WeCasa

Archive Storage DAR Report

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Github Repository:

https://github.com/githelsui/WeCasa

Archive Storage DAR Version Table

Version	Description	Date
1.0	Initial DAR - Use Cases - Technologies, Metrics, Evaluation	12/05/2022
1.1	Content Improvements - Reduced weights - Added more quantifiable metrics based on business needs	12/07/2022

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Business Needs & Metrics

Cost: WeCasa wants to reduce our technology costs to $0. So any archive storage service that requires an upfront cost for at least the next 6 months is not ideal, and will be scored as a 0.
Security: Security is a primary concern for the backend layer of our application. Scoring for this category will be based on whether the data storage includes the following protections in the free tier:

- Data encryption (at-rest)
- Infrastructure security (virtual network)

Data retrieval cost: WeCasa wants to reduce our technology costs to $0. So retrieving the data from the archival storage service should not incur any cost (0 if no, 1 if yes).
Minimum storage duration: Archived entries must be stored for at least 30 days. The score for this category will be based on whether the service can meet this requirement (0 if no, 1 if yes).
Data transfer within the cloud region:
Access Delay: The persistent data store must be accessible by the system, but the time it takes to access the data store is not a specific requirement. Since we want our system to be efficient, we will score technologies in this category by the shortest access delay time.

Technology Comparison

Scale: 1-1.75, based on how influential that metric is in our decision making. Higher numbers indicate more importance.
Scores: 0-1, based on how well they match our desired use case.

Metrics	Amazon S3 Glacier Instant Retrieval	Azure Archive Storage - Archive Access Tier	Google Cloud Archive Storage Class
Cost - **1.5**	12 months free of 5 GB Amazon S3 standard storage, 20,000 Get Requests, 2,000 Put Requests, and 100 GB of data transfer out each month (*S3, 2022*) - **1.5**	30 days free with $200 credit (Microsoft Azure, 2022) - **0.75**	90-day, $300 Free Trial (*Google Cloud, 2022*) - **0.75**

Security - **1.75**	Uses TLS, access keys, and secret access keys from IAM principals, and VPC endpoints. Data is protected at-rest using AES-256 (*Amazon S3 Glacier*, 2022) - **1.5**	Data is transferred using HTTPS and secured at rest using AES-256 (*Microsoft Azure*, 2022) - **1.5**	Uses server-side encryption, retention policies for bucket objects (*Google Cloud*, 2022) - **1.5**
Data retrieval cost - **1**	10 GB data retrieval per month free (S3 Glacier, 2022) - **1**	$0.02 per GB (Microsoft Azure, 2022) - **0**	$0.05 per GB (Google Cloud, 2022) - **0**
Minimum storage duration - **1**	180 days. Early deletions are charged $0.021 per day (*AWS billing, 2022*) - **1**	180 days. Early deletion fee equivalent the amount it would take to store that data archive for remaining days (Microsoft Azure, 2022) - **1**	365 days. Early deletions are charged 0.0001 USD per gibibyte per day (*Google Cloud, 2022*) - **1**
Data transfer within one cloud region - **1**	Free - **1**	Free - **1**	Free - **1**
Access delay - **0.5**	Minutes (AWS, 2016) - **0.25**	Up to 15 hours (K.P., 2016) - **0.25**	Milliseconds (K.P., 2016) - **0.5**
Total	**8**	**5.875**	**6**

Recommendation

AWS S3 Glacier Instant Retrieval

Glossary

Term	Definition
AES-256	256-bit Advanced Encryption Standard
S3	Simple Storage Service
TLS	Transport Layer Security
VNet	Virtual network

References

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