AllCloud | **Veev**

Veev Turns to AllCloud to Build Its Smart Home IoT SaaS Solution on AWS, Revolutionizing the Way We Build and Interact with Our Homes

About Veev

Veev, previously known as Dragonfly Group, is a full-stack Real Estate and Technology company that enables smart, connected homes and buildings through prefabricated walls that are created and manufactured in the Veev factories, and then shipped to build. With Veev, the home becomes a product in and of itself, increasing efficiency, customer experience and accuracy, and lowering resource needs and labor costs.

Summary

Veev was looking to build a SaaS IoT platform where customers could control their smart home from a mobile app, including heating, lighting, locks, cameras, and sensors. With a roadmap for expansion, the business needed a highly available, scalable solution that was built on strong principles of data privacy and flexibility.

After partnering with AllCloud to manage its AWS implementation, Veev now benefits from a powerful cloud-native and serverless solution, putting the organization at the forefront of its industry in terms of security, features, knowledge, and scale.

Challenge

In 2017, Veev knew they wanted to build an IoT solution on the public cloud, with a few key considerations in mind.

- **Comprehensive Smart Home Functionality:** The company wanted to be able to connect a customer's smart home in a comprehensive way, including switches, cameras, temperature sensors, lights, and locks.

- **Complete SaaS Offering:** The IoT needed to connect to mobile devices for the end-user, allowing a customer to simply log in and have full control over their home.

- **Scale and Flexibility:** Veev knew that it wanted to do more with both the product and the business as a whole on its roadmap for the future. The built solution needed to be robust and able to grow alongside their strategy and goals.

- **Data and Security:** There is nothing more personal than having access to someone's home. Veev understood that data privacy and security needed to be managed early and continuously throughout, to give customers peace of mind and to retain regulatory compliance.

Solution

Veev had known Lahav Savir, one of AllCloud's co-founders, as a recognized leader in the Cloud industry so they chose to partner with AllCloud for consulting and implementation. Veev had two infrastructure options on the table, one on Google Cloud Platform and the other on Amazon Web Services. After due consideration, Veev chose to build their solution on AWS.

Veev now has unlimited access to best practices and deep knowledge of the AWS platform and technology
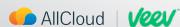
Veev decided that they were looking for a cloud-native and serverless solution. Some of the services that AllCloud supported Veev in implementing included AWS IoT, AWS Lambda, Amazon Lex with integration to Amazon Alexa, Amazon Cognito, Amazon API Gateway, and Amazon DynamoDB. Terraform was also used to make templated replications of their best-practice and customized environment at the click of a button. This was particularly important for Veev in creating development, testing and staging environments.

Data privacy and security has been placed front and center from the start

Focusing on security from the outset, AllCloud put into place a wide range of best practices for the new SaaS platform. Examples included the separating of AWS accounts for production and non-production workloads, limiting public access through a secure API Gateway, controlling product features at the application level, and using DynamoDB to store a mapping between each user and his house, limiting user access to only their own home data, and no further. The data structures have been built in a way that enables easy anonymization and the ability to remove user data without difficulty. Veev and AllCloud also implemented Multi-factor Authentication and Identity Access Management in line with a zero trust model, and CloudTrail was enabled across all regions so that incident response is best-in-class for logging events and audit requirements.

A completely managed service that has strengthened Veev's relationship with AWS

Throughout the project, AllCloud worked side by side with Veev via in-depth weekly meetings to build a robust and flexible cloud architecture. This was created with immense scale, enabling Veev to expand their technology requirements as they grow and extend both their product and business as a whole. Today, Veev benefits from AllCloud's 24/7 Managed Services to ensure their cloud infrastructure and operations are always performing optimally.

Results

"AllCloud has supported us in building a robust and flexible IoT solution that is ready to scale as our business expands. We have learned a tremendous amount of AWS knowledge from AllCloud, and have come to trust and rely on their professionalism for AWS architecture, DevOps, new services and ongoing maintenance."

Alon Klein, VP of R&D Digital, Veev

Veev's serverless IoT infrastructure provides Veev's customers with a secure, auto-scaling, highly available and cost-effective solution to easily control their home devices. This has resulted in:

Airtight Security Practices that Embed Data Privacy:
Data is encrypted and anonymous with customer identifiers set as hashed emails and Home IDs rather than sensitive data such as names or addresses. The security of customers was vital for Veev when building the IoT solution and therefore is incorporated at every layer of the stack.

Innovative Functionality to Provide Smarter Service to Users:
As well as through the Veev mobile application, customers can use chatbot and voice activation via Amazon Alexa to control their homes.

A Competitive Edge Through DevOps Pipelines and Practices:
The IoT platform was built using IaC (Infrastructure as Code) and all changes are deployed using AWS CodePipeline, with application code deployed using Bitbucket. This Continuous Integration and Deployment makes updates and new features more efficient and easier to roll out for both developer and end-user benefit.

Modernized and Future-Focused Expansion of Business Services:
Veev has since expanded its service offering, with a full suite of services beyond the smart home - creating a complete and modern living experience. The company has created "the Veev living experience" that provides tenants with a smart apartment, building, and community, all in one. Tenants are able to find a babysitter, a dog walker, organize cleaning and laundry services or ride-sharing and beyond, all from the same mobile app that they use to control their home. Throughout, the Veev IoT SaaS offering remains reliable, available, secure, and highly performant.