U Vid Inc. System Upgrade Project Proposal

Jianghui Li

IST 615

Overview of the Project:

U Vid Inc. can no longer sustain the physical infrastructure needed due to the continued growth and provided its SaaS solution. The goal of this project is to help U Vid to develop a plan to enable the company to run SaaS software platforms from a public cloud.

Cloud Vendor: **Microsoft Azure**

Although there are many trusted cloud vendors nowadays, MS Azure remains to be one of the best choices after reading and understanding U Vid’s case problem. One very important requirement of the U Vid web application is that it needs .Net 5 to run. .Net is a Microsoft product, and U Vid does not want to change this requirement. Hence, to minimize the unnecessary problems after adopting the cloud solution, MS Azure is desirable in this situation since Azure functions are supported running on .Net 5.

Resources Needed to Produce SaaS: **Virtual Machines**

To produce U Vid’s SaaS, it is ideal to run the current four servers as VMs. There are many benefits to using VMs. An organization often spend a significant amount of their IT spending on acquiring and maintaining physical servers. Sometimes, unpredictable events like power shortages or natural disasters can cause permanent data losses. Other the other hand, the cost of using VMs is usually flexible, and the providers would also guarantee data security and lost data recovery. Therefore, it is highly recommended that U Vid should run all four servers as VMs.

Changing SaaS architecture to PaaS should be considered since PaaS means that the provider would manage almost everything except for application and data for clients. As for U Vid, changing the video transcoder’s architecture to PaaS with containers is recommended. Containers allows users to easily spawn application on the virtual infrastructure with a few commands. The video data and encoding processes are performed in the video transcoder, and it is possible that some U Vid’s clients might not want their data to be seen by a third-party provider. With PaaS solution, users can run encoding application on provided infrastructure if needed. Also, letting U Vid manage their encoding application is suggested because U Vid’s encoding method should be confidential.

Resources Details from Microsoft Azure:

VM for Application Server

A4: 8 cores, 14GB RAM, 605GB Temporary storage

Standard HDD disk: S20: 512GiB

Monthly Cost: $372.21

VM for Wowza Streaming Engine

A4: 8 cores, 14GB RAM, 605GB Temporary storage

Standard HDD disk: S20: 512GiB

Monthly Cost: $372.21

VM for MS SQL server

A4: 8 cores, 14GB RAM, 605GB Temporary storage

Standard HDD disk: S20: 512GiB

Monthly Cost: $372.21

VM for Video Transcoder

B16ms: 16 cores, 64GB RAM, 128GB Temporary storage

Standard HDD disk: S20: 512GiB

Monthly Cost: $601.43

Total Estimated Monthly Cost: $2068.51

Expected Service Uptimes: **24/7**

We should expect clients of U Vid can have access to U Vid applications all the time. A restaurant can have its peak hours but not for video encoding services. People might need to perform video encoding at any time. Thus, the service uptimes should be twenty-four hours a day, seven days a week.

Guarantees that are provided by the vendor:

MS Azure guarantees that all VMs’ connectivity is more than 99.9% at all times.

The firewall will be available more than 99.9% of the time.

MS Azure guarantees at least 99.9% availability of the backup and restore functionality of the Azure Backup service.

Customers will have connectivity between their Microsoft Azure Database for MySQL Server and their Internet gateway at least 99.99% of the time.

End users will be able to create and consume information rights management documents and emails 99.9% of the time.

If downtime happens, how will Microsoft reimburse the downtime cost?

By providing service credits according to the downtime the customers have.

"Service Credit" is the percentage of the Applicable Monthly Service Fees credited to you following Microsoft’s claim approval.

Monthly Uptime % = (Minutes in the Month - Downtime) / Minutes in the Month X 100