

Latest Version: 6.0

Question: 1

You are designing a mobile chat application. You want to ensure that people cannot spoof chat messages by proving that a message was sent by a specific user. What should you do?

Response:

- A. Encrypt the message client-side using block-based encryption with a shared key.
- B. Tag messages client-side with the originating user identifier and the destination user.
- C. Use a trusted certificate authority to enable SSL connectivity between the client application and the server.
- D. Use public key infrastructure (PKI) to encrypt the message client-side using the originating user's private key.

Answer: D

Question: 2

Your company wants to track whether someone is present in a meeting room reserved for a scheduled meeting. There are 1000 meeting rooms across 5 offices on 3 continents. Each room is equipped with a motion sensor that reports its status every second.

You want to support the data upload and collection needs of this sensor network. The receiving infrastructure needs to account for the possibility that the devices may have inconsistent connectivity.

Which solution should you design?

Response:

- A. Have each device create a persistent connection to a Compute Engine instance and write messages to a custom application.
- B. Have devices poll for connectivity to Cloud SQL and insert the latest messages on a regular interval to a device specific table.
- C. Have devices poll for connectivity to Cloud Pub/Sub and publish the latest messages on a regular interval to a shared topic for all devices.
- D. Have devices create a persistent connection to an App Engine application fronted by Cloud Endpoints, which ingest messages and write them to Cloud Datastore.

Answer: C

Question: 3

Your organization wants to control IAM policies for different departments independently, but centrally. Which approach should you take?

Response:

- A. Multiple Organizations with multiple Folders
- B. Multiple Organizations, one for each department
- C. A single Organization with Folders for each department
- D. A single Organization with multiple projects, each with a central owner

Answer: C

Question: 4

Data can be encrypted at different layers of the OSI network stack. Google Cloud may encrypt network data at multiple levels. What protocol is used at layer 7?

Response:

- A. IPSec
- B. TLS
- C. ALTS
- D. ARP

Answer: C

Question: 5

Your company wants to try out the cloud with low risk. They want to archive approximately 100 TB of their log data to the cloud and test the analytics features available to them there, while also retaining that data as a long-term disaster recovery backup.

Which two steps should they take?

Response:

- A. Load logs into BigQuery.
- B. Load logs into Cloud SQL.
- C. Import logs into Stackdriver.
- D. Insert logs into Cloud Bigtable.
- E. Upload log files into Cloud Storage.

Answer: AE

Question: 6

Today, TerramEarth maintenance workers receive interactive performance graphs for the last 24 hours (86,400 events) by plugging their maintenance tablets into the vehicle.

The support group wants support technicians to view this data remotely to help troubleshoot problems. You want to minimize the latency of graph loads.

How should you provide this functionality?

Response:

- A. Execute queries against data stored in a Cloud SQL.
- B. Execute queries against data indexed by vehicle_id.timestamp in Cloud Bigtable.
- C. Execute queries against data stored on daily partitioned BigQuery tables.
- D. Execute queries against BigQuery with data stored in Cloud Storage via BigQuery federation.

Answer: B

Question: 7

Company Overview

Mountkirk Games makes online, session-based, multiplayer games for the most popular mobile platforms. They build all of their games using some server-side integration. Historically, they have used cloud providers to lease physical servers.

Due to the unexpected popularity of some of their games, they have had problems scaling their global audience, application servers MySQL databases, and analytics tools.

Their current model is to write game statistics to files and send them through an ETL tool that loads them into a centralized MySQL database for reporting.

Solution Concept

Mountkirk Games is building a new game, which they expect to be very popular. They plan to deploy the game's backend on Google Compute Engine so they can capture streaming metrics run intensive analytics, and take advantage of its autoscaling server environment and integrate with a managed NoSQL database.

Business Requirements

Increase to a global footprint Improve uptime – downtime is loss of players Increase efficiency of the cloud resources we use Reduce latency to all customers

Technical Requirements

Requirements for Game Backend Platform

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

Requirements for Game Analytics Platform

1. Dynamically scale up or down based on game activity
2. Process incoming data on the fly directly from the game servers
3. Process data that arrives late because of slow mobile networks
4. Allow SQL queries to access at least 10 TB of historical data
5. Process files that are regularly uploaded by users' mobile devices
6. Use only fully managed services

CEO Statement

Our last successful game did not scale well with our previous cloud provider, resulting in lower user adoption and affecting the game's reputation. Our investors want more key performance indicators (KPIs) to evaluate the speed and stability of the game, as well as other metrics that provide deeper insight into usage patterns so we can adapt the game to target users.

CTO Statement

Our current technology stack cannot provide the scale we need, so we want to replace MySQL and move to an environment that provides autoscaling, low latency load balancing, and frees us up from managing physical servers.

CFO Statement

We are not capturing enough user demographic data, usage metrics, and other KPIs. As a result, we do not engage the right users, we are not confident that our marketing is targeting the right users, and we are not selling enough premium Blast-Ups inside the games, which dramatically impacts our revenue.

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?

Response:

- 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 and use resources from the already deployed production backend 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

Question: 8

Your company wants to deploy several microservices to help their system handle elastic loads. Each microservice uses a different version of software libraries. You want to enable their developers to keep their development environment in sync with the various production services.

Which technology should you choose?

Response:

- A. RPM/DEB
- B. Containers
- C. Chef/Puppet
- D. Virtual machines

Answer: B

Question: 9

Your company is looking to connect their onsite networks to a GCP VPC, in order to dynamically exchange routes between each site. Which service would you advise?

Response:

- A. Cloud Router
- B. Cloud Interconnect
- C. External peering
- D. Cloud DNS

Answer: A

Question: 10

Your team is designing a stream processing application that collects temperature and pressure measurements from industrial sensors. You estimate that for the initial release, the application will need 8 to 12 n1-highmem-32 instances.

Someone on the team suggests using a Cloud Memorystore cache. What could that cache be used for?

Response:

- A. A SQL database
- B. As a memory cache to store state data outside of instances
- C. An extraction, transformation, and load service
- D. A persistent object storage system

Answer: B