Case Study

REDUCING STORAGE SPENDING AND MANAGING DATA ACCESSIBILITY WITH AWS S3 AND GLACIER ARCHIVE

Business Challenges

The client operates entirely in an on-premises infrastructure, housing all data in local data centers. They are using an in-house HRMS application hosted on-premises server for storing all employee's specific information such as their personal details, professional details, work contracts, work policies, payrolls etc. Additionally, they are using SFTP server to store other organizational data in the form of files and documents.

This infra setup brought in many challenges around storage scalability, data availability, file sharing, and overall security of a massive set of data.

The data on the SFTP server was scattered and there was no mechanism to catalogue and consume the data easily; hence, for them it was a time-consuming process to provide the right access to the end user at the right time.

As the organization was expanding, increasing its customer base, adding more services, and increasing the team-size as well, it started facing challenges with storage scalability and struggled with managing gradually increasing data.

Therefore, the company decided to digitize its data management and accessibility process while migrating the existing data to the cloud. They were looking for a solution that can enhance their overall work productivity as well as does not spike the cost of data storage and management hence, cost-effectiveness was also one of the factors while choosing the right cloud platform. Additionally, their requirements included the need to archive 7-years old data for auditing purposes.

Solutions Deployed

Upon conducting a thorough analysis of available options in the market, the client made the strategic decision to collaborate with Ace Cloud as their preferred Cloud partner for starting their business's cloud transformation journey on AWS.

Our team of cloud specialists at RTDS (Ace Cloud) comprehended the client's business challenges and requirements, offering tailored recommendations for an optimal combination of AWS services.

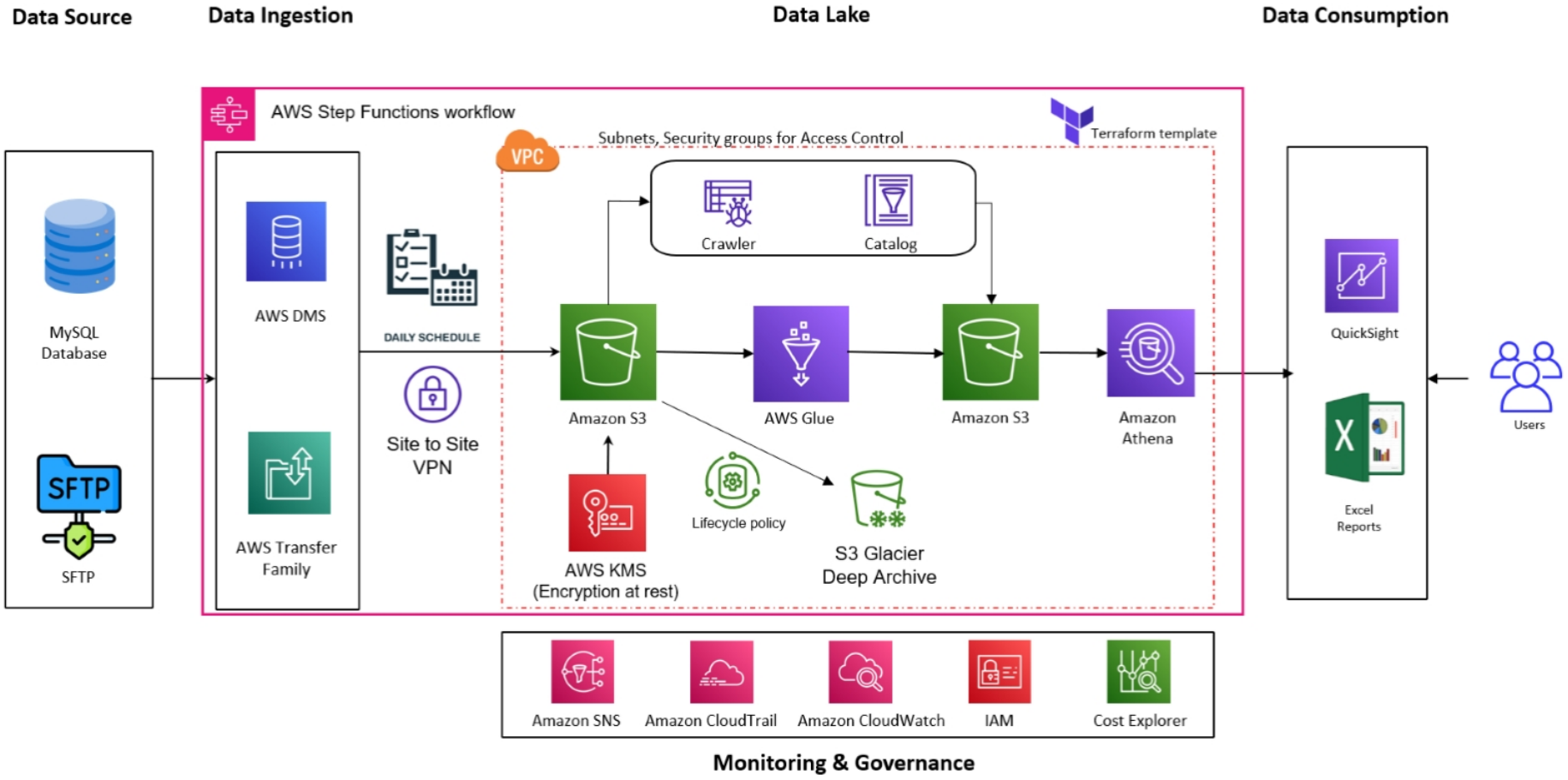
We proposed solutions to enhance the client's data storage strategy by leveraging Amazon Simple Storage Service (S3). This object storage is renowned for its industry-leading features, encompassing security, scalability, durability, and performance.

Major data (~1.36 TB 1-time & 1.2GB incremental daily) was retrieved from the HRMS application and for the purpose of migrating the data to the cloud, AWS Database Migration Services (DMS) was used. This AWS migration tool helped accelerate and simplify data migration from their on-premises servers to AWS infrastructure.

Additionally, we utilized the S3 Glacier Deep Archive, a storage class specifically designed for durable, long-term storage of large data volumes at a competitive price with on-premises archival services.

With Amazon DMS a full-scale migration of data was executed, after conducting test migration. Post migration we ensured the data migration completeness and verified data integrity with client. Our team set a monitoring and logging for S3 to track usage and performance. Also, provided them with documentation of the entire migration process, configurations, policies, and implemented procedures.

Architecture Diagram

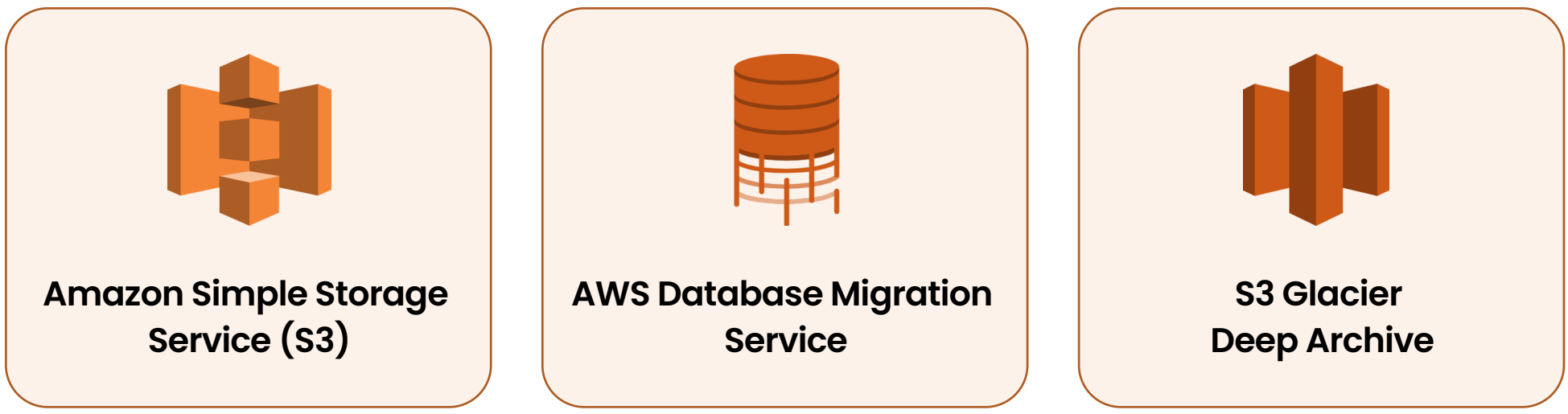


AWS SERVICES USED

- Amazon Simple Storage Service (S3) is an object storage service built to store and retrieve virtually any amount of data from anywhere. It offers industry-leading scalability, data availability, security, and performance.

- AWS Database Migration Service is a fully managed service that facilitates the migration of databases from on-premises to the cloud. This service supports ongoing replication and monitoring, enabling continuous data synchronization, maintaining high availability, and minimal downtime during data migration.

- S3 Glacier Deep Archive is designed to provide durable and secure long-term storage for large amounts of data at a price that is competitive with off-premises tape archival services. Data is stored across 3 or more AWS Availability Zones and can be retrieved in 12 hours or less. You no longer need to deal with expensive and finicky tape drives, arrange for off-premises storage, or worry about migrating data to newer generations of media.



The Decision To Use Amazon Services Was Based On The Following Factors:

- **Data Migration:** Amazon DMS simplifies the data migration process with a user-friendly interface and supports a wide range of database engines, including Oracle, MySQL, Microsoft SQL Server, PostgreSQL, and Amazon Aurora.
- **Quick Data Retrieval on Demand:** Amazon S3 Glacier storage classes offer retrieval options tailored to customers' performance requirements. The retrieval time varies from minutes to hours based on the storage class and retrieval options chosen. Specifically, the S3 Glacier deep archive storage class enabled. With Amazon Simple Storage Service (S3), the customer could store and retrieve any amount of data from anywhere.

- **Durability and Scalability:** Amazon S3 and S3 Glacier storage classes are powered by the world's largest global cloud infrastructure, offering virtually limitless scalability and an outstanding durability rating of 99.999999999% (11 nines). Data redundancy is ensured by storing it across multiple Availability Zones, which are physically segregated within an AWS Region. Hence, the customer was able to scale storage resources as per the fluctuating needs.

Conclusion

The proposed solutions offered the customer a more efficient and secure approach to data management with cloud storage solutions by Amazon Web Services.

By leveraging S3 Standard and Glacier Deep Archive, the customer was able to potentially reduce maintenance costs by ~30% and ensure the long-term security of stored files. The S3 Glacier storage classes offered a cost-effective solution for archive data, allowing business to archive data based on the requirements of their operations.

Additionally, the recommendation to employ AWS Transfer family enabled us in secure file transfers from on-premises to AWS S3 over the SFTP protocol. It ensured secure and seamless data transfer, provided encryption (such as SSES3 encryption) for data at rest and integrity validation. Also, AWS Data Migration Service supported migrating their data while ensuring the availability and replication.

Ultimately, it resulted in enhanced data management, secure backups, on-demand data retrieval, and reduced maintenance costs for the customer.

Moreover, AWS storage solutions offer increased flexibility and scalability, allowing customers to access their data anytime, anywhere, facilitated in a secure environment.

About Us

Years of Exp
15+

Data Center
13

Awards
64

Ace Cloud offers business-critical cloud computing solutions that provide vibrant pathways to transcend operations, foster innovation, and create value for partner organizations. The organization enables a conducive IT ecosystem that empowers businesses to work smoothly from anywhere and at any time in a secure manner.

Ace Cloud has over 15+ years of experience in creating, deploying, and scaling the dynamic cloud infrastructure of high growth enterprises and enabling real-world foundations to support their business growth. Leading organizations harness Ace Cloud's Cloud Computing, Application Hosting, Virtual Desktop Infrastructure, and Managed Security Solutions to challenge the status quo, break their previous molds, and create the groundwork for future success.

The organization has acquired a credible reputation for being a "Catalyst of Transformation," and several prominent organizations have recognized its prowess and unmatched services. Recently, the organization bagged the Most Innovative Cloud Solution Provider by Global Brands Magazine.

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