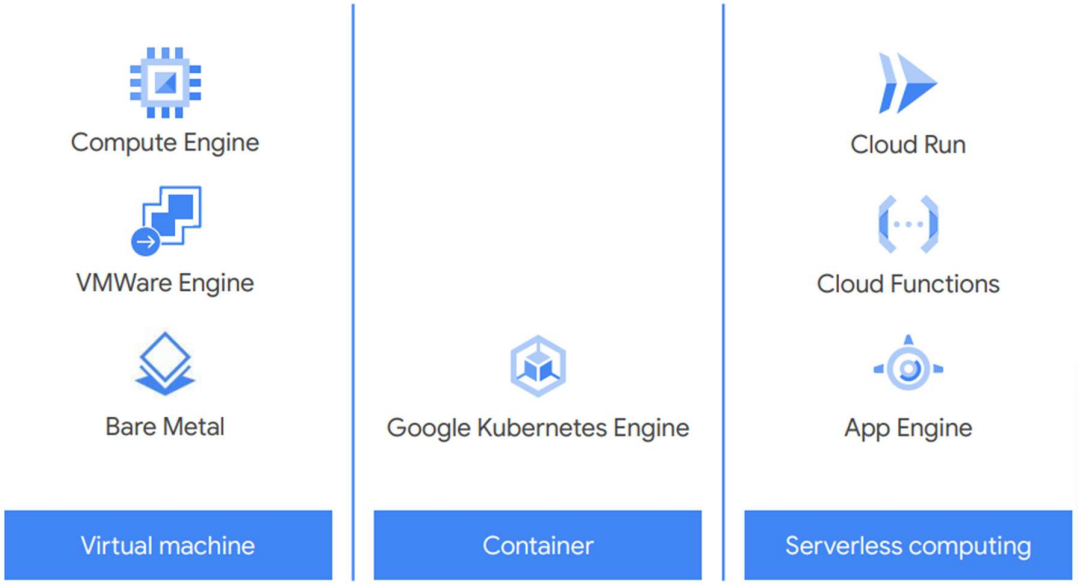

What is Compute Engine?

Compute Engine is a computing and hosting service that lets you create and run virtual machines on Google infrastructure.

What is Google Cloud VMware Engine?	Google Cloud VMware Engine is a fully managed service that lets you run the VMware platform in Google Cloud. Google manages the infrastructure, networking and management services.
What is Bare Metal?	Bare Metal enables you to migrate specialized workloads to the cloud, while maintaining your existing investments and architecture. This allows you access and integration with Google Cloud services with minimal latency.

What is Google Kubernetes?	Google Kubernetes Engine or GKE provides a managed environment for deploying, managing, and scaling your containerized applications using Google infrastructure. The GKE environment consists of multiple machines grouped together to form a cluster.

What is Google App Engine?

Google App Engine is a Platform as a Service and cloud computing platform for developing and hosting web applications. It lets app developers build scalable web and mobile back ends in any programming language on a fully managed serverless platform.

What is Cloud Run?

Cloud Run allows you to build applications in your favorite programming language, with your favorite dependencies and tools, and deploy them in seconds. It abstracts away all infrastructure management by automatically scaling up and down from zero almost instantaneously—depending on traffic.

What is Cloud Functions?

Cloud Functions is a serverless execution environment for building and connecting cloud services. It offers scalable, pay-as-you-go functions as a service to run your code with zero server management.

The “move first and then change” approach typically starts with a “lift and shift” program for selected applications. The migration typically brings minimal changes to ways of working within the organization, but once the applications are running in the cloud, they are then ready to be updated more easily than when they were running on-premises.

If an organization wants to take a more aggressive approach to modernizing its applications, they can re-architect applications first, to make them more cloud-ready, before migrating them.

Inventing in greenfield allows you to build innovative applications that will help drive the business forward, but it does require agility, access to a diverse development skill set, and strong support from leadership.

A brownfield strategy is to invent a new application in the cloud environment that will replace an existing legacy application that remains on-premises. The legacy application is only retired after the new application is built.

What is Kubernetes?

Kubernetes is an open-source container-orchestration system for automating computer application deployment, scaling, and management.

What is App Engine?

App Engine is a platform for building scalable web applications and mobile backends. App Engine will scale your application automatically in response to the amount of traffic it receives, so you only pay for the resources you use.

What is a legacy system?

A legacy system is outdated computing software and/or hardware that is still in use. The legacy system is mission critical but often not equipped to deliver new services or upgrades at the speed and scale that users expect. A legacy system often can't connect to newer systems.

Apigee is a fully featured API management platform that enables application developers and API providers to create connected digital experiences for end users. Apigee bridges the gap between legacy systems.

A “data map” is a chart of all the data used in end-to-end business processes.

Some unstructured data can be stored in a format called a BLOB. This stands for **b**inary **l**arge **ob**ject. Images, audio, and multimedia files can all be stored as BLOBs.

What is a database?

An organized collection of data, generally stored in tables and accessed electronically from a computer system

What is data integrity?

Data integrity, or transactional integrity, refers to the accuracy and consistency of data stored in a database. Data integrity is achieved by implementing a set of rules when a database is first designed and through ongoing error checking and validation routines as data is collected.

What is Cloud SQL?

It's a fully managed relational database management service, or RDBMS. It easily integrates with existing applications and Google Cloud services like Google Kubernetes Engine and BigQuery.

It's another fully managed database service, and it's designed for global scale. With Cloud Spanner, data is automatically and instantly copied across regions. This replication means that if one region goes offline, the organization's data can still be retrieved from another region.

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While databases **store** transactional data in an online fashion, data warehouses **assemble** data from multiple sources including databases.

In particular, a cloud data warehouse allows businesses to consolidate data that is structured *and* semi-structured.

What is BigQuery?

BigQuery is serverless. This doesn't mean that there's no server!

What is BigQuery?

It means that resources, such as compute power, are automatically provisioned behind the scenes as needed to run your queries. So businesses do not pay for compute power unless they are actually running a query.

Pub/Sub and DataFlow can work together to bring unstructured data into the cloud and transform it into semi-structured data.

This transformed data can then be sent directly from Dataflow to BigQuery, where it is made immediately available for analysis.

What is a data lake?

Data lakes are a repository for raw data and tend to serve many purposes.

Regional storage offered by Cloud Storage is ideal when an organization wants to use the data locally; it gives added throughput and performance by storing data in the same region as your compute infrastructure.

What is Looker?

Looker is a Google Cloud business intelligence solution. It's a data platform that sits on top of any analytics database and makes it simple to describe your data and define business metrics.

What is Looker?

Once you have a reliable source of truth for your business data, anyone on your team can analyse and explore it, ask and answer their own questions, create visualisations, and explore row level details.

What is data cleanliness?

Sometimes called "data consistency"

"Dirt" or "inconsistency" in data refers to anything that can prevent the model from making accurate predictions or understanding data behavior.

What is data completeness?

Refers to the **availability** of sufficient data about the world to replace human knowledge.

Google Cloud AI Platform is a unified, simply managed platform that makes machine learning easy to adopt by analysts and developers. It provides modern ML services, with the ability to generate tailored models and use pre-trained models.

The AI Hub is a hosted repository of plug-and-play AI components, including end-to-end AI pipelines and out-of-the-box algorithms.

TensorFlow has a comprehensive, flexible ecosystem of tools, libraries and community resources. TensorFlow lets researchers push innovations in ML and developers to easily build and deploy ML powered applications.

TensorFlow takes advantage of Tensor Processing Units (TPU), hardware devices designed to accelerate ML workloads with TensorFlow by 15-30x. Because you pay only for what you use, there's no up-front capital investment required.

What is DevOps?

DevOps, or Developer Relations, is a set of practices that aim to increase software delivery velocity, improve service reliability, and build shared ownership among software stakeholders.

In the cloud, the best practice for security is called a 'shared responsibility security model.' The cloud provider is responsible for the physical infrastructure, while businesses are responsible for access.

Criminal Attack

Phishing attackers do research to gather information about you or anyone in your organization, then craft highly targeted emails to trick these people into thinking that the messages are genuine. These people are scammed into downloading malicious attachments, giving up their password, or sharing sensitive data.

Physical damage

This means that organizations can still be responsible for data losses even when there is damage to the physical hard disk, there are power losses, or natural disasters such as floods, fires, and earthquakes.

Malware, viruses, and ransomware attacks

Data can be lost, damaged, or destroyed by viruses or malware. Alternatively, a set of files can be rendered unavailable to its intended users via ransomware until the ransom amount is paid.

Unsecured third-party systems

Although third-party systems are often used to address common business needs, without adequate security measures and regular checks, these systems can pose a threat to data security.

Lack of expert knowledge

At the rate that technology is changing, investing in the right expertise to assess, develop, implement, and maintain data security plans is essential for businesses to stay ahead of potential data security threats.

DevOps or Developer Operations

A philosophy that seeks to create a more collaborative and accountable culture within developer and operations teams. The philosophy highlights how IT teams can operate, but doesn't give explicit guidance on how an organization should implement practices to be successful.

Site Reliability Engineering (or SRE)

A discipline that applies aspects of software engineering to operations. The goals of SRE are to create ultra-scalable and highly reliable software systems.

Cloud Monitoring

Cloud Monitoring is the foundation for Site Reliability Engineering because it provides visibility into the performance, uptime, and overall health of cloud-powered applications.

Operations-focused tools

- Cloud Monitoring
- Cloud Logging
- Error Reporting
- Service Monitoring

Application performance management tools

- Cloud Debugger
- Cloud Trace
- Cloud Profiler

Log file

A text file where applications, including the operating system, write events. Log files make it easier for developers, DevOps, and System Admins to get insights and identify the root cause of issues within applications and the infrastructure.

Google Cloud Logging

Google Cloud Logging is a fully managed service that performs at scale and can ingest application and system log data, as well as custom log data from Google Kubernetes Engine, or GKE, environments, Virtual Machines, and Google Cloud services.

Cloud Debugger

Cloud Debugger helps monitor application performance. IT teams can inspect the state of a running application in real time, without stopping or slowing it down. This means that end users are not affected while a developer searches the source code. IT teams can use it to understand the behavior of their code in production and analyze its state to find those hard-to-find bugs.

Cloud Trace

Cloud Trace is another Google Cloud solution for monitoring application performance. It is a distributed tracing system that helps developers debug or fix and optimize their code.