Pelotech + Large Software Retailer

Migrating legacy on-prem and 3rd-party-reliant systems to EKS

Executive Summary

Our client needed help replacing their legacy on-premise .NET APIs and custom Salesforce APIs with new, modernized EKS-based Spring Boot APIs for their upcoming native mobile app's initial release. Pelotech provided the client with guidance and training on their EKS platform, actively developed the service layer of the new Spring Boot APIs, simplified build and deployment of those services, and helped define engineering culture with a newly hired team of internal employees. Pelotech increased development velocity while also improving maintainability, ultimately helping the client successfully launch its new mobile application that quickly became a channel which accounted for 20% of the company's sales revenue.

About the Customer

The client is an established American software, consumer electronics, and merchandise retailer and is the largest retailer in their industry segment in the world. Their annual global revenue is in the billions of US dollars and they have both a large e-commerce presence as well as hundreds of brick and mortar locations with a sizable loyal customer base. Most recently, the customer has been shifting its business strategy more heavily toward e-commerce and away from physical retail, as well as developing new marketplace offerings in order to establish itself as a global leader in digital retail.

Customer Challenge

Pelotech engaged with the client at a time when the client was undergoing a shift in engineering culture. The original culture consisted of on-premise, unmaintained legacy systems built by offshore teams. As part of the shift, the client was moving toward an engineering-first culture that sought to increase in-house technical ownership and expertise, while also adopting industry best practices. While this was an exciting time, it was also apparent that the client was grappling with a large amount of technical debt and organizational deficiencies.

The on-premise .NET applications were built in a manner that made them very difficult to extend and maintain due to high coupling between services and poorly defined business domain boundaries. Also, the on premise nature of these services caused development velocity to be slow. Some of the services had not been updated in over 2 years.

The client's e-commerce product also heavily relied on a Salesforce Commerce Cloud solution, which had a large amount of custom plugins installed that were poorly designed and

maintained. The client did not have much control over how this solution was deployed or scaled.

If these challenges were left unaddressed, the client would be faced with maintaining legacy systems, slow development cycles, and eventually may not be able to continue to support those legacy systems due to the growing gaps in domain knowledge and lack of control over production deployments. This could make the ability to release new products prohibitive.

Why AWS

The client has already been a long time customer of AWS and is familiar with its advantages. For this specific challenge, leveraging AWS EKS to replace the on premise legacy systems meant the client's developers would incur a much lower operational overhead cost. They would have greater control and flexibility over the production environment, compared to relying on Salesforce Commerce Cloud.

Why the Customer Chose the Partner

Pelotech has deep experience helping the world's largest ecommerce businesses leverage best practices in cloud native architecture, infrastructure and development processes to improve their businesses. The client had already worked with a consulting team previously in their initial phase of EKS migration, and was disappointed with the results. The previous consulting company overpromised their ability to deliver and left the client in a risky position shortly before a new product launch. Pelotech's proven track record in ecommerce, deep technical expertise, and pragmatic, business focused approach made them the right choice for the client's needs.

Partner Solution

Pelotech assumed ownership of the client's new Spring Boot APIs, simplifying their build, deployment, configuration and development environment. The original team had set up separate Helm templates for each Spring Boot application, which made maintaining them less efficient since each application shared nearly all of the same deployment characteristics. Pelotech consolidated these Helm templates into a single, generic Spring Boot template that was used for all existing APIs, and also made it much easier and faster to spin up new services.

The APIs were also originally using Spring Boot Cloud Configuration Server for configuration, which Pelotech replaced with Kubernetes Configmaps and Secrets to further simplify the deployment and leverage Kuberentes's native configuration support.

Pelotech quickly became a de-facto AWS EKS/Kubernetes resource within the organization. Many of the internal engineers had little experience with EKS and came to Pelotech for guidance. Pelotech joined the all-hands engineering weekly meeting to share learnings and help other teams adopt the best practices it was putting in place. Teams used the shared Helm template and Kubernetes configmaps/secrets solution to quickly spin up their own new services.

Pelotech also led development on the client's new EKS-based cart API, which was replacing the legacy .NET APIs, working directly with the product and mobile engineering teams to deliver the required functionality. This new service was built in a way to replace the legacy Salesforce Commerce Cloud based solution, granting the client much greater control over its future product development and ability to scale on their own terms.

Results and Benefits

Pelotech delivered an API solution which allowed for the client's new mobile application to be released on schedule. In addition to unblocking the product release cycle, Pelotech also increased organizational expertise in EKS and engineering best practices, including code reviews and release processes.

Using EKS for deployment gave the client the control it needed over its production services. Pelotech's API solution could be deployed in a continuous fashion, which was a large improvement for the client - other teams were still using weekly release cycles. After product launch, the client saw a large spike in traffic that led to brief outages in some of the client's legacy systems, but no issues occurred in the new API's thanks to the auto-scaling abilities of AWS EKS.

Pelotech was also a very cost effective solution for the client. Pelotech delivered the required solution with a team of 3 engineers in comparison to a much larger previous team size of 30. This 90% reduction in team size demonstrates Pelotech's ability to deliver quality solutions in an efficient way, and also demonstrates the awesome power and effectiveness of using an EKS based solution. The operational cost savings of EKS allowed the Pelotech team to focus on the results that mattered most to the clients business.

The client's new mobile app, which was backed by the API's Pelotech built, quickly became a channel which accounted for 20% of sales revenue. The solution proved to be a strong direction for the client to invest in further. The new flexibility offered by EKS will allow the client to further increase its technical expertise in-house, and be less dependent on 3rd party providers and on-premise systems.

About Pelotech

Pelotech provides expert guidance to Fortune 500 and SMB clients on their cloud adoption journeys. Pelotech was founded in 2011 to bring the techniques and technology that enable the

speed and organizational agility of world class industry leaders in technology to organizations outside the FAANG. Their deep experience in global ecommerce, supply chain technology and cloud native infrastructure helps clients navigate and optimize their businesses.