

CASE STUDY

**SoftServe Migrates DMS
Provider's Infrastructure
to AWS Cloud**

softserve

Overview

Our client, a U.S.-based multinational corporation with locations in 25 countries, provides integrated information technology, digital marketing products, and services to the automotive, heavy truck, recreation, and heavy equipment industries.

In particular, the company specializes in dealership management systems (DMS) for automobile dealerships, which help auto dealers perform day-to-day functions including sales, financing, and repair services.

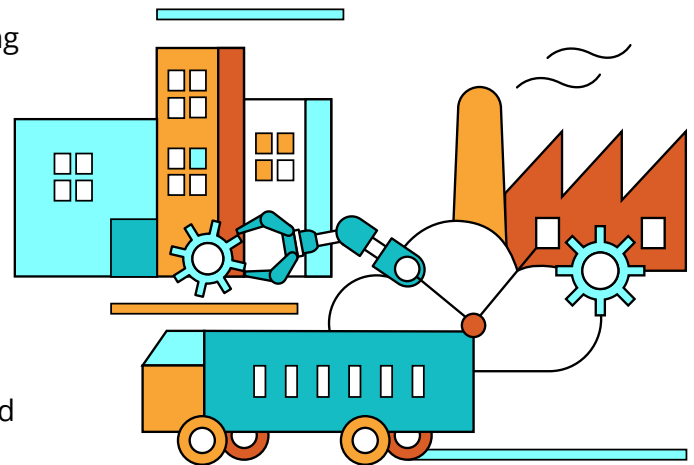
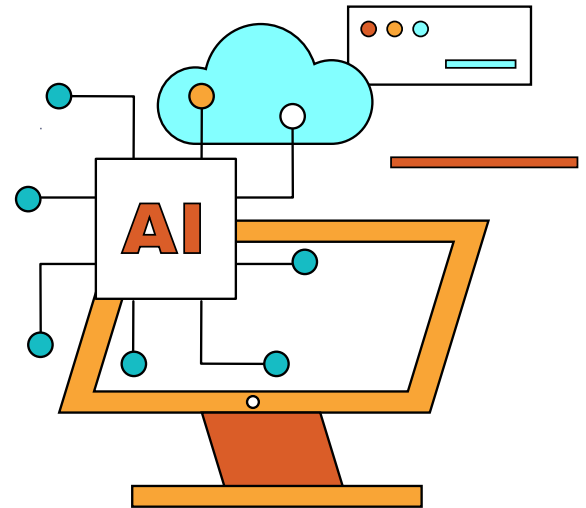
The company also delivers insight-leveraging data, advanced analytics, and artificial intelligence (AI) to drive customer performance and growth.

Challenges

Because of rapid business growth and increasing demand, our client decided to migrate their infrastructure to the AWS Cloud.

Their greatest challenges included:

- Digital security
- Platform reliability
- Performance efficiency
- Time required for onboarding new automotive dealers
- Multiregional deployment (latency improvement)



Cost optimization challenges included:

- Defining migration strategy, including migration time constraints
- Performance issues including latency, interoperability, dependencies on non-cloud apps, and limiting downtime

Another important challenge for the company was to raise their customers' internal awareness regarding the optimal use of cloud deployment.

Planning

Our client needed a reliable technology partner to support them during the migration process to the AWS Cloud, as they lacked in-house knowledge to complete the project. They selected SoftServe because we are an AWS Partner Network (APN) Premier Consulting Partner, and because we leverage AWS best practices to help our customers solve their business needs.

Our client's business drivers included:

- Multiregional deployment (latency improvement).
- Migration to a more scalable, secure (SOC 1 compliant), and performant environment in comparison to their existing self-managed solution.
- Creating a cost-optimized solution for database tenancy.
- Developing a cost- and performance-optimized solution for database forking that included the creation of so-called "sandboxes" for our client's support operations.
- Delivering a faster time-to-market solution using the cloud provider's managed services.

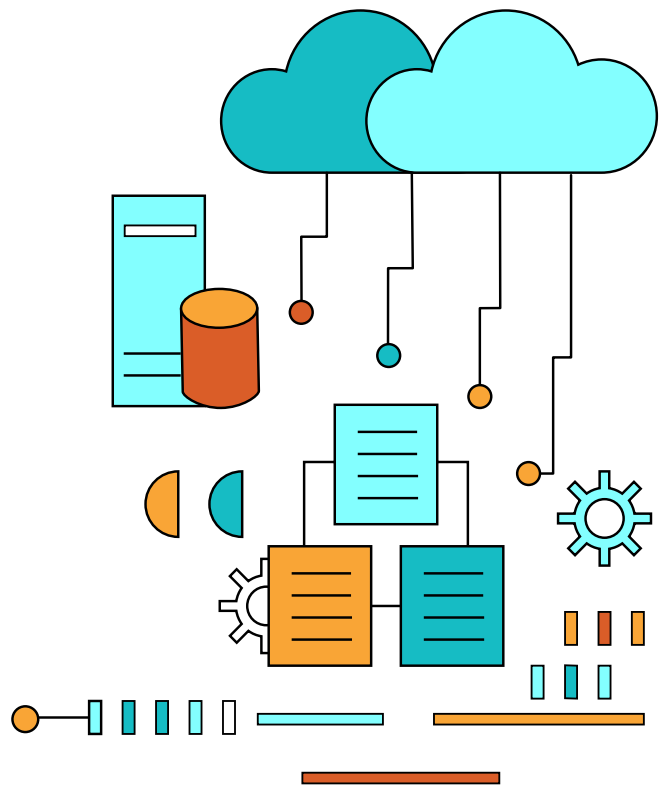
Our client's goal was to reduce the deployment time with a successful migration to the AWS Cloud, which would minimize the time required for onboarding new dealers.

The project

Overall, the SoftServe team was responsible for completing project migration from arriving on premises to the successful migration to AWS Cloud.

We designed and created our client's infrastructure in two separate AWS regions as three independent environments. In the core of our client's migrated infrastructure were multiple multi-node Kubernetes clusters, together with several PostgreSQL databases.

For infrastructure creation and deployment purposes, SoftServe introduced a Terraform Cloud-based framework supported by Terraform Cloud Agents deployed in corresponding AWS regions.

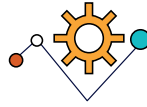


Based on AWS methodologies and best practices, SoftServe performed this project in three main stages, according to the AWS migration customer journey model, consisting of:



Assess:

We began by displaying our additional value and capabilities, worked to gain the client team's trust, met with key stakeholders and aligned with them, identified other opportunities, and introduced the MAP (Migration Acceleration Program) to our client.



Mobilize:

We developed the preparation and validation of a reliable foundation in the AWS Cloud with a pilot migration of the customer's infrastructure.



Migrate and Modernize:

We planned the migration of the customer's production workloads to the AWS Cloud and the modernization of selected infrastructure components for better performance, security, and cost efficiency.

When we begin migration projects, we suggest to our clients that we start with the assessment phase to learn more about their challenges, goals, and current solution. As an outcome of this research, we built a vision for the proof-of-concept phase. And once it was proved, we planned the migration itself.

On this project, we recommended to our client to begin building infrastructure as code (IaC) with Terraform to help with their challenges. And once the project is completed, our client will only need a small team to manage the infrastructure.

SoftServe chose HashiCorp Terraform for this project because, currently, it is the best and most flexible framework for IaC implementation.

Along with a robust, secure, and highly available infrastructure, SoftServe delivered

a Terraform Cloud-based framework that allows our client to control and develop their infrastructure in a reliable and secure way. The IaC configuration and deployment pipeline was designed and implemented following "don't repeat yourself (DRY)" and "keep it simple stupid (KISS)" principles, which was possible with HashiCorp Terraform Cloud.

Our client also had a big security issue with a publicly exposed Kubernetes application programming interface (API) access. In response, SoftServe implemented Terraform Cloud Agent, which features pull-based architecture, to address this concern.

Terraform Cloud Agent works as a part of our client's infrastructure, and the agent's architecture is pull-based. Therefore, no additional inbound connectivity was required.

Results



Technical wins for our client included:

- A successful migration of the infrastructure to the AWS Cloud
- A customized Git branching strategy
- Improved the continuous integration and continuous deployment (CI/CD) pipeline
- Rebuilt IaC using HashiCorp Terraform
- Removed any hardcoded dependencies



Business wins for our client included:

- A modernized infrastructure
- An educated and knowledgeable IT team provided knowledge sharing
- Established a solid groundwork for quickly onboarding new dealers in the future

Through the infrastructure re-factoring activities that we introduced during the project, SoftServe provided our client with design simplification, which proved beneficial to our client from the manageability perspective.

By introducing a complete CI/CD process, many activities were automated, which allowed our client's IT team to focus on solution development activities instead of constant maintenance. And by implementing modern branching strategies and tooling, our client's team was motivated to deliver better quality in their daily activities.

The tech stack:



**AWS
CLOUD SERVICES**



**HASHICORP TERRAFORM
CLOUD**



**HASHICORP TERRAFORM
CLOUD AGENT**

Conclusion

For our client, the most critical business process is new dealer onboarding. By implementing a continuous deployment process and improvements in our client's internal tools, SoftServe was able to make the onboarding process faster and less error prone.

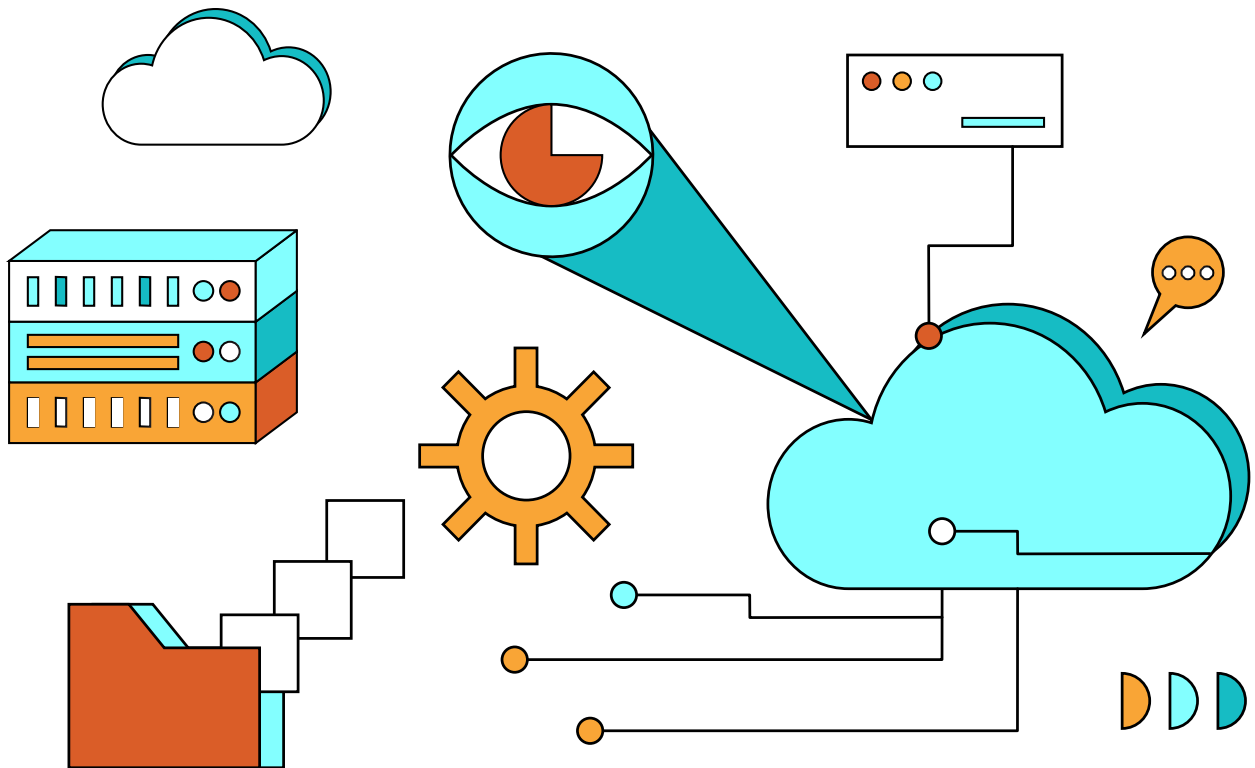
SoftServe introduced several mechanisms that created more cost-efficiencies for our client's cloud infrastructure.

Those mechanisms and improvements included:

Non-production environments for scale-down activities during off-business hours, such as evenings and weekends.

Better-scaled AWS Cloud resources that provide the same level of performance with lower costs.

SoftServe's team flexibility allowed us to not only deliver the client's lift-and-shift project migration goal efficiently, but also to provide important re-factoring activities that proved our "going above and beyond" principles were valuable to our client.



ABOUT SOFTSERVE

We are a digital authority made up of advisors, engineers, and designers who deliver innovation, quality, and speed to elevate and accelerate our clients' digital journeys.

Our approach is built on a foundation of empathetic, human-focused experience design that ensures value and continuity from concept to release.

WE IDENTIFY WHERE YOU ARE.

WE PREPARE YOU FOR THE ROAD AHEAD.

WE TAKE YOU WHERE YOU NEED TO GO.

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