

HomeView

WEB HOSTING DAR

Uniting Streaming Services on One Site

March 9, 2022

Unite
Christian Lam
Daniel Monge
Eric Truong (Team Leader)
Erina Lara
Michael Lamera

Introduction

Unite has considered three options for hosting the data store. Given Unite’s limited budget, the team only considered the free tiers of the following hosting services.

- Amazon Web Services Elastic Cloud Computing (EC2)
- Azure VM Services
- Google Cloud

	<u>Amazon Web Services Elastic Cloud Computing (EC2)</u>	<u>Azure VM</u>	<u>Google Cloud</u>
Pros	<ul style="list-style-type: none"> ● Easy to navigate and setup, offers more flexibility ● Can add more storage if need be ● Ensures high availability ● Ensures automatic replication across regions ● More open to open source community ● Security is provided through user-defined roles with exceptional permission controls ● Most services available, from networking to robotics ● Compliance with many industry standards, including HIPAA, ISO 27001, SOC 2, 3 	<ul style="list-style-type: none"> ● Cost Management ● Easy scalability and load balancing ● Easy backup and restore ● VNET and VNET gateway provided networking and routing ability for the VM traffic ● Integration with other MS services inside of Azure ● Hybrid cloud ● Strong focus on security 	<ul style="list-style-type: none"> ● Good, up-to-date documentation ● High durability ● Easy to integrate with other Google Cloud Services ● Open source ● Machine learning, and IoT capabilities ● Strong data analytics and storage ● Easy collaboration ● Good portability
+0.80	+0.80	+0.70	+0.80

Temporary Storage Limits (TB) 0.20	48 (Multiple disks) +0.20	3 +0.05	4 +0.06
Data Centers 0.30	245 +0.30	140 +0.10	200 +0.20
Regional Availability (Number of regions) 0.33	25 +0.25	33 +0.33	24 +0.24
Total (out of 2.25)	2.00	0.985	1.57

Conclusion

Amazon Web Services Elastic Cloud Computing (AWS EC2) scored the most points during the review. AWS EC2 is easy to configure and navigate compared to the other options, so the team expects a short adjustment period when learning the technology. AWS is a popular option when it comes to server hosting, receiving many positive ratings. Moreover, AWS EC2's scaling options are affordable, allowing HomeView to support more users in the future if needed.

For the first calculated subtotal, our team decided to score each individual category's pros and cons. The highest possible number of points to gain from the pros would be +0.80, whereas the highest possible deduction of points from the cons would be -0.60. To calculate each option's subtotal from the recorded pros and cons, the number of cons would be subtracted from the option's total number of pros. In our case, the Amazon Web Services Elastic Cloud Computing (EC2) option scored the highest (by having +0.80 pros and -0.40 cons, resulting in a subtotal

score of +0.40). Following the same procedure, the Azure VM option placed second with a subtotal of +0.10, whereas the Google Cloud option resulted last, with a subtotal of +0.20.

After calculating the subtotal, we analyzed the metrics of each option. For the number of instance templates available, Amazon Web Services Elastic Cloud Computing (EC2) had 39 instance templates (gaining a score of +0.40), Azure VM had 18 instance templates available (score of +0.10), and Google Cloud had 40 instance templates (gaining the highest score of +0.22). For the CPU limits scoring, the Amazon Web Services Elastic Cloud Computing (EC2) option scored +0.30 due to having the maximum CPU limit of 40, whereas both the Azure VM option and the Google Cloud option scored +0.15 for a CPU limit of 32. For object size limits, both the Amazon Web Services Elastic Cloud Computing (EC2) option and the Google Cloud option scored the highest, gaining +0.20 points, with an object size limit of up to 5 TB. On the other hand, the Azure VM option score +0.10 for having an object size limit of 4.75 TB. For the temporary storage limits, the Amazon Web Services Elastic Cloud Computing (EC2) has a maximum limit of 48 TB (across multiple disks), gaining the highest score of +0.20, Azure VM scoring +0.05 for having a maximum temporary storage limit of 3 TB, and Google Cloud scoring +0.06, for having a temporary storage limit of 4 TB. For the Data Centers metric, the Amazon Web Services Elastic Cloud Computing (EC2) option has over 245 data centers, thus scoring the highest with +0.30 points. The second highest option of +0.20 points, being Google Cloud with 200 data centers. On the other hand, the Azure VM option gained +0.10 for having 140 data centers. For the regional availability metric, Amazon Web Services Elastic Cloud Computing (EC2) has a total number of 25 regions (scoring the second highest, +0.25), Azure VM has 33 regions (scoring the highest with +0.33), and Google Cloud has 24 regions (scoring with +0.24).

After calculating the subtotal and metrics from each web hosting option, the highest possible scoring was a 2.25. The Azure VM option scored the lowest, with a score of 0.985, with Google Cloud scoring 1.57, and the Amazon Web Services Elastic Cloud Computing (EC2) option scoring 2.00. As a conclusion, based on its metrics and pros and cons, our team conclusively and unanimously decided to utilize the Amazon Web Services Elastic Cloud Computing (EC2) as our web hosting service.

References

<https://www.edureka.co/blog/aws-vs-azure/#:~:text=Both%20AWS%20and%20Azure%20provide,and%20automatic%20replication%20across%20regions.>

<https://www.projectpro.io/article/aws-vs-azure-who-is-the-big-winner-in-the-cloud-war/401>

<https://www.bmc.com/blogs/aws-vs-azure-vs-google-cloud-platforms/>

<https://www.jeffersonfrank.com/insights/aws-vs-azure-vs-google-cloud-provider-comparison>

<https://ncube.com/blog/aws-vs-ms-azure-vs-google-cloud-feature-overview-pros-and-cons>

https://www.nakivo.com/blog/aws-vs-azure-vs-google-which-cloud-is-best-for-your-organization
/