Archiving System Design for Space Surfer

What Matters:

- How much it costs

- How much data it can hold

- How safe it is

- How easy it is to get data back

- The system must be operational.

- The user must have administrative privileges.

- The user is required to be currently authenticated on their device.

- Archival destination must have the necessary storage space.

1. Research on Storage Options for Archiving

Purpose: Find out where we can store our archived logs.

Options Reviewed:

1. Amazon S3 (Simple Storage Service)

Pros:

- Scalability: Handles large amounts of data efficiently; scales up or down based on needs.

- Security: Offers robust security features, including encryption of data in transit and at rest.

- Integration: Integrates well with other AWS services, providing a comprehensive cloud solution. ** we are already going to host our website on AWS**

- Accessibility: Multiple administrators can manage and access data.

Cons:

- Cost: Can be expensive depending on the amount of data stored and accessed; pricing is based on storage, requests, and data transfer.

- Complexity: Setup and management might be complex for users unfamiliar with AWS.

- Free Trial: Offers a free tier, but it's limited to 5 GB of standard storage, 20,000 GET requests, and 2,000 PUT requests for one year.

2. Google Cloud Storage

Pros:

- Cost-Effectiveness: Competitive pricing and often considered more straightforward than AWS pricing.

- Ease of Use: Generally user-friendly interface, easier to navigate for newcomers.

- Integration: Seamless integration with other Google Cloud services and APIs.

- Accessibility: Supports multiple administrators with IAM roles and permissions.

Cons:

- Data Transfer Costs: Like other cloud providers, costs for egress (data sent from Google Cloud Storage to other locations) can add up.

- Learning Curve: While easier than some alternatives, still requires some learning for those new to Google Cloud.

- Free Trial: Offers a $300 credit free trial for new users to explore and use Google Cloud Storage services.

3. Azure Blob Storage

Pros:

- Integration with Microsoft Products: Excellent integration if you already use Microsoft services, such as Office 365 or Azure.

- Security: Includes advanced security and privacy features, meeting numerous compliance certifications.

- Accessibility: Supports multiple administrators.

- Free Trial: Offers an initial free tier with access to a range of services, including Blob Storage.

Cons:

- Complexity: Can be complex to configure, especially with regard to access policies and networking.

- Cost: Costs can escalate with higher usage levels, particularly with transaction costs and data egress.

4. NAS Devices

Pros:

- Ease of Setup: Generally easy to install and configure within a local network.

- Cost Control: One-time cost for hardware; no ongoing fees unless additional services are opted for.

- Immediate Accessibility: Data is accessible within the network without latency or internet dependency.

- Full Control: Complete control over data security and management.

Cons:

- Limited Scalability: Expanding storage capacity may require physical upgrades or additional NAS units.

- Maintenance: Requires physical maintenance and is susceptible to local network issues.

- No Free Trial: no free trial because it’s a physical device.