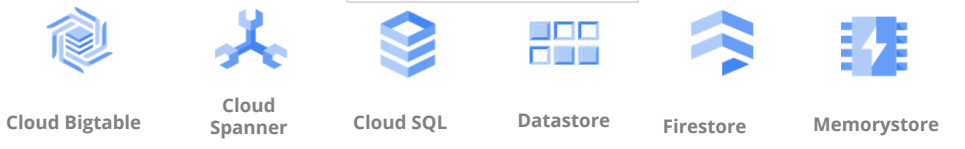

## Networking



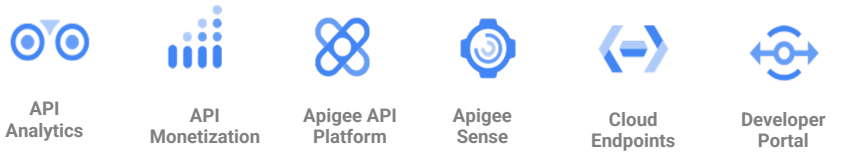

## Storage



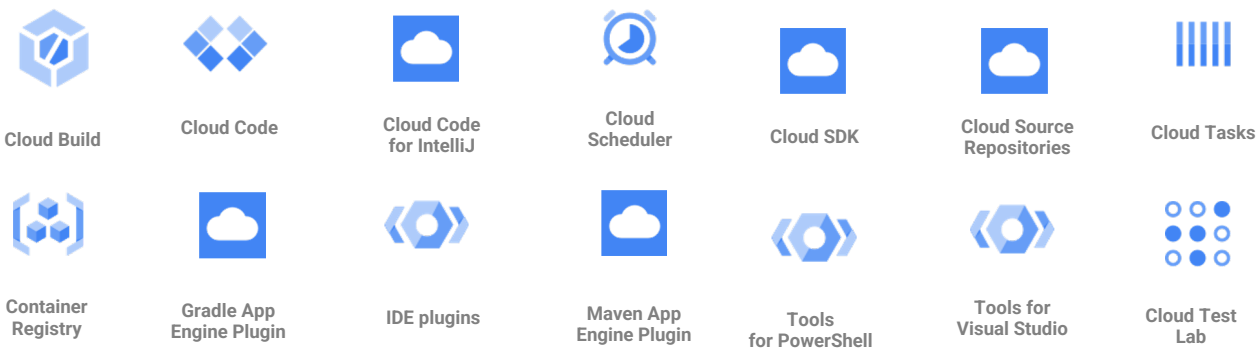

## Databases



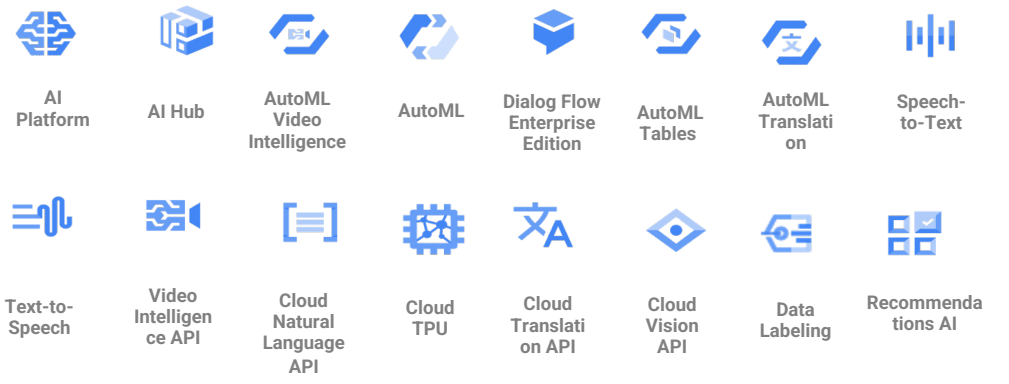

## API Management




## Developer Tools

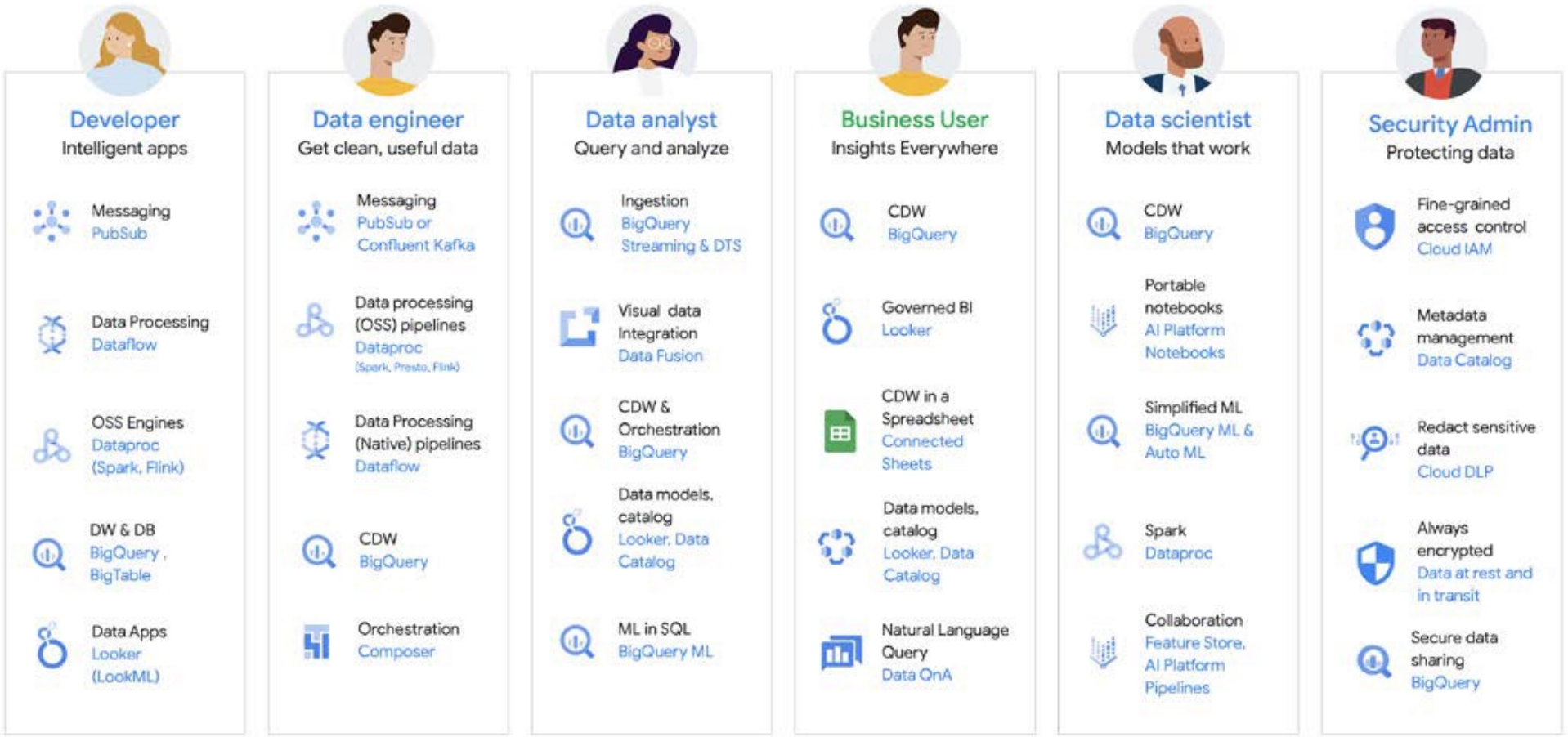



## AI and Machine Learning



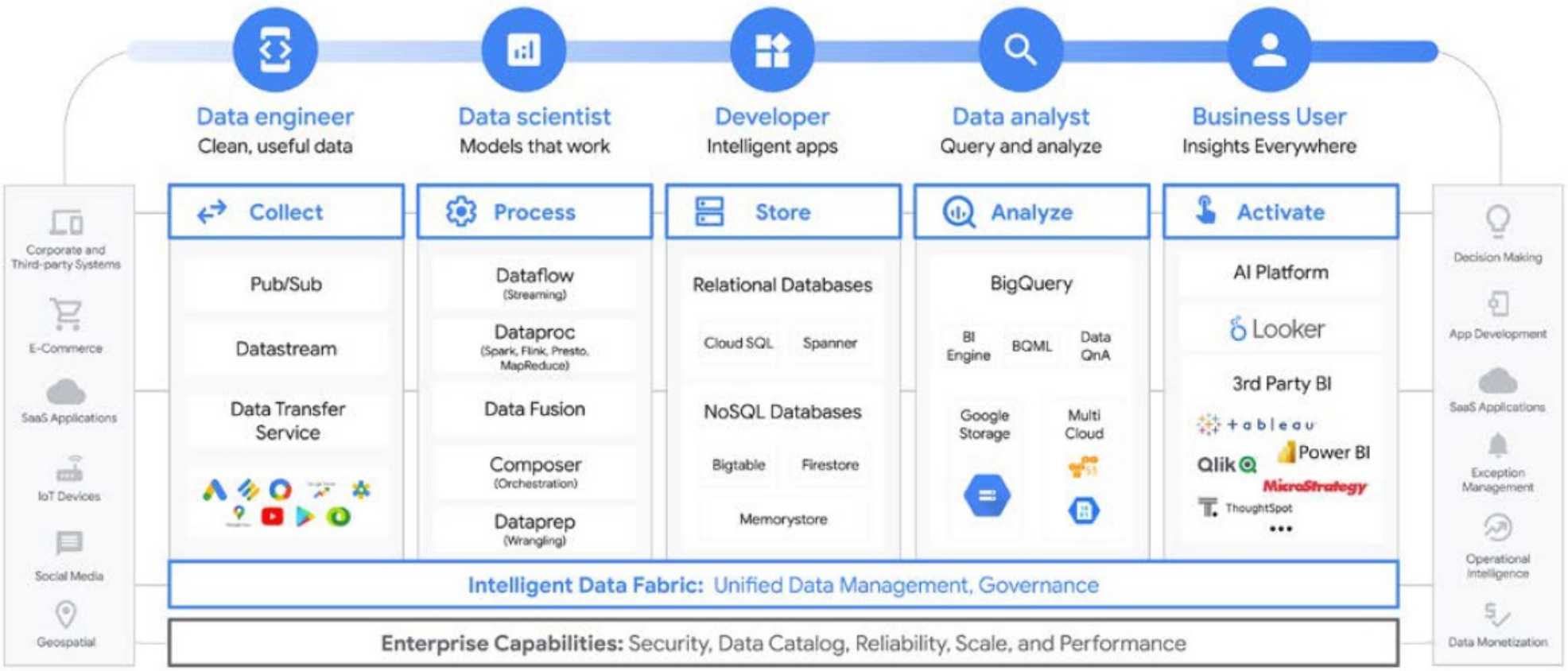

Source: https://cloud.google.com/docs, https://cloud.google.com/products

# GCP provides a unified Platform for all personas throughout the data lifecycle.



# GCP: Data Analytics Lifecycle

The key differentiators of an analytics data platform built on GCP are that it is open, intelligent, flexible and tightly integrated. It Solves for every stage of the data analytics lifecycle, from ingestion to transformation and analysis, to business intelligence and AI.



GCP: Services ecosystem

## Compute

### Compute Engine

Virtual machines running in Google's data center.

### App Engine

Serverless application platform for apps and back ends.

### Cloud GPUs

GPUs for ML, scientific computing, and 3D visualization.

### Preemptible VMs

Compute instances for batch jobs and fault-tolerant workloads.

### Shielded VMs

Reinforced virtual machines on Google Cloud.

### Sole-Tenant Nodes

Dedicated hardware for compliance, licensing, and management.

### Recommender

Usage recommendations for Google Cloud products and services.

### VMware Engine

Fully managed, native VMware Cloud Foundation software stack.

### Cloud Run

Fully managed environment for running containerized apps.

## Serverless Computing

### Cloud Run

Fully managed environment for running containerized apps.

### Cloud Functions

Platform for creating functions that respond to cloud events.

### App Engine

Serverless application platform for apps and back ends.

### Workflows

Workflow orchestration for serverless products and API services.

# Storage

### All Storage Products
Cloud-based storage services for your business.

### Cloud Storage
Object storage that's secure, durable, and scalable.

### Filestore
File storage that is highly scalable and secure.

### Persistent Disk
Block storage for virtual machine instances running on Google Cloud.

### Cloud Storage for Firebase
Object storage for storing and serving user-generated content.

### Local SSD
Block storage that is locally attached for high-performance needs.

### Archival Storage
Data archive that offers online access speed at ultra low cost.

### Storage Transfer Service
Data transfers from online and on-premises sources to Cloud Storage.

### Google Workspace Essentials
Secure video meetings and modern collaboration for teams.

# Databases

### Cloud Bigtable
Cloud-native wide-column database for large scale, low-latency workloads.

### Firestore
Cloud-native document database for building rich mobile, web, and IoT apps.

### Memorystore
In-memory database for managed Redis and Memcached.

### Cloud Spanner
Cloud-native relational database with unlimited scale and 99.999% availability.

### Cloud SQL
Fully managed database for MySQL, PostgreSQL, and SQL Server.

### Database Migration Service
Serverless, minimal downtime migrations to Cloud SQL.

### Bare Metal Solution for Oracle
Infrastructure to run specialized Oracle workloads on Google Cloud.

### Firebase Realtime Database
NoSQL database for storing and syncing data in real time.

### Datastream
Serverless change data capture and replication service.

# Networking

### Cloud Armor

Security policies and defense against web and DDoS attacks.

### Cloud CDN

Content delivery network for serving web and video content.

### Cloud DNS

Domain name system for reliable and low-latency name lookups.

### Cloud NAT

NAT service for giving private instances internet access.

### Hybrid Connectivity

Connectivity options for VPN, peering, and enterprise needs.

### Network Connectivity Center

Connectivity management to help simplify and scale networks.

### Network Service Tiers

Cloud network options based on performance, availability, and cost.

### Network Telemetry

VPC flow logs for network monitoring, forensics, and security.

### Traffic Director

Traffic control pane and management for open service mesh.

### Cloud Load Balancing

Service for distributing traffic across applications and regions.

### Network Intelligence Center

Network monitoring, verification, and optimization platform.

# Developer Tools

### Artifact Registry

Universal package manager for build artifacts and dependencies.

### Cloud Build

Continuous integration and continuous delivery platform.

### Cloud Code

IDE support to write, run, and debug Kubernetes applications.

### Cloud SDK

Command line tools and libraries for Google Cloud.

### Cloud Scheduler

Cron job scheduler for task automation and management.

### Cloud Source Repositories

Private Git repository to store, manage, and track code.

### Cloud Deployment Manager

Service for creating and managing Google Cloud resources.

### Cloud Tasks

Task management service for asynchronous task execution.

### Container Registry

Private Docker storage for container images on Google Cloud.

### Tekton

Kubernetes-native resources for declaring CI/CD pipelines.

# Data Analytics

### BigQuery
Data warehouse for business agility and insights.

### Looker
Platform for BI, data applications, and embedded analytics.

### Dataflow
Streaming analytics for stream and batch processing.

### Dataproc
Service for running Apache Spark and Apache Hadoop clusters.

### Cloud Data Fusion
Data integration for building and managing data pipelines.

### Cloud Composer
Workflow orchestration service built on Apache Airflow.

### Dataplex
Intelligent data fabric for unifying data management across silos.

### Data Catalog
Metadata service for discovering, understanding, and managing data.

### Analytics Hub
Service for securely and efficiently exchanging data analytics assets.

### Pub/Sub
Messaging service for event ingestion and delivery.

### Dataprep
Service to prepare data for analysis and machine learning.

# AI and Machine Learning

### Vertex AI

Unified ML Platform for training, hosting, and managing ML models.

### Speech-to-Text

Speech recognition and transcription supporting 125 languages.

### Vision AI

Custom and pre-trained models to detect emotion, text, more.

### Cloud Translation

Language detection, translation, and glossary support.

### Cloud Natural Language

Sentiment analysis and classification of unstructured text.

### AutoML

Custom machine learning model training and development.

### AI Infrastructure

Options for every business to train deep learning and machine learning models cost-effectively.

### Dialogflow

Conversation applications and systems development suite for virtual agents.

### AutoML Tables

Service for training ML models with structured data.

### Text-to-Speech

Speech synthesis in 220+ voices and 40+ languages.

### Video AI

Video classification and recognition using machine learning.

# Security & Identity

### Cloud IAM

Permissions management system for Google Cloud resources.

### Assured Workloads

Compliance and security controls for sensitive workloads.

### Cloud Key Management

Manage encryption keys on Google Cloud.

### Security Command Center

Platform for defending against threats to your Google Cloud assets.

### Cloud Data Loss Prevention

Sensitive data inspection, classification, and redaction platform.

### Managed Service for Microsoft Active Directory

Hardened service running Microsoft® Active Directory (AD).

### Titan Security Key

Two-factor authentication device for user account protection.

### Secret Manager

Store API keys, passwords, certificates, and other sensitive data.

### BeyondCorp Enterprise

Zero trust solution for secure application and resource access.

### Confidential Computing

Encrypt data in use with Confidential VMs.

### Access Transparency

Cloud provider visibility through near real-time logs.