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Suralink Migrates 30TB of Encrypted Data and 6 Databases from Rackspace to AWS

suralink

Executive Summary

Suralink is a provider of request list and document management software solutions that serves accounting organizations worldwide. Audit, tax, advisory, and security firms use Suralink to keep client documents in one place during the audit process. Suralink users also rely on the company's technology to manage access permissions and implement secure file sharing in an easy, transparent manner. The company has been operating since 2014 and is now a leader in the Provided by Client list management application space. Today, Suralink has more than 300k users and 650 client organizations.

Suralink recently decided it wanted to migrate from Rackspace to Amazon Web Services (AWS) to improve IT performance and reliability. The challenge was that Suralink did not have the capacity in-house to make the transition confidently without disrupting day-to-day operations. As a result, Suralink decided to bring in an AWS Premier Tier Consulting Partner and proven migration expert in ClearScale who could help with the execution.

> "We needed to migrate 30 TB of highly sensitive, encrypted data from an on-premises environment to AWS. By following AWS's migration best practices and using the powerful AWS DataSync, ClearScale was able to complete the migration on time and without disrupting our services."
>
> **Jeremy Smith,** CTO, Suralink

The Challenge

Suralink had to overcome several obstacles to make the Rackspace to AWS transition a success. Initially, the company believed it had 20TB of encrypted files and six databases to move to the AWS Cloud. This volume grew to 30TB, increasing the scope of the project dramatically. Suralink also had limited migration experience and needed to prevent downtime during the move or final switchover. The company's solutions had to stay online no matter what.

In addition, Suralink couldn't afford to lose any data during the migration. Suralink users depended on the platform for critical auditing work, which meant that a zero-data-loss migration was an absolute necessity. Making matters more complicated was the fact that the migration had to happen over an Internet channel with limited bandwidth available - only 50 Mb/s.

Furthermore, Suralink couldn't provide access to its data for security reasons. Any outside migration services provider would have to work around this issue. Finally, Suralink wanted to move from a self-hosted MySQL database to Amazon Aurora, a relational database product built specifically for the cloud. Suralink wanted to make sure its third-party migration specialist had experience in replacing legacy databases with cloud-native solutions.

All these factors led Suralink to conduct a thorough evaluation process for an AWS migration expert. Suralink found ClearScale and decided to move forward based on the consultancy's proven record of successful Rackspace to AWS migrations.

The ClearScale Solution

ClearScale began by performing a migration readiness assessment (MRA) for Suralink. The MRA represents the first step in the AWS Migration Acceleration Program (MAP) and is designed to help organizations determine their cloud preparedness along six dimensions:
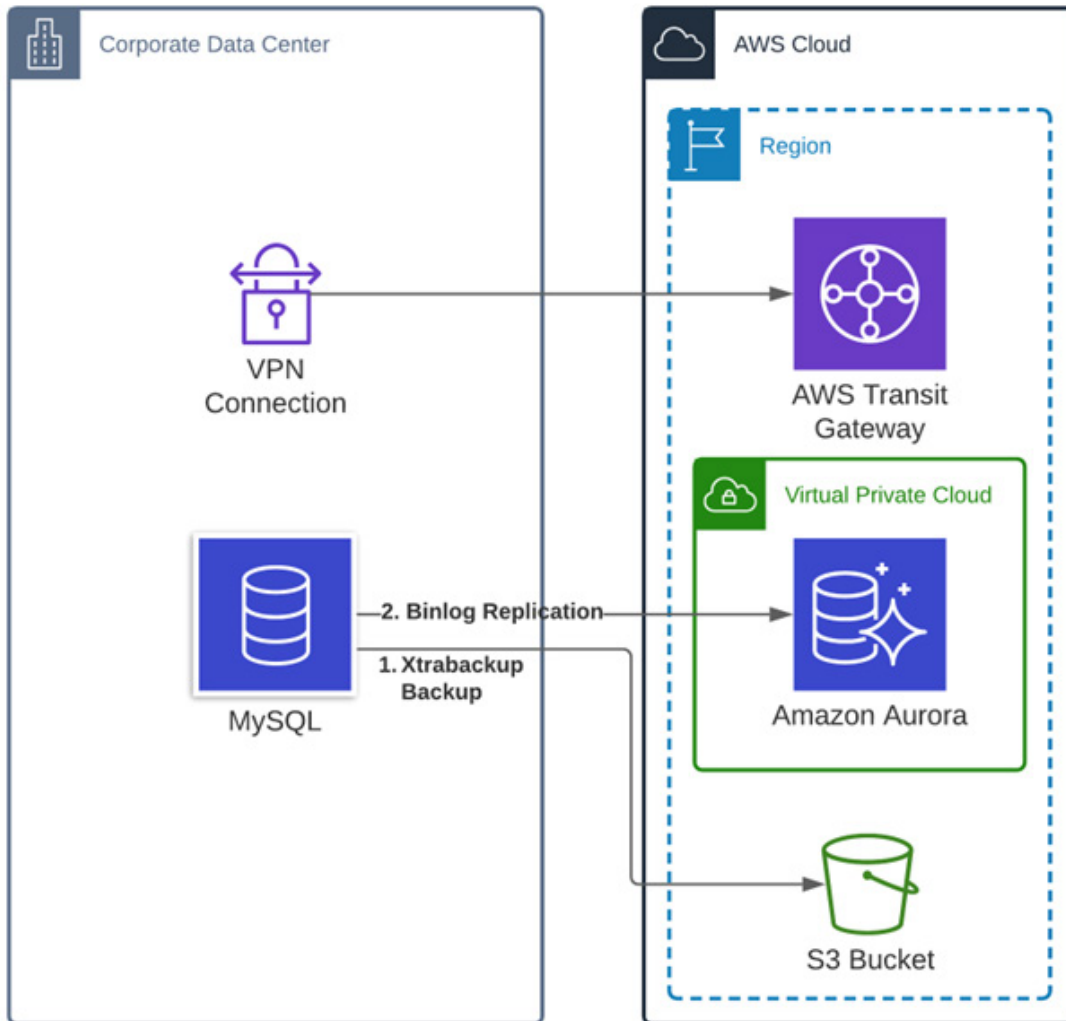
- Business
- Process
- People
- Platform
- Operations
- Security

From this assessment, ClearScale was able to provide Suralink with a design for the ideal migration solution. ClearScale articulated requirements for replication instances, data transfer, and execution steps. The team designed and calculated the proposed solution based on AWS DataSync, an online service that helps organizations accelerate data movement between on-premises infrastructure and AWS storage solutions. ClearScale's approach also factored in Xtrabackup from Percona and binlog replication for the MySQL to Amazon Aurora migration.

Because Suralink couldn't offer ClearScale access to its data, the migration team had to produce an alternative solution. ClearScale determined the best path forward would be to configure replication during work sessions with the customer. While this introduced some delays to the migration process, it did not hinder ClearScale's ability to execute a successful transfer overall. Suralink was pleased it didn't need to compromise or change its security requirements to complete the migration.

During the actual migration, some issues surfaced related to the limited Internet channel bandwidth available. To navigate this, ClearScale redesigned file structures to minimize repeat copying in case of a replication job failing. The solution worked, and the migration of all 30TB of data and six databases proceeded smoothly.

Architecture Diagram

Corporate Data Center
- VPN Connection
- MySQL

AWS Cloud
- Region
  - AWS Transit Gateway
  - Virtual Private Cloud
    - Amazon Aurora
  - S3 Bucket

2. Binlog Replication
1. Xtrabackup Backup

The Benefits

After the migration and DNS switchover, Suralink experienced significant benefits on the performance and reliability side. The company was able to start leveraging fully managed solutions from AWS, taking administrative IT burden off the internal team. On top of that, Suralink had the option to maintain its data access rights setup, so no changes were needed on the application side.

Thanks to ClearScale's expertise and guidance, the overall migration from Rackspace to AWS was successful. No data was lost, and Suralink's services remained online. Going forward, Suralink has the cloud infrastructure it needs to elevate its services and deliver new offerings to customers. The company can continue its exciting growth trajectory and maintain its position as a leader in the list management software space.