Embracing a Cloud-First Mentality and Migrating SAP to AWS

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- David Hall, head of business solutions

Background

For some time, Compass Group UK has relied on SAP for Finance, HR, and payroll processing to ensure that its employees are paid in a timely manner. As Compass Group UK evolved, it grew dissatisfied with the performance, support, and cost of running its 6½ terabyte (TB) SAP database on the premises. "Every 4-5 years, we found ourselves undertaking a costly 6-9-month project to replace aging hardware and address performance and support issues," says David Hall, head of business solutions at Compass Group UK. "It takes 100,000 'SAPs' to run the application, and we found ourselves experiencing performance issues more often than we would have liked. We also found that we struggled to scale the SAP environment on premises as the business grew, as well as during peak processing times."

Given how devastating downtime of the payroll system could be to the business, the long lead time of the legacy disaster recovery strategy, Recovery Time Objective (RTO), and Recovery Point Objective (RPO) parameters needed to be improved. "In our on-premises environment, we had an RTO of about five days," says Hall. "From a payroll perspective, the only real option was to bring back and fully restore the systems, and a five-day RTO was not acceptable."

Why Amazon Web Services

Compass decided to adopt an AWS Cloud-first strategy and began to plan its migration to AWS. "More recently, our strategy has been to work with software-as-a-service (SaaS)-based vendors and take a cloud-based approach for solutions," says Hall. "If we're working with proprietary-based software like SAP, then we want to move it to the AWS Cloud."

As a first step, the Compass Group UK team sought to identify a US- and UK-based AWS Partner Network (APN) Consulting partner with deep expertise and demonstrated success migrating complex SAP systems to AWS. Lemongrass, an AWS SAP Competency and Advanced Consulting Partner, met and exceeded the company's selection criteria.

Compass Group UK developed an 18-month migration timeline for the overall project scope, which it then broke down into a number of releases and phases. After selecting Lemongrass as its partner on the project, Compass Group UK kicked off with a successful proof of concept (PoC), during which it migrated its development environment to AWS. Once the PoC was complete, the project was formally approved, and the teams moved into a six-month delivery window for the first phase of the project.

About Compass Group

Compass Group UK is one of the leading food and support service providers in the UK and Ireland, employing circa 60,000 people and working across thousands of locations.

The Challenge

Compass Group UK ran a large SAP database on premises and found its Recovery Time Objective (RTO) parameter of five days to be unacceptable. The company also felt it was experiencing too many performance and scaling issues.

The Benefit of AWS

Moving to AWS has enabled Compass Group UK to reduce the size of its SAP database, improve its RTO time from five days to two hours, and improve the system's overall response time.

"We worked very closely with different teams and individuals at Compass Group UK throughout the migration, including at the executive level. Having that level of support and involvement from Compass Group UK was important," says Eamonn O'Neill, chief executive officer of the Americas region at Lemongrass.

"Our migration wasn't one focused on SAP in isolation. While SAP is itself processing the payroll, there are many ancillary systems we needed to have migrated and fully recoverable on AWS to ensure we could meet our 4-hour RTO window," says Hall. "We went through and evaluated our overall system landscape to prioritize the necessary components for our payroll system to function and recover quickly."

Through this process, the company identified the ancillary systems that would need to be moved to AWS over the 18-month timeframe, including its IBM Identity and Access Management software to enable users to log into the network and into SAP, its IBM Integration Bus, which manages SAP integration into time and attendance systems, additional IBM systems supporting the maintenance of employee data for payroll processing, and a few legacy time and attendance systems, which interface to SAP.

"To mitigate business disruption during the go-live cutover, our goal was to shut the system down on a Friday evening and be live on AWS by early Monday morning," says Hall. "We ran a number of dry runs to migrate our test environment, which was a copy back of production, into AWS to ensure we had a fully detailed run-book of the activities that we needed and the timing we were aiming for to get the production migration completed over a weekend."

Lemongrass and Compass Group UK successfully completed the first phase of the migration in September 2017. The remaining phases of the project were completed by September 2018. The team also worked with AWS Professional Services, who completed environment health checks throughout various stages of the project.

Compass Group UK is using many AWS services including Amazon Elastic Compute Cloud (Amazon EC2), Amazon Elastic Block Store (Amazon EBS), Amazon Simple Storage Service (Amazon S3), Amazon Direct Connect, Amazon CloudWatch, and AWS Identity and Access Management (IAM). The SAP applications being run are SAP ERP Central Component (SAP ECC), SAP Process Integration (PI), SAP Financial Supply Chain Management (FIN-FSCM), and SAP Solution Manager.

The Benefits

Having the ability to seamlessly run a business-critical application like SAP payroll on AWS has been an eye-opening experience for the Compass Group UK team. "SAP works very well on AWS. We certainly have a more resilient system running on AWS than we did on premises," says Hall.

By removing the capital expense of buying new hardware every few years, paying only for what it uses and having the flexibility to turn its test/development environments on and off each night, taking advantage of AWS Reserved Instances (RIs), and optimizing its storage, Hall believes the company has been able to achieve significant cost savings by running its SAP payroll system and ancillary systems on AWS.

"Over two years, we've reduced our data center footprint by 60 – 70 percent, while building a more resilient system on AWS," says Hall. "We've been able to reduce the size of our database from 6.8 TB to 2.6 TB on AWS thanks to the reorganization of the SAP database completed during the export/import process and legacy data archiving."

The company's SAP application has also gained significant performance uplift over its on-premises performance benchmarks. Before its migration to AWS, the average database request time in dialog task was 362 milliseconds (ms). Following the migration, it is 205ms. Prior to migration, the company's overall response time average was 1.3 seconds (s). Following migration, it is 0.9s. Compass Group UK has also been impressed with the RTO and RPO benchmarks that it has been able to achieve on AWS. "We targeted a 4-hour RTO on AWS, and we're down to about a 2-hour RTO, according to our testing," says Hall.

"Both AWS and Lemongrass demonstrated excellent technical knowledge throughout the project and were very willing to share that knowledge with our team," says Hall. "Working with AWS and Lemongrass, we were given the resources, support, and scale we needed to meet tight timelines and resolve any issues that arose quickly."

Learn more on the SAP on AWS website.

Lemongrass is an industry leader in implementing, operating, and automating SAP on AWS. Headquartered in Reading, England, the company was established in 2008 as a specialist SAP Technology consultancy. Lemongrass works with customers across verticals, and with both public and private sector companies. The company has been working with AWS since 2010. Lemongrass is an Advanced APN Consulting Partner and AWS Managed Service Provider (MSP), and was the second company in the world to achieve the SAP on AWS Competency distinction. The company has expanded its operations globally, and currently has offices in Europe, North America, and Asia.