



#GCPSketchnotes

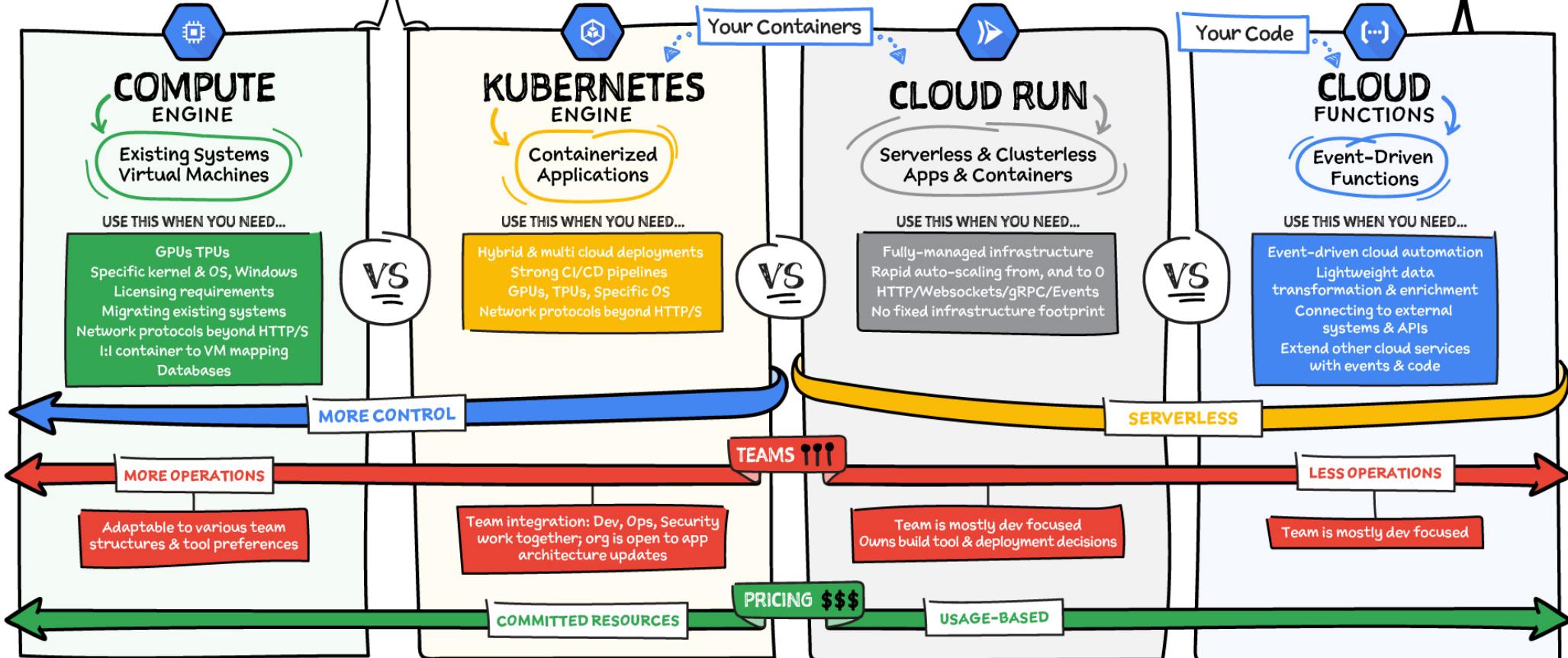
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Where should I run my stuff? IT DEPENDS...



PRO TIP: YOU CAN USE THEM TOGETHER



Virtual Private Cloud (VPC)

#GCPSketchnote

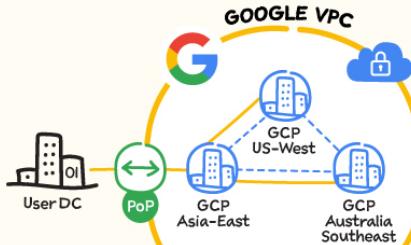
 

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What is VPC network?

MANAGED NETWORKING

- ✓ SHAREABLE across org
- ✓ EXPANDABLE increase IP space
- ✓ SECURITY Firewall & IAM
- ✓ CONNECTIVITY to on-prem



25+ REGIONS, 1 GLOBAL VPC

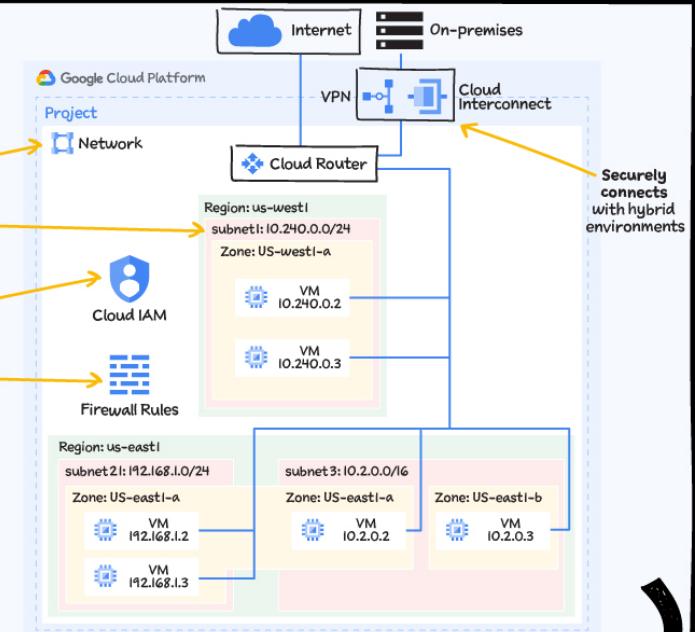
FEATURES OF VPC NETWORK

VPC Networks: Global resource

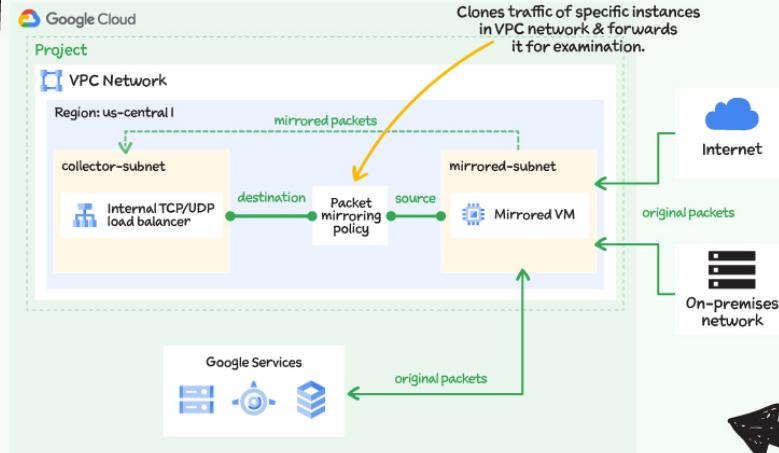
Subnets: Regional IP Address range connected by global WAN

Network Admin: Secure using IAM

VPC Firewall Rules: Allow/deny connections to/from VMs



VPC PACKET MIRRORING

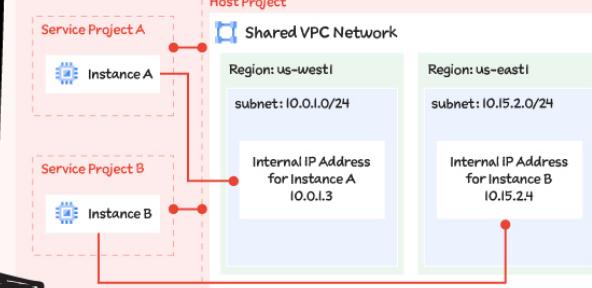


VPC NETWORK SHARING & PEERING

SHARED VPC

A Shared VPC Admin for the organization has created a host project and attached two service projects to it.

Host Project



PEERING

VPC Peering allows internal IP address connectivity across two mutually authorized VPC networks regardless of whether they belong to the same project or the same organization.

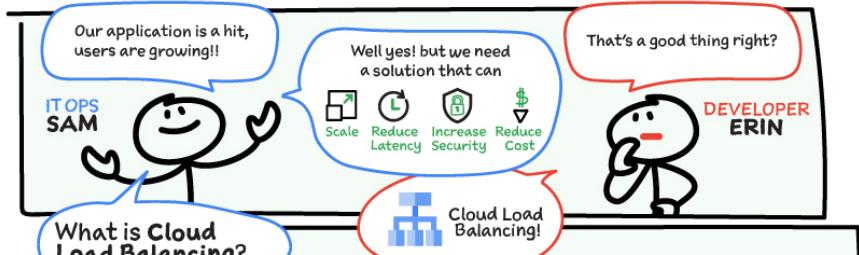




Cloud Load Balancing

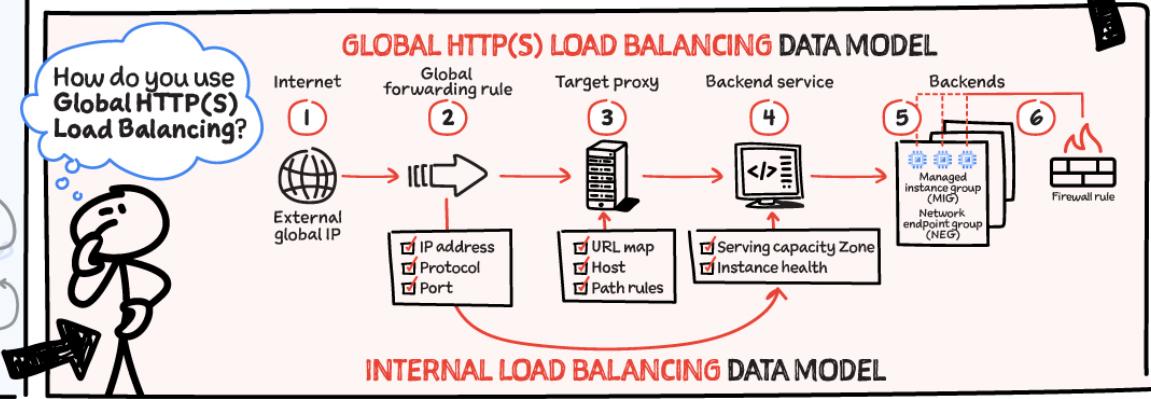
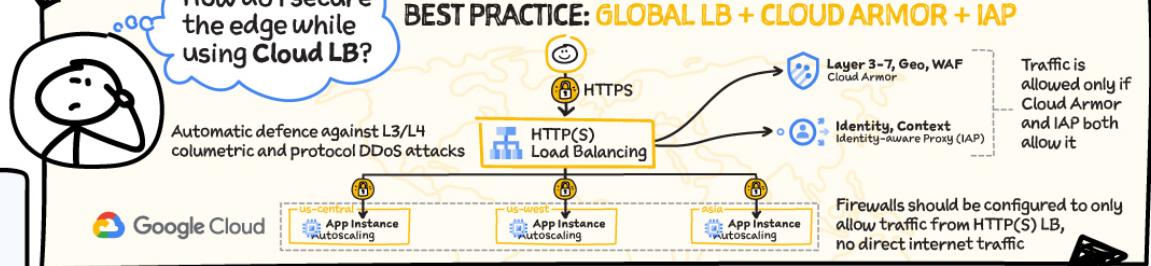
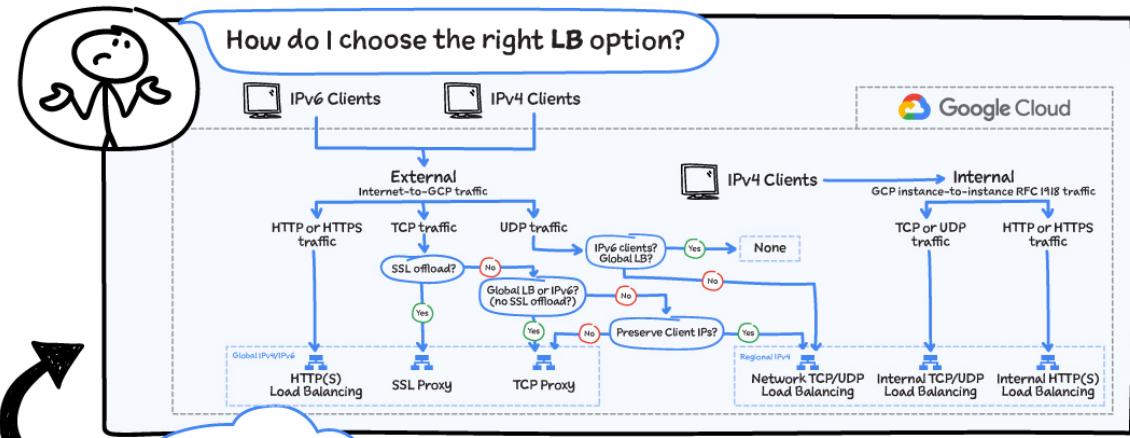
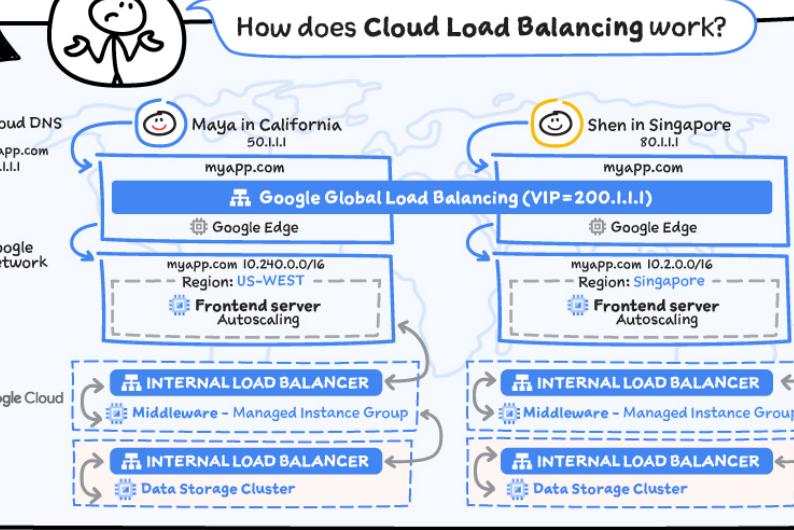
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10.5.2020



FULLY DISTRIBUTED SOFTWARE DEFINED NETWORKING (SDN)

- Single Global Anycast VIP (IPv4/IPv6) across region
- Fast autoscaling
- Worldwide Capacity
- Single point to apply global policies
- Cross-region failover and fallback
- 1 Million+ QPS





Cloud CDN

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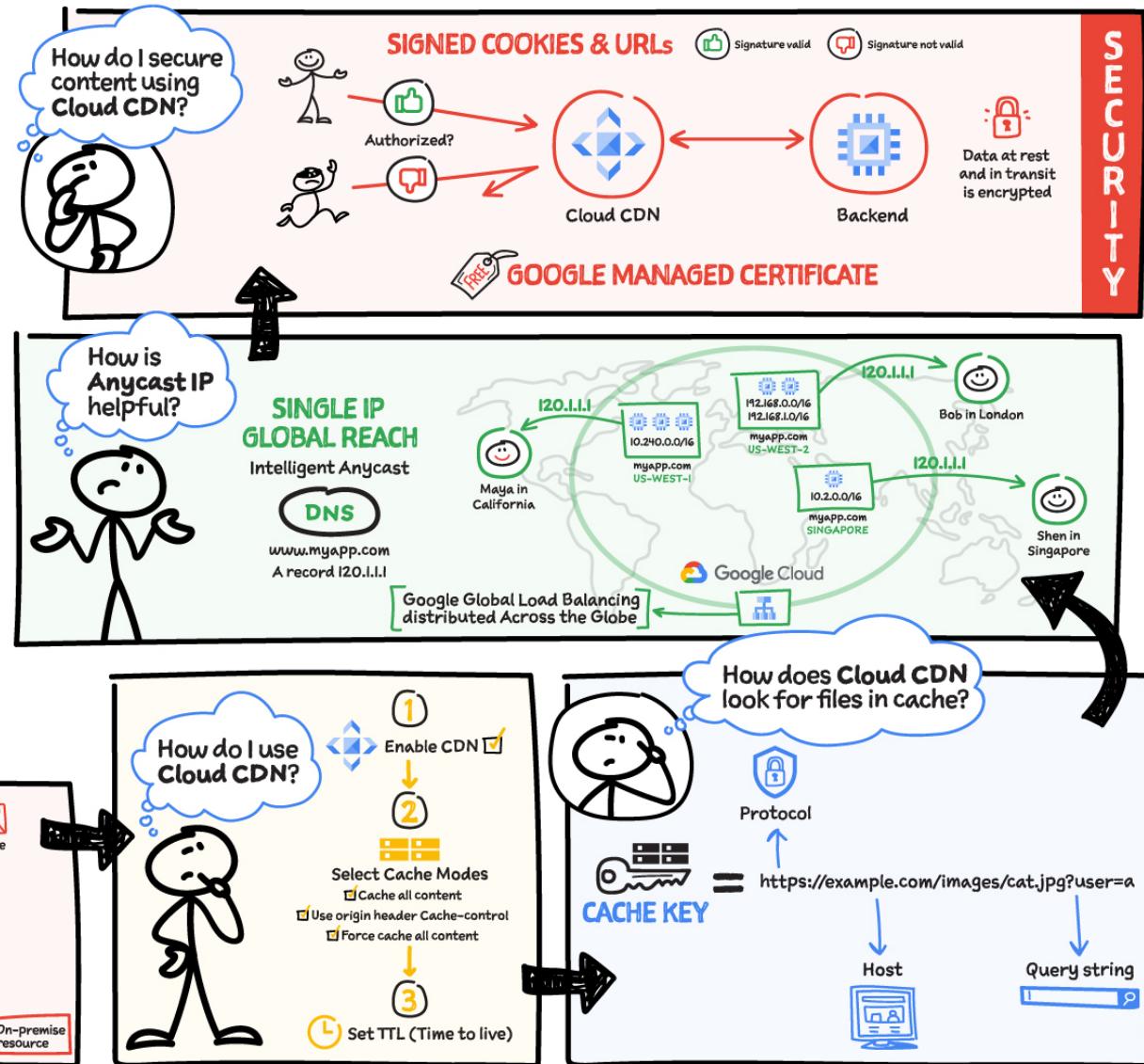
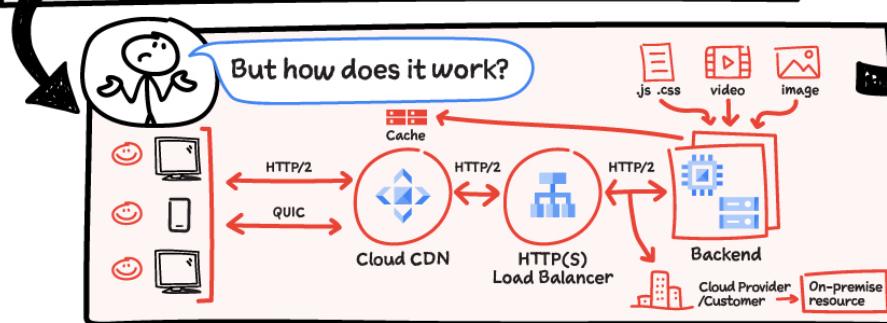
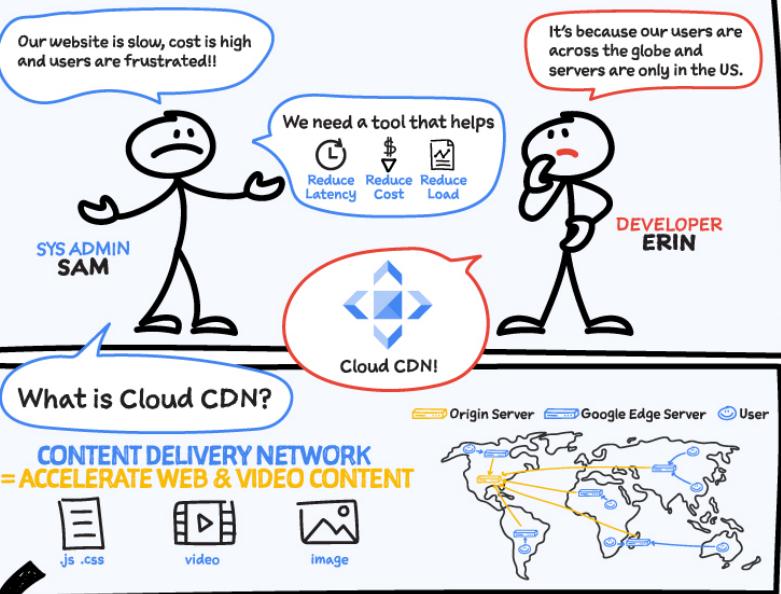


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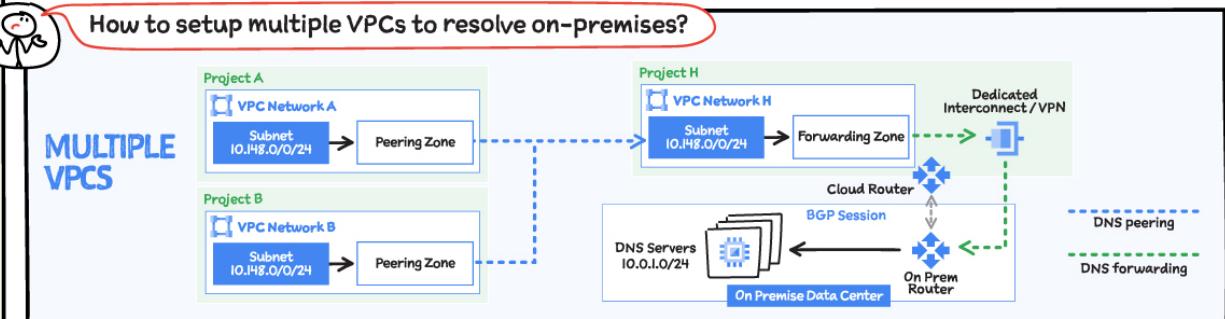
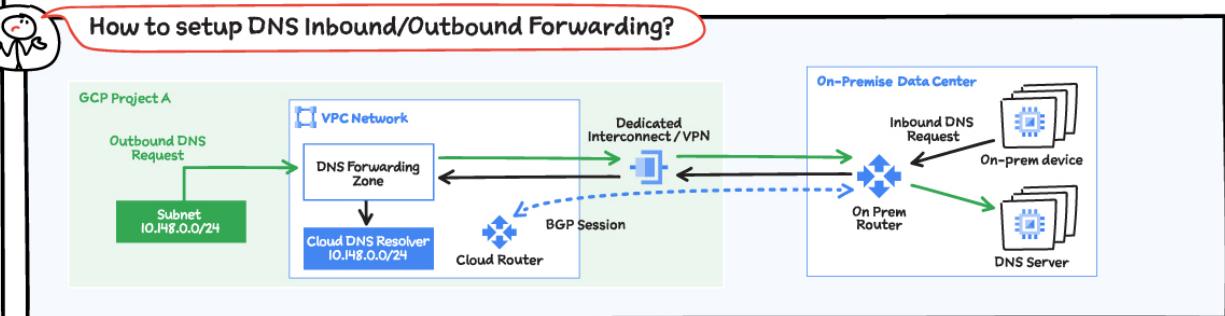
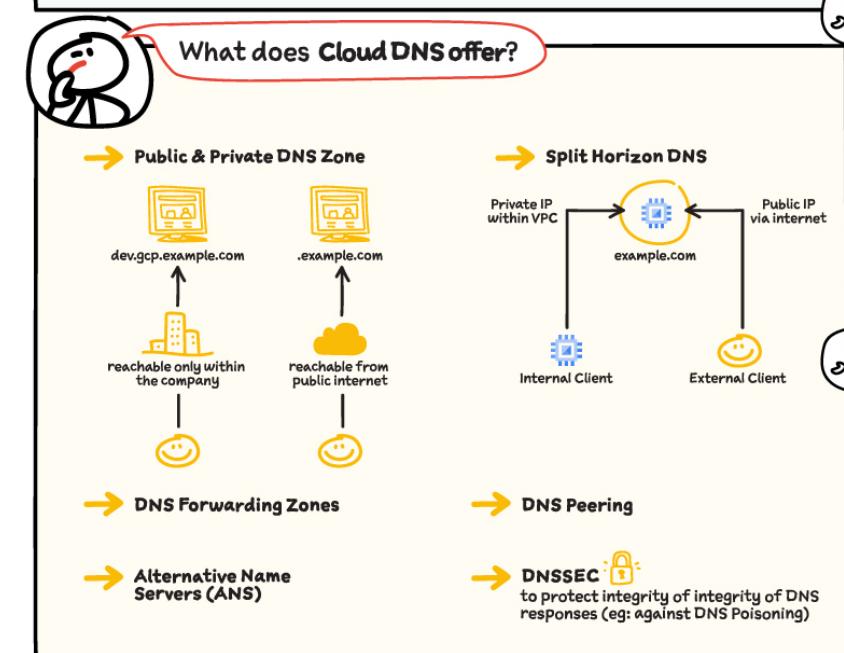
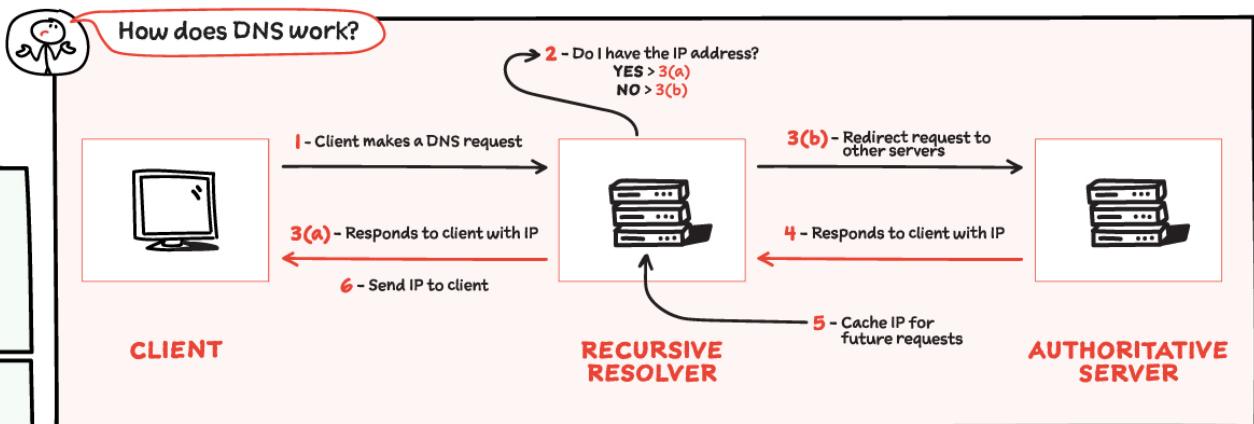
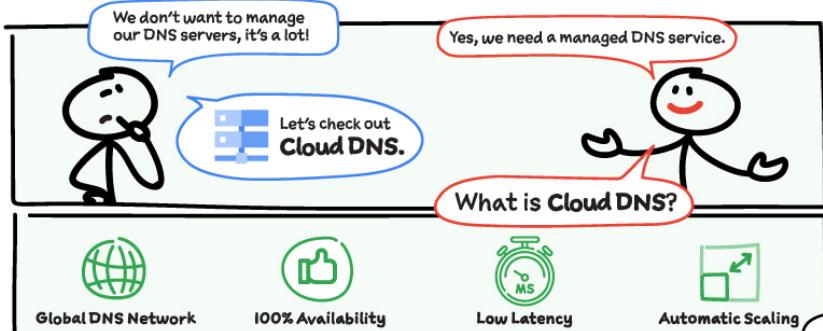
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Cloud DNS #GCPSketchnote

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Which Database or Storage should I use?

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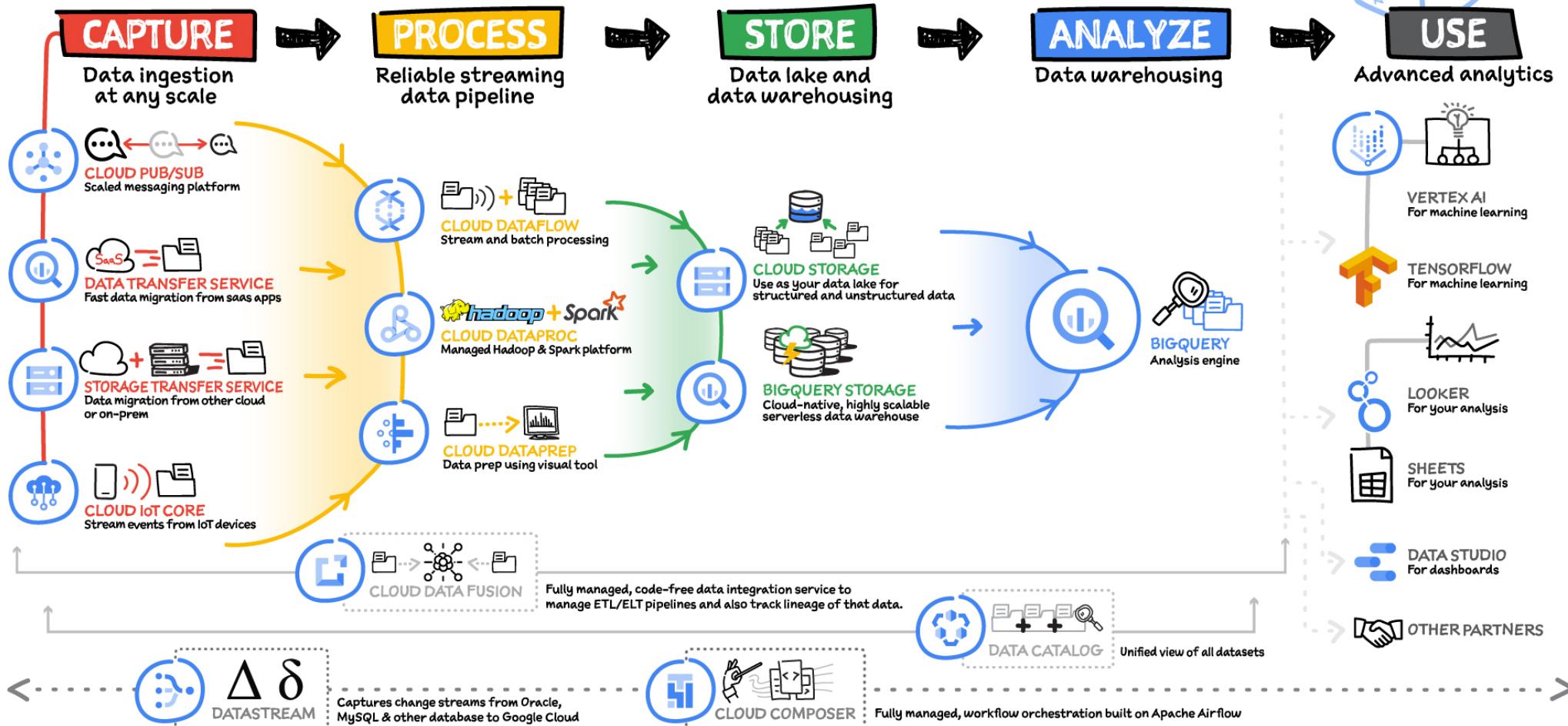


RELATIONAL	NON-RELATIONAL (NO SQL)		IN MEMORY	WAREHOUSE	OBJECT	BLOCK
 Cloud SQL Managed MySQL, PostgreSQL, SQL Server	 Cloud Spanner Cloud-native with large scale, consistency, 99.999% availability	 Bare Metal Lift and shift Oracle workloads to Google Cloud	 Firestore Cloud Native, serverless, NoSQL document database, backend-as-a-service, global strong consistency, 99.999% SLA	 Cloud Bigtable Cloud-native NoSQL wide-column store for large scale, low-latency workloads	 Memory Store Fully managed Redis and Memcached for sub-millisecond data access	 BigQuery Serverless, scalable, cost-effective multi-cloud data warehouse
Good For:	Good For:		Good For:	Good For:	Good For:	Good For:
General purpose SQL DB	RDBMS+ scale, HA, HTAP	RDBMS+ scale, HA, HTAP	Large scale, complex hierarchical data	Heavy read + write, events	In-memory and Key-value store	Enterprise data warehouse & Datalake
Use Case:	Use Case:		Use Case:	Use Case:	Use Case:	Use Case:
 Web frameworks ERP CRM Ecommerce and web SaaS application	 Gaming Global financial ledger Supply chain/inventory management	 Legacy applications Data center retirement	 Mobile/web/IoT applications Real-time sync Offline sync Personalized apps	 Personalization Adtech Recommendation engines Fraud detection	 Caching Gaming Leaderboard Social chat or news feed Session store Personalization Adtech	 Predictive Analytics Real-time SQL based Machine Learning Dashboards NLP based
 Stream videos Image and web asset libraries Data lakes Backups/archives Long-tail content	 Disks for VMs Share read-only data across VMs Rapid, durable backups of running VMs	 Flash-optimized databases Hot caching layer for analytics Application scratch disk				



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How to build a scalable DATA ANALYTICS PIPELINE





Pick Your AI/ML Path



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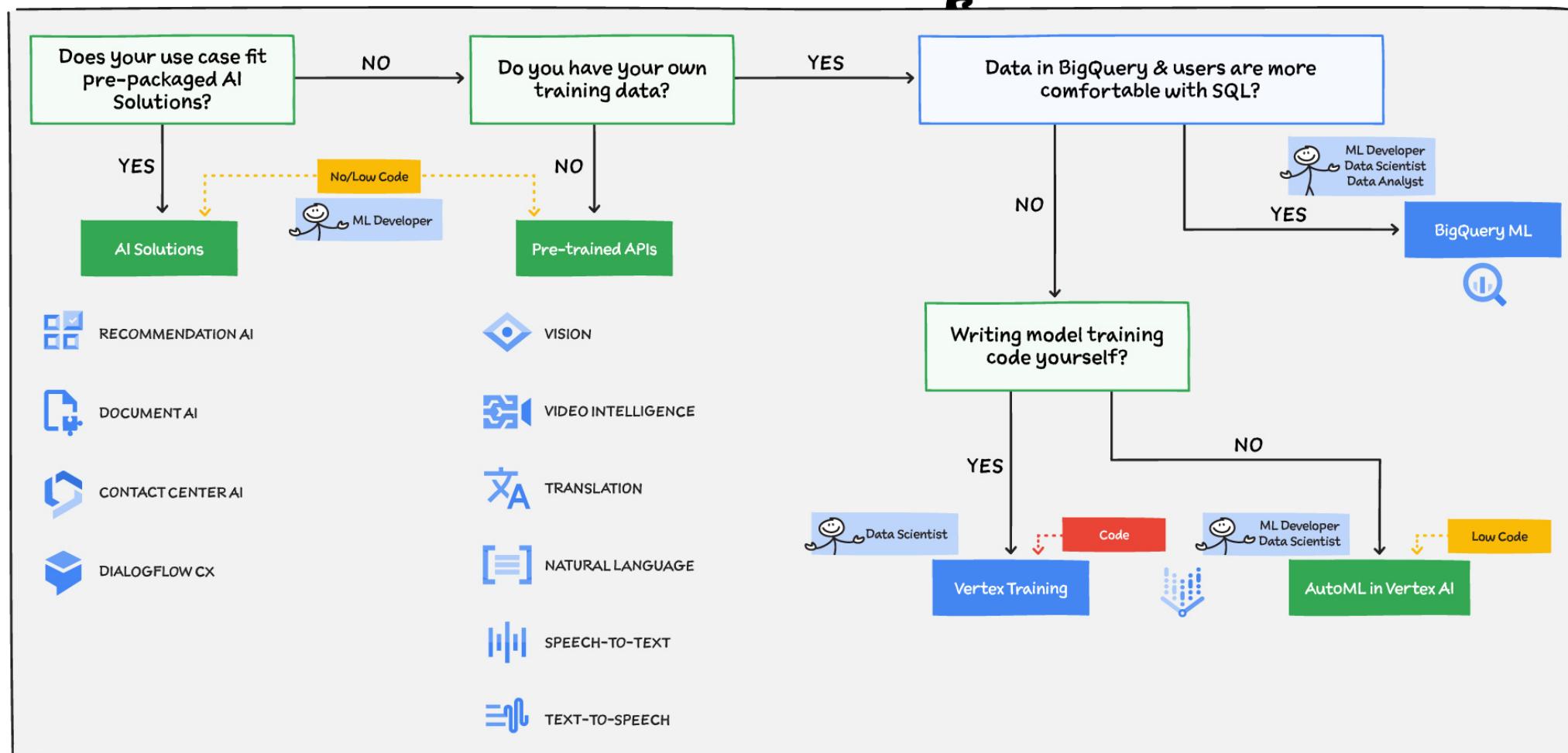


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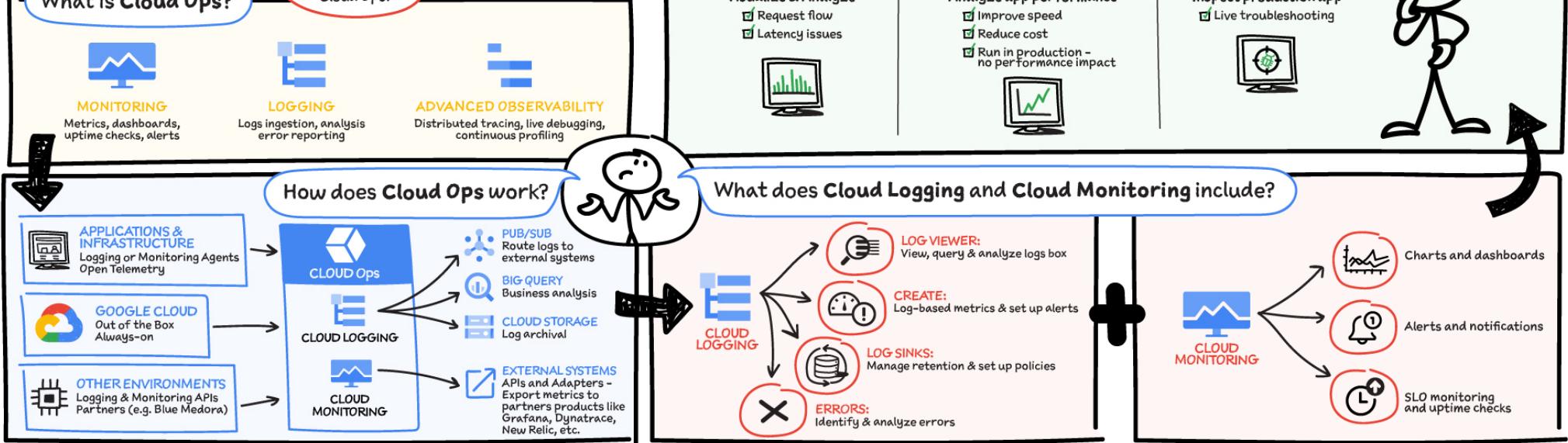
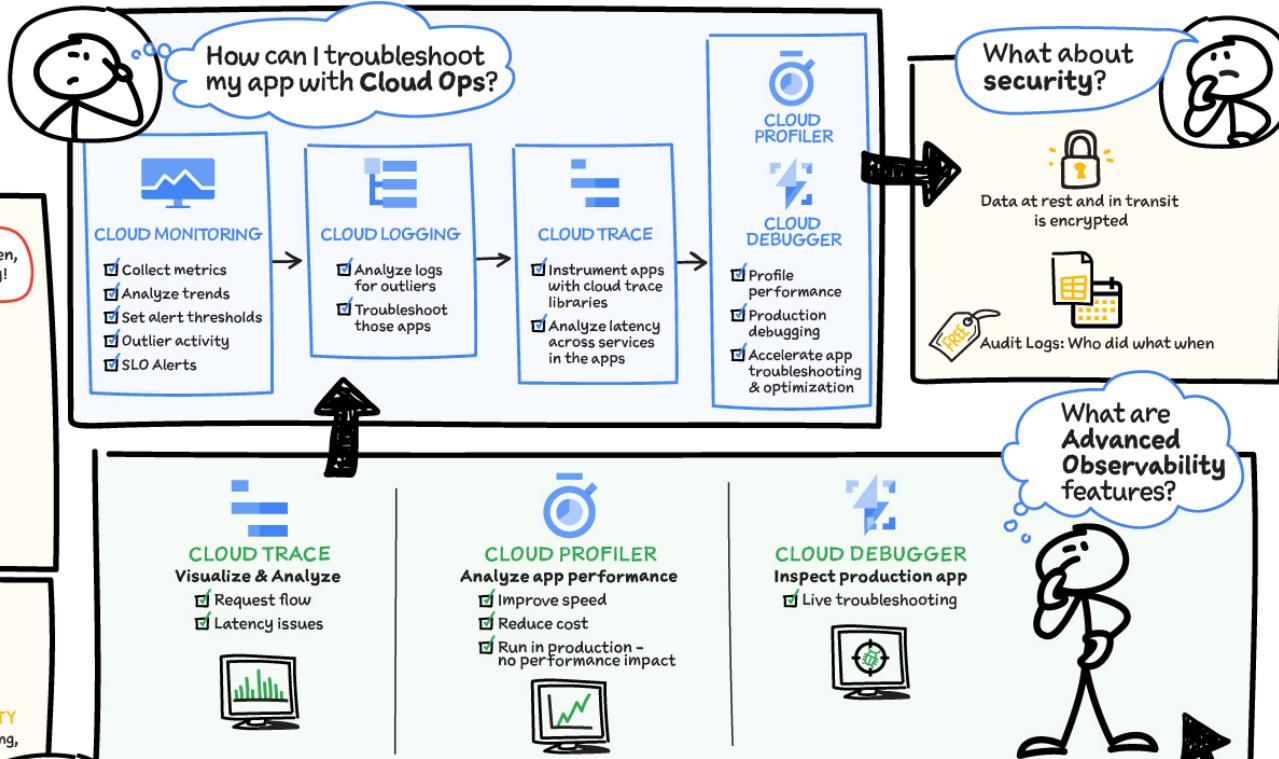
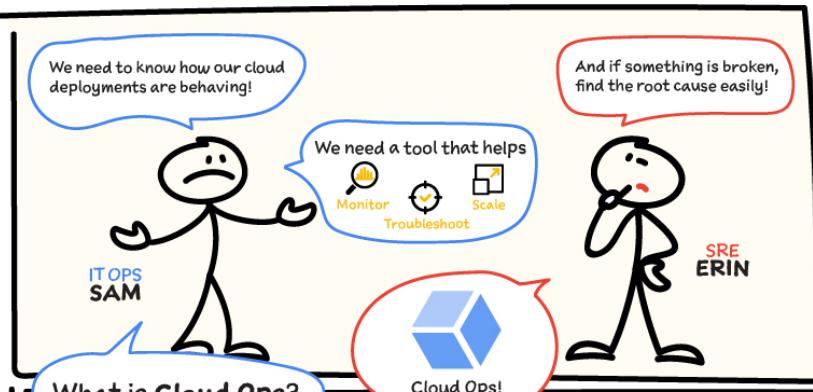
Cloud Operations

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Google Cloud Security Controls



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11.07.2021



GOVERNANCE, RISK & COMPLIANCE

Third-party audits and certifications
Google Vault for G Suite

IDENTITY & ACCESS MANAGEMENT



Cloud Identity | Cloud IAM | Cloud IAP | CICP
Titan Security Key | Cloud Resource Manager | BeyondCorp Enterprise

ENDPOINT SECURITY



Safe Browsing



Device Management



DATA SECURITY



Encryption at Rest | Cloud KMS | Secret Manager | EKM | HSM | VPC SC | Cloud DLP



SECURE SOFTWARE SUPPLY CHAIN



Binary Authorization



APPLICATION SECURITY



Apigee



reCAPTCHA



NETWORK SECURITY



Cloud VPCs



Encryption in Transit



Cloud Armor



Cloud Load Balancing



INFRASTRUCTURE SECURITY

Cloud Infrastructure



Purpose-built Chips



Purpose-built Servers



Purpose-built Storage



Purpose-built Network



Purpose-built Data Centers



SECURITY MONITORING & OPERATIONS



Cloud Logging
Cloud Audit Logging



Cloud Security Command Center



Cloud IDS
G Suite Security Center
Access Transparency



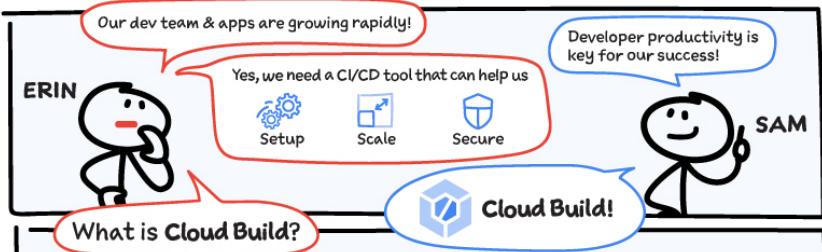
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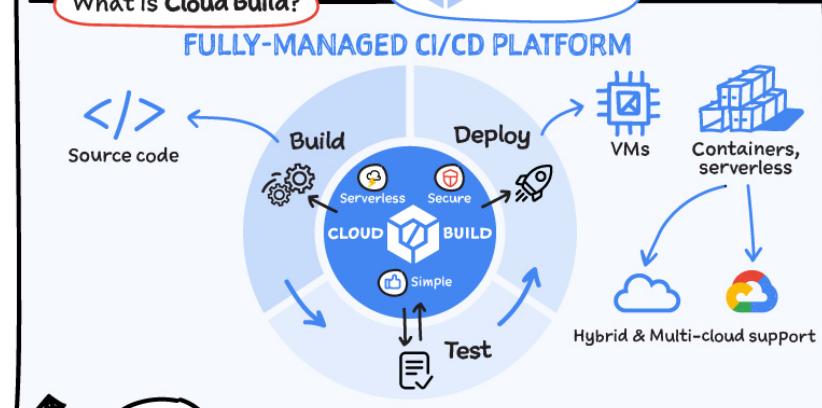
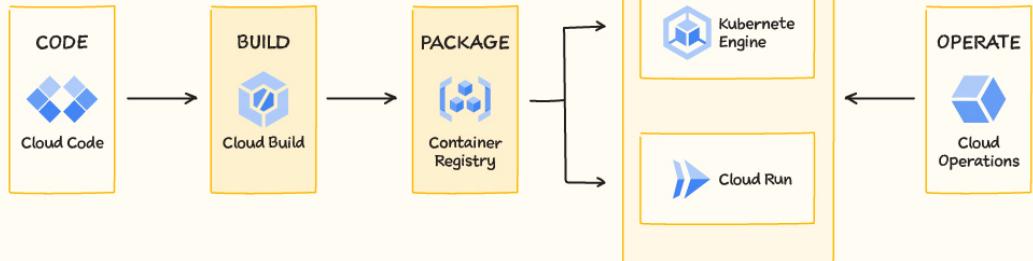
Cloud Build #GCPsketchnote

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How do I create a cloud native CI/CD pipeline for containers?

CI/CD FOR CONTAINERS WITH GCP



How does it help with Security?

