Case Study – Azure Synapse and Cosmos DB

Overview

PerimoHealth is Healthcare Service provider and has offices spread across the world, in different countries. Their services include emergency services like ambulance service, blood bank network and donor network. The customer can request for appointments and emergency travel requests through their website. The response needs to be fast and the service should be highly available. The demand is increasing and customer base is rapidly growing. The existing setup is inefficient and the response rate is very slow.

What does the customer already have?

PerimoHealth has a website deployed in headquarters in South India and 14 Datacentres in 2 different regions due to data restrictions. All the resources used by PerimoHealth are hosted on-premises. The existing servers are unable to handle the growing number of service requests and need to be upgraded. The global clients access the website that is deployed in the selected Datacentres in each region and they are facing latency issues. The Active Domain directory provides sign in features for employees to access the office resources. The employee co-ordinate with the emergency service vehicles and health workers over phone. It is tedious to keep track of vehicles and their availability. This makes the response very slow and inefficient.

What are Customer Goals?

The primary goal of PerimoHealth is to shift major workload to Azure and reach the global clients without any latency and achieve high availability. The application has to be upgraded with more features to track the emergency response vehicles and health workers and notify them on service request. The real time data has to be collected and the nearest unit has to be automatically notified. The data has to be stored for minimum of 6 months. The critical data is stored in the On-site Datacentres and non-critical data is shifted to Azure.

What are Customer Needs?

- Reduce number of datacentres and move major workload to Cloud.
- The application is globally distributed and highly available.
- The privacy of the clients cannot be compromised. The secure connection between on-premises to on-premises datacentres.
- The real time data of Emergency vehicles, registered health workers and employees should be captured and archived for 6 months.
- The existing non-critical database should be migrated to Azure Database services
- The performance data analysis by Azure to analyse the performance data
- On-premises Active Directory domain will be synchronised to Azure AD
- The single sign-on for the employees and health workers should be provisioned

Challenges

1. You need to design a database solution to secure the client critical data in the on-premises datacentre and restrict the access to the health department only. What should you include in the solution?

   You recommend Azure SQL Database server and hybrid Windows AD and Azure AD hybrid Azure AD. Is this the best solution?

   A. Yes B. No

2. The real time data from the registered vehicles and health workers are collected and the service request automatically selects the nearest service provider. The data of vehicle movements should be available for analytics. The data is archived for 6 months.

   Which Database solution do you recommend?

   - Azure SQL Database
   - Azure Managed SQL Database
   - Azure Cosmos DB
   - SQL Server on Virtual Machine

3. The client real time vital data must be continuously monitored. The emergency response professional is given the right instructions depending on the data Analysis.

   Which solution do you recommend?

   - Azure Cosmos DB and HD Insights
   - Azure SQL Data Warehouse and Azure Synapse Analytics
   - Azure Cosmos DB and Azure Synapse Analytics
   - Mongo DB and Power BI