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Exam : Professional Cloud Developer

**Title : Professional Cloud
Developer**

Version : DEMO

1. Topic 1, HipLocal Case Study

Company Overview

HipLocal is a community application designed to facilitate communication between people in close proximity. It is used for event planning and organizing sporting events, and for businesses to connect with their local communities. HipLocal launched recently in a few neighborhoods in Dallas and is rapidly growing into a global phenomenon. Its unique style of hyper-local community communication and business outreach is in demand around the world.

Executive statement

We are the number one local community app; it's time to take our local community services global. Our venture capital investors want to see rapid growth and the same great experience for new local and virtual communities that come online, whether their members are 10 or 10,000 miles away from each other.

Solution concept

HipLocal wants to expand their existing service, with updated functionality, in new regions to better serve their global customers. They want to hire and train a new team to support these regions in their time zones. They will need to ensure that the application scales smoothly and provides clear uptime data.

Existing technical environment

HipLocal's environment is a mix of on-premises hardware and infrastructure running in Google Cloud Platform. The HipLocal team understands their application well but has limited experience in global scale applications.

Their existing technical environment is as follows:

Existing APIs run on Compute Engine virtual machine instances hosted in GCP State is stored in a single instance MySQL database in GCP

Data is exported to an on-premises Teradata/Vertica data warehouse

Data analytics is performed in an on-premises Hadoop environment

The application has no logging

There are basic indicators of uptime; alerts are frequently fired when the APIs are unresponsive

Business requirements

HipLocal's investors want to expand their footprint and support the increase in demand they are seeing.

Their requirements are:

Expand availability of the application to new regions

Increase the number of concurrent users that can be supported

Ensure a consistent experience for users when they travel to different regions Obtain user activity

metrics to better understand how to monetize their product Ensure compliance with regulations in the new regions (for example, GDPR) Reduce infrastructure management time and cost

Adopt the Google-recommended practices for cloud computing

Technical requirements

The application and backend must provide usage metrics and monitoring
APIs require strong authentication and authorization
Logging must be increased, and data should be stored in a cloud analytics platform
Move to serverless architecture to facilitate elastic scaling
Provide authorized access to internal apps in a secure manner

HipLocal's .net-based auth service fails under intermittent load.

What should they do?

- A. Use App Engine for autoscaling.
- B. Use Cloud Functions for autoscaling.
- C. Use a Compute Engine cluster for the service.
- D. Use a dedicated Compute Engine virtual machine instance for the service.

Answer: D

Explanation:

Reference: <https://www.qwiklabs.com/focuses/611?parent=catalog>

2.HipLocal's APIs are showing occasional failures, but they cannot find a pattern. They want to collect some metrics to help them troubleshoot.

What should they do?

- A. Take frequent snapshots of all of the VMs.
- B. Install the Stackdriver Logging agent on the VMs.
- C. Install the Stackdriver Monitoring agent on the VMs.
- D. Use Stackdriver Trace to look for performance bottlenecks.

Answer: C

3.HipLocal has connected their Hadoop infrastructure to GCP using Cloud Interconnect in order to query data stored on persistent disks.

Which IP strategy should they use?

- A. Create manual subnets.
- B. Create an auto mode subnet.
- C. Create multiple peered VPCs.
- D. Provision a single instance for NAT.

Answer: A

4.Which service should HipLocal use to enable access to internal apps?

- A. Cloud VPN
- B. Cloud Armor
- C. Virtual Private Cloud
- D. Cloud Identity-Aware Proxy

Answer: D

Explanation:

Reference: <https://cloud.google.com/iap/docs/cloud-iap-for-on-prem-apps-overview>

5.HipLocal wants to reduce the number of on-call engineers and eliminate manual scaling.

Which two services should they choose? (Choose two.)

- A. Use Google App Engine services.
- B. Use serverless Google Cloud Functions.
- C. Use Knative to build and deploy serverless applications.
- D. Use Google Kubernetes Engine for automated deployments.
- E. Use a large Google Compute Engine cluster for deployments.

Answer: BC