

CASE STUDY

Archive for the Apparel and Fashion Company

About Apparel and Fashion Company:

Apparel and Fashion Company is a vertically integrated; trans-national that controls the entire clothing chain from design, manufacturing, distribution to retail sales. With a manufacturing base in India & sales offices across India, UK, Germany and USA, the company has almost 2500 people in its fold. The company operates a 5000 sq. ft. Italian inspired design studio at its Mumbai Corporate office building which is a LEED Gold Certified building.

About Wysetek:

Wysetek is a technology and software development company that specializes in providing innovative IT solutions and services to businesses worldwide. They offer a range of services, including custom software development, cloud computing, IT consulting, and enterprise solutions. Wysetek focuses on helping businesses streamline their processes, enhance operational efficiency, and adopt the latest technologies. The company also caters to industries like healthcare, finance, and retail, leveraging cutting-edge tools to drive digital transformation. With a client-centric approach, Wysetek ensures high-quality, scalable solutions tailored to specific business needs.

Challenges:

Use Case: ARCHIVE

The customer faced challenges in terms of high costs for managing data on local servers, along with a protection from data loss. They sought a secure, cost-effective solution with features as easy data management, strong protection against data loss, and syncing modified data on daily basis. Their goal was to simplify data management and prevent future data loss incidents.

1. **Data Archival Requirement:** The customer needed a permanent archival solution for storing a large amount of data (40 TiB), which is a significant quantity. Ensuring the storage solution is cost-effective while providing the necessary durability and security was essential.
2. **On-Prem to Cloud Lift-and-Shift:** The goal was to migrate data from legacy on-prem servers to cloud storage, which can be difficult especially with older operating systems like CentOS. The lift-and-shift method needed to be seamless, ensuring minimal downtime and smooth transfer of the large dataset.
3. **Data Loss and Recovery Challenges:** To avoid data loss incident, ensuring better data protection and recovery options was a high priority. Ensuring that the data was backed up properly and could be recovered quickly in case of future issues was crucial.
4. **Cost Reduction and Complexity Reduction:** They wanted to reduce the operational costs and complexities associated with managing on-prem infrastructure, looking for a cloud-based solution that could streamline operations.

5. **User Interface and Management:** The customer wanted an intuitive, modern interface to manage data, making it easy to track, control, and retrieve archived data without complex tools or training.

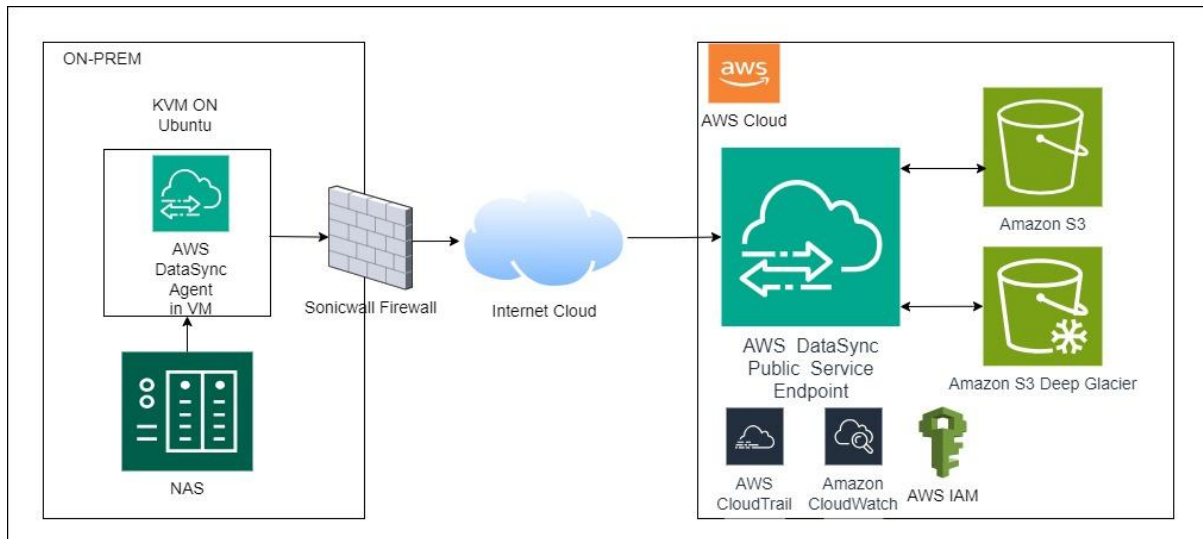
Solution:

The solution involves transferring 40 TiB of data from an on-premises NAS server to AWS S3 using AWS DataSync and leveraging KVM on an Ubuntu server. This ensures efficient, secure data transfer to cloud storage while providing cost-effective, long-term data retention through Amazon S3 Glacier Deep Archive.

- **S3 Storage & Glacier Deep Archive** Amazon S3 provides a flexible and scalable cloud storage solution. S3 Glacier Deep Archive is used for permanent, low-cost archival storage. It is specifically designed to store data for long-term retention, making it ideal for compliance or other use cases that require indefinite data retention.
- **Used Services:**
 1. **S3 Storage:** Used for data that needs quick access or frequent retrieval. This is ideal for active or recently used data.
 2. **S3 Glacier Deep Archive:** is an Amazon Web Services (AWS) storage class designed for long-term data archiving at a very low cost. It is ideal for data that is rarely accessed but needs to be preserved for extended periods, such as compliance records or backup data. Retrieval times are slower compared to other S3 storage options, but it provides a highly cost-effective solution for infrequent access storage.
 3. **AWS DataSync:** The primary service used to efficiently transfer large volumes of data from the on-premises NAS to AWS S3. DataSync simplifies and accelerates the data migration process, providing reliable, secure, and fast transfers.
- **Data Transfer and Storage Management:**
 1. **CentOS Compatibility:** AWS DataSync supports various Linux distributions, including CentOS, ensuring that the customer's older on-premises system can integrate seamlessly with the AWS cloud environment, which could have been a potential challenge when migrating such large datasets.
 2. **Data Size & Migration Strategy:** Total Data Size: 40 TiB of data needs to be transferred. Given the large size, efficient transfer is crucial.
 3. **Migration Approach:** AWS DataSync is leveraged to automate and accelerate the data transfer, ensuring a smooth migration process with minimal downtime.
 4. **KVM Installation on Physical Server:** KVM (Kernel-based Virtual Machine) is installed on the on-premises Ubuntu server, allowing it to function as a virtualized environment for managing the data transfer process. The AWS DataSync agent runs inside this KVM environment to facilitate the transfer of data to AWS S3.
- **Security and Encryption:**
 1. AES-256 Encryption is applied to all objects stored in the S3 bucket using S3 Default Encryption, ensuring that the data is encrypted at rest.

2. Data transfer is also encrypted, ensuring that all sensitive information is secure during migration using AWS DataSync encryption in transit.

Solution Diagram:



Outcome:

The proposed solution offers the customer a more efficient and secure way to manage their data by utilizing cloud-based storage options. By using S3 and Glacier Deep Archive, the customer can reduce maintenance costs while ensuring the long-term security of their files. Additionally, recommending AWS DataSync backup solution facilitates seamless data transfer from local servers. As a result, the customer benefits from improved data management and reduced maintenance costs.

The cloud-based storage also provides greater flexibility and scalability to accommodate future data growth. The customer can now access their files from anywhere with an internet connection, improving productivity and collaboration.

Utilizing a reliable service like AWS DataSync gives the customer peace of mind, knowing their data is securely backed up and easily recoverable in case of a data loss event.

1. **Cost Savings:** Migrating to AWS Glacier from on-premises storage has reduced their data management cost by 30%. The solution has also significantly decreased the need for manual backups, saving valuable man-hours.
2. **Compliance Requirement:** The solution meets compliance needs by providing low-cost long-term data archiving.
3. **Reduced Risk of On-Premises Failure:** The risk of data loss due to local datacentre issues has been minimized by using AWS S3 storage services.