Google

PROFESSIONAL-CLOUD-ARCHITECT Exam

Google Certified Professional - Cloud Architect (GCP) Exam

Questions & Answers

(Demo Version – Limited Content)

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Version: 17.0

Question: 1

For this question, refer to the Mountkirk Games case study.
Mountkirk Games wants you to design their new testing strategy. How should the test coverage differ from their existing backends on the other platforms?

A. Tests should scale well beyond the prior approaches.
B. Unit tests are no longer required, only end-to-end tests.
C. Tests should be applied after the release is in the production environment.
D. Tests should include directly testing the Google Cloud Platform (GCP) infrastructure.

Answer: A

Explanation:
From Scenario:
A few of their games were more popular than expected, and they had problems scaling their application servers, MySQL databases, and analytics tools.
Requirements for Game Analytics Platform include: Dynamically scale up or down based on game activity

Question: 2

For this question, refer to the Mountkirk Games case study.
Mountkirk Games has deployed their new backend on Google Cloud Platform (GCP). You want to create a thorough testing process for new versions of the backend before they are released to the public. You want the testing environment to scale in an economical way. How should you design the process?

A. Create a scalable environment in GCP for simulating production load.
B. Use the existing infrastructure to test the GCP-based backend at scale.
C. Build stress tests into each component of your application using resources internal to GCP to simulate load.
D. Create a set of static environments in GCP to test different levels of load — for example, high, medium, and low.

Answer: A

Explanation:
From scenario: Requirements for Game Backend Platform

- Dynamically scale up or down based on game activity
- Connect to a managed NoSQL database service
- Run customize Linux distro

Question: 3

For this question, refer to the Mountkirk Games case study.
Mountkirk Games wants to set up a continuous delivery pipeline. Their architecture includes many small services that they want to be able to update and roll back quickly. Mountkirk Games has the following requirements:
- Services are deployed redundantly across multiple regions in the US and Europe.
- Only frontend services are exposed on the public internet.
- They can provide a single frontend IP for their fleet of services.
- Deployment artifacts are immutable.
Which set of products should they use?

A. Google Cloud Storage, Google Cloud Dataflow, Google Compute Engine
B. Google Cloud Storage, Google App Engine, Google Network Load Balancer
C. Google Kubernetes Registry, Google Container Engine, Google HTTP(S) Load Balancer
D. Google Cloud Functions, Google Cloud Pub/Sub, Google Cloud Deployment Manager

Answer: C

Question: 4

For this question, refer to the Mountkirk Games case study.
Mountkirk Games' gaming servers are not automatically scaling properly. Last month, they rolled out a new feature, which suddenly became very popular. A record number of users are trying to use the service, but many of them are getting 503 errors and very slow response times. What should they investigate first?

A. Verify that the database is online.
B. Verify that the project quota hasn't been exceeded.
C. Verify that the new feature code did not introduce any performance bugs.
D. Verify that the load-testing team is not running their tool against production.

Answer: B

Explanation:
503 is service unavailable error. If the database was online everyone would get the 503 error.
https://cloud.google.com/docs/quota#capping_usage

Question: 5

For this question, refer to the Mountkirk Games case study
Mountkirk Games needs to create a repeatable and configurable mechanism for deploying isolated

application environments. Developers and testers can access each other's environments and resources, but they cannot access staging or production resources. The staging environment needs access to some services from production.
What should you do to isolate development environments from staging and production?

A. Create a project for development and test and another for staging and production.
B. Create a network for development and test and another for staging and production.
C. Create one subnetwork for development and another for staging and production.
D. Create one project for development, a second for staging and a third for production.

Answer: D

Question: 6

For this question, refer to the Mountkirk Games case study.
Mountkirk Games wants to set up a real-time analytics platform for their new game. The new platform must meet their technical requirements. Which combination of Google technologies will meet all of their requirements?

A. Container Engine, Cloud Pub/Sub, and Cloud SQL
B. Cloud Dataflow, Cloud Storage, Cloud Pub/Sub, and BigQuery
C. Cloud SQL, Cloud Storage, Cloud Pub/Sub, and Cloud Dataflow
D. Cloud Dataproc, Cloud Pub/Sub, Cloud SQL, and Cloud Dataflow
E. Cloud Pub/Sub, Compute Engine, Cloud Storage, and Cloud Dataproc

Answer: B

Explanation:
A real time requires Stream / Messaging so Pub/Sub, Analytics by Big Query.
Explanation:
Ingest millions of streaming events per second from anywhere in the world with Cloud Pub/Sub, powered by Google's unique, high-speed private network. Process the streams with Cloud Dataflow to ensure reliable, exactly-once, low-latency data transformation. Stream the transformed data into BigQuery, the cloud-native data warehousing service, for immediate analysis via SQL or popular visualization tools.
From scenario: They plan to deploy the game's backend on Google Compute Engine so they can capture streaming metrics, run intensive analytics.
Requirements for Game Analytics Platform
• Dynamically scale up or down based on game activity
• Process incoming data on the fly directly from the game servers
• Process data that arrives late because of slow mobile networks
• Allow SQL queries to access at least 10 TB of historical data
• Process files that are regularly uploaded by users' mobile devices
• Use only fully managed services
References:
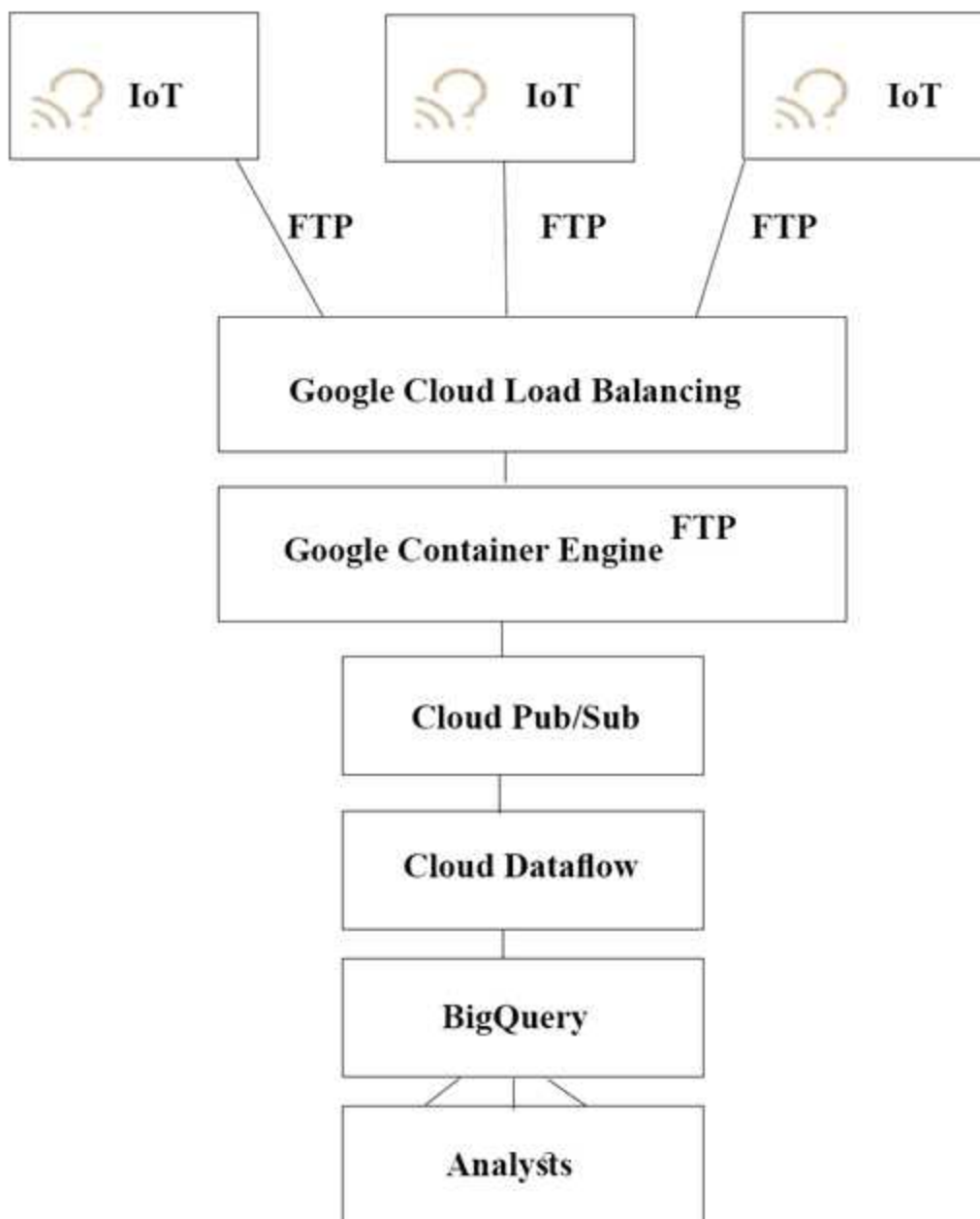https://cloud.google.com/solutions/big-data/stream-analytics/

Question: 7

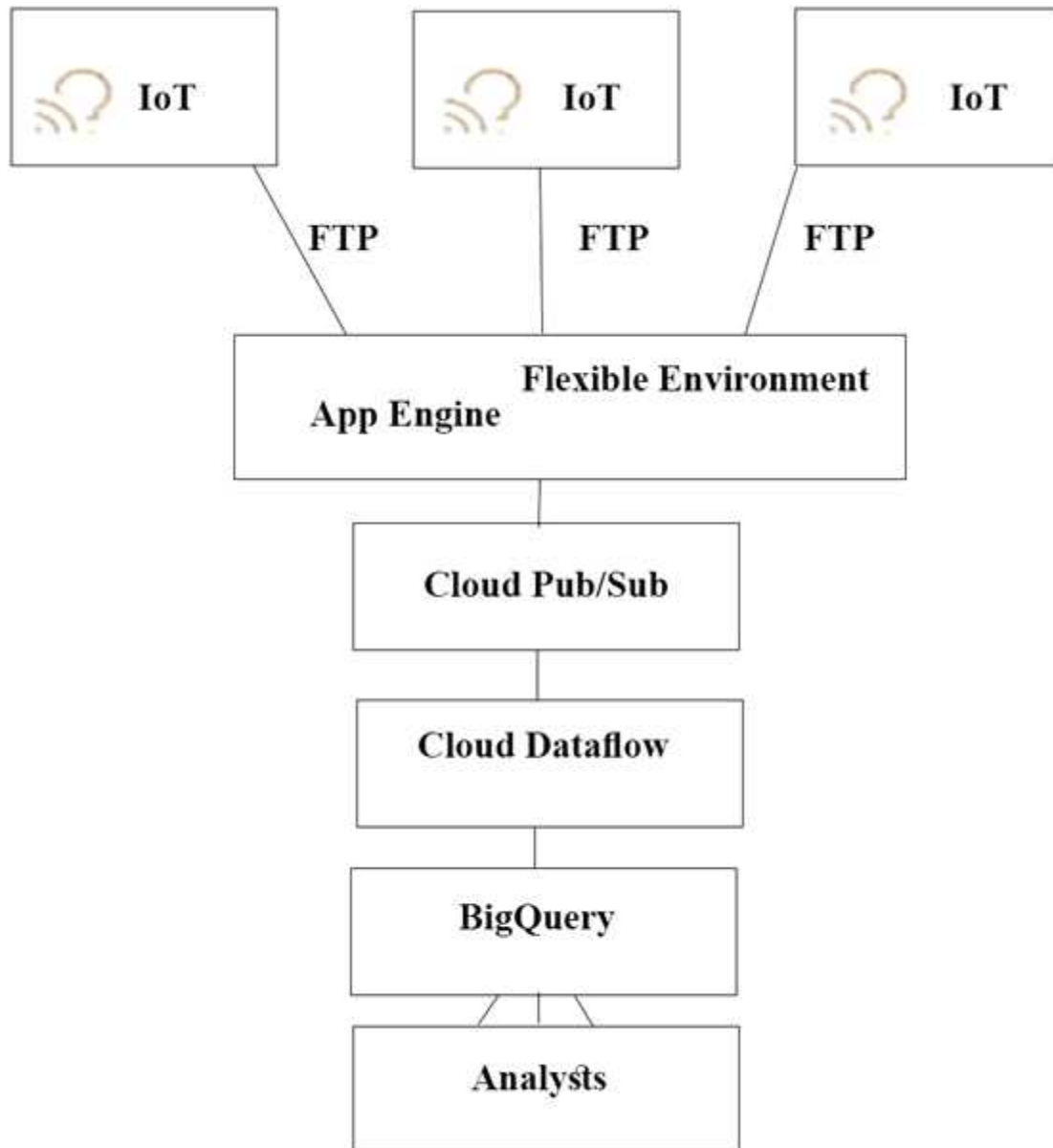For this question, refer to the TerramEarth case study.
TerramEarth's CTO wants to use the raw data from connected vehicles to help identify approximately when a vehicle in the development team to focus their failure. You want to allow analysts to centrally query the vehicle dat
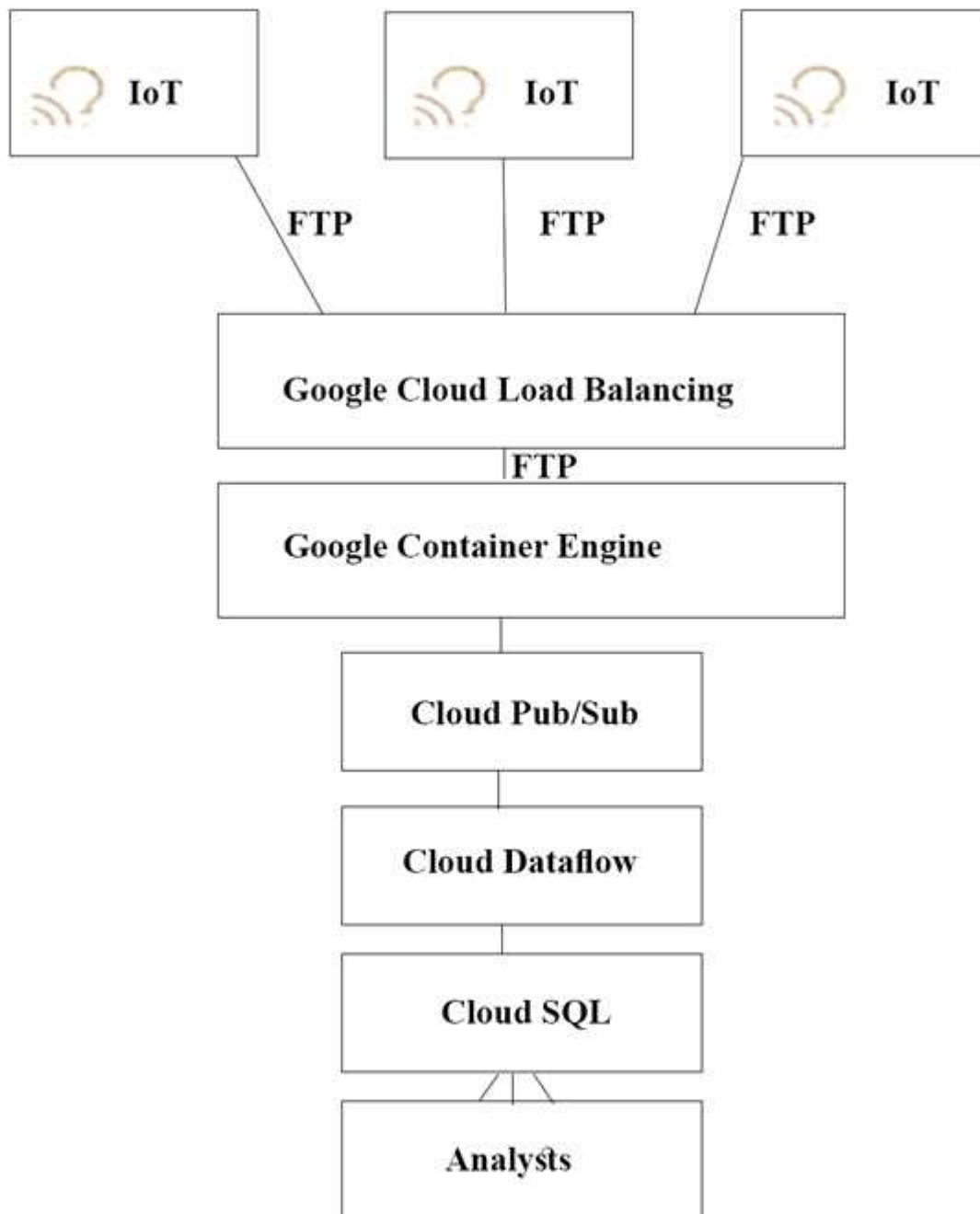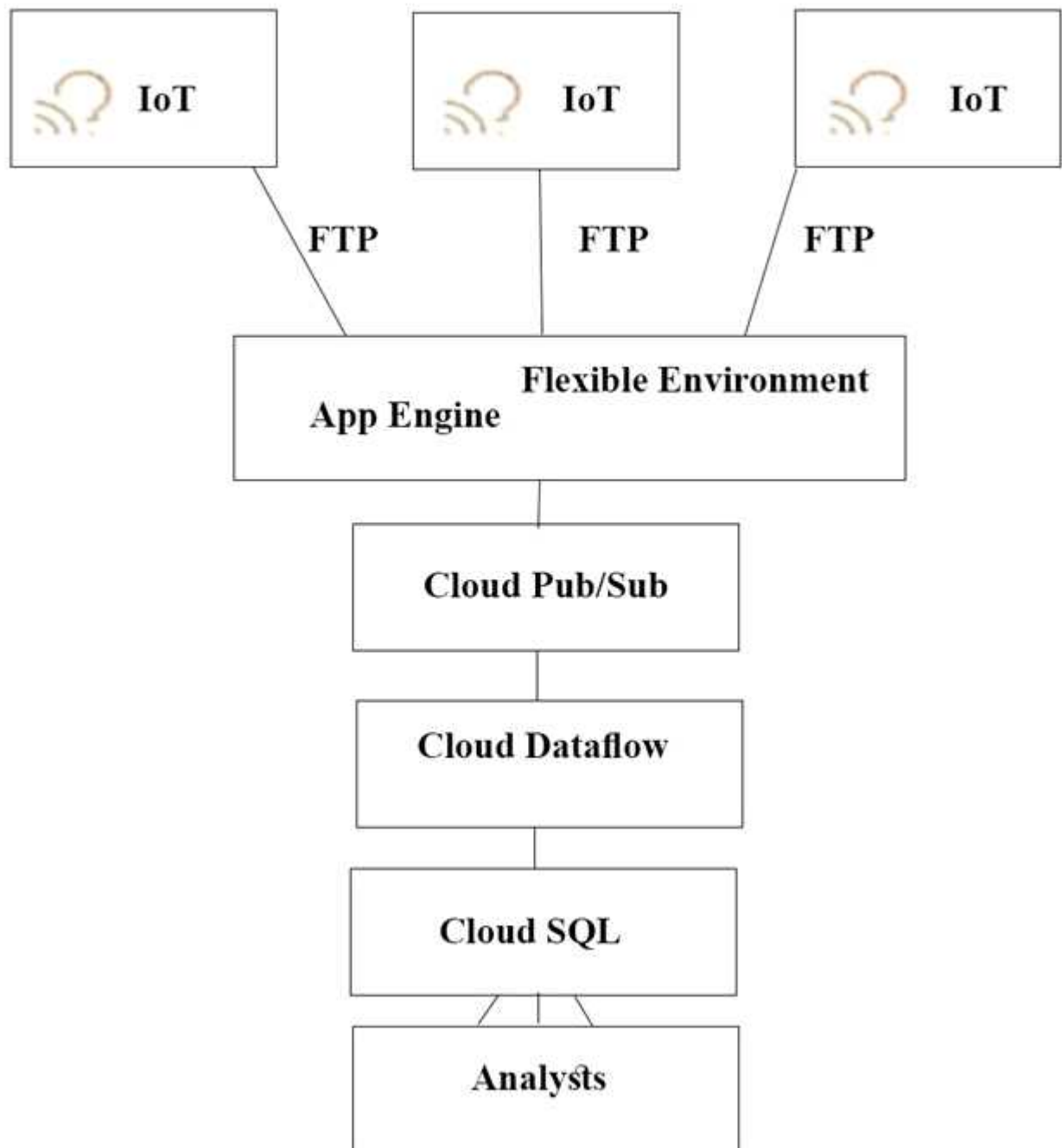a. Which architecture should you recommend?
A)

B)

C)

D)

A. Option A
B. Option B
C. Option C
D. Option D

Answer: A

Explanation:
https://cloud.google.com/solutions/iot/

https://cloud.google.com/solutions/designing-connected-vehicle-platform
https://cloud.google.com/solutions/designing-connected-vehicle-platform#data_ingestion
http://www.eweek.com/big-data-and-analytics/google-touts-value-of-cloud-iot-core-for-analyzing-connected-car-data
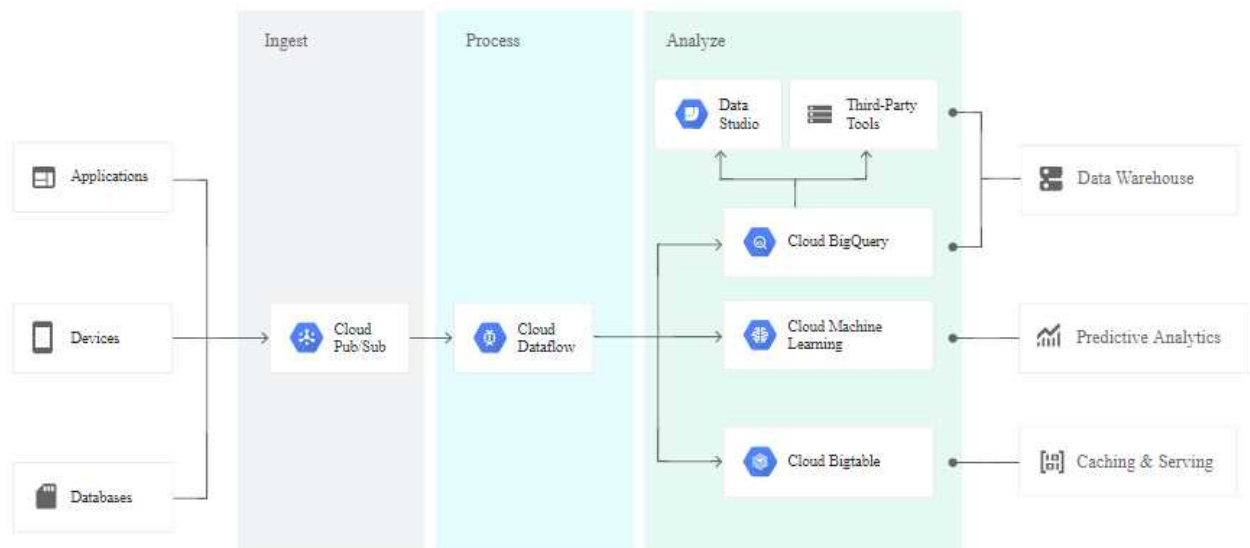https://cloud.google.com/solutions/iot/

Explanation:
The push endpoint can be a load balancer.
A container cluster can be used.
Cloud Pub/Sub for Stream Analytics

References:
https://cloud.google.com/pubsub/
https://cloud.google.com/solutions/iot/
https://cloud.google.com/solutions/designing-connected-vehicle-platform
https://cloud.google.com/solutions/designing-connected-vehicle-platform#data_ingestion
http://www.eweek.com/big-data-and-analytics/google-touts-value-of-cloud-iot-core-for-analyzing-connected-car-data
https://cloud.google.com/solutions/iot/

Question: 8

For this question, refer to the TerramEarth case study.
The TerramEarth development team wants to create an API to meet the company's business requirements. You want the development team to focus their development effort on business value versus creating a custom framework. Which method should they use?

A. Use Google App Engine with Google Cloud Endpoints. Focus on an API for dealers and partners.
B. Use Google App Engine with a JAX-RS Jersey Java-based framework. Focus on an API for the public.
C. Use Google App Engine with the Swagger (open API Specification) framework. Focus on an API for the public.
D. Use Google Container Engine with a Django Python container. Focus on an API for the public.
E. Use Google Container Engine with a Tomcat container with the Swagger (Open API Specification) framework. Focus on an API for dealers and partners.

	Answer: A

Explanation:

https://cloud.google.com/endpoints/docs/openapi/about-cloud-endpoints?hl=en_US&_ga=2.21787131.-1712523161.1522785064
https://cloud.google.com/endpoints/docs/openapi/architecture-overview
https://cloud.google.com/storage/docs/gsutil/commands/test

Explanation:

Develop, deploy, protect and monitor your APIs with Google Cloud Endpoints. Using an Open API Specification or one of our API frameworks, Cloud Endpoints gives you the tools you need for every phase of API development.

From scenario:

Business Requirements

Decrease unplanned vehicle downtime to less than 1 week, without increasing the cost of carrying surplus inventory

Support the dealer network with more data on how their customers use their equipment to better position new products and services

Have the ability to partner with different companies – especially with seed and fertilizer suppliers in the fast-growing agricultural business – to create compelling joint offerings for their customers.

Reference:

: https://cloud.google.com/certification/guides/cloud-architect/casestudy-terramearth

Question: 9

For this question, refer to the TerramEarth case study

Your development team has created a structured API to retrieve vehicle dat

a. They want to allow third parties to develop tools for dealerships that use this vehicle event data.

You want to support delegated authorization against this data. What should you do?

A. Build or leverage an OAuth-compatible access control system.

B. Build SAML 2.0 SSO compatibility into your authentication system.

C. Restrict data access based on the source IP address of the partner systems.

D. Create secondary credentials for each dealer that can be given to the trusted third party.

	Answer: A

Explanation:

https://cloud.google.com/appengine/docs/flexible/go/authorizing-apps
https://cloud.google.com/docs/enterprise/best-practices-for-enterprise-organizations#delegate_application_authorization_with_oauth2

Explanation:

Delegate application authorization with OAuth2

Cloud Platform APIs support OAuth 2.0, and scopes provide granular authorization over the methods that are supported. Cloud Platform supports both service-account and user-account OAuth, also called three-legged OAuth.

References:

https://cloud.google.com/docs/enterprise/best-practices-for-enterprise-

organizations#delegate_application_authorization_with_oauth2
https://cloud.google.com/appengine/docs/flexible/go/authorizing-apps

Question: 10

For this question, refer to the TerramEarth case study.
TerramEarth plans to connect all 20 million vehicles in the field to the cloud. This increases the volume to 20 million 600 byte records a second for 40 TB an hour. How should you design the data ingestion?

A. Vehicles write data directly to GCS.
B. Vehicles write data directly to Google Cloud Pub/Sub.
C. Vehicles stream data directly to Google BigQuery.
D. Vehicles continue to write data using the existing system (FTP).

Answer: B

Explanation:
https://cloud.google.com/solutions/data-lifecycle-cloud-platform
https://cloud.google.com/solutions/designing-connected-vehicle-platform

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