Tripwire, a leading cybersecurity provider, undergoes rapid cloud transformation, retains its customer base, with cost effective solutions

Business Challenges

As part of expanding their offerings our client wanted to take certain features of their existing product to cloud. This was part of their long-term road map keeping in mind the following:

- To be competitive in today's world where lot of applications have Cloud footprint and new offerings and innovations are mostly driven by Cloud.
- Enable speed to market, rapid cycle time, rapid feature rollouts and rapid response to customer feedback.

Technical Challenges

Client had a mature and solid engineering tools and expertise in place as they have been in market for quite some time and have multiple successful on-premise product, however, delivering from Cloud was a completely new landscape for the team. Below were few key challenges around it:

- AWS and Cloud Expertise
- Technical stack and tools to build cloud native applications
- DevOps Processes - CI/CD pipeline
- Cloud environment to deliver products as SaaS
- Mature Cloud operations – Monitoring, Alarms etc.

Solution

In order to fulfil these objectives, our client launched a new SaaS-based analytics and reporting product through a hybrid cloud model. This was just a beginning of their cloud journey as part of bigger plans to follow by offering and integrating all new features in the cloud as well as on premise. It allowed our client's customers to protect their organization and stay ahead in threat protection with ease of cloud-based deployment.

Why AWS?

We built the SaaS solution on AWS cloud platform as below were few key abilities that we thought will be quite useful for us to build a world class software.

Key Attribute	How AWS service helped us to fulfil the requirement
High Scalability and availability	AWS offers managed services that help a lot to design and implement elastic cloud solutions. If our application is elastic we can make sure it is: ● Cost optimized. ● Highly scalable. ● Highly available. AWS provides features like ASG and managed services like ECS and EKS that helps in achieving high level of scalability and availability for SaaS application.
Application Integration and Storage Services	AWS have a nice set of performant and reliable integration services like SNS, SQS as well as scalable storage service S3 which helps in expediting the whole application development cycle.
Out of the box cloud and network security	AWS offers following managed services to segregate cloud application network from others: ● VPC ● Security Groups ● Private and Public Subnets This helps a lot to incorporate cloud and network security.
Cloud Monitoring and alerting	AWS provides services like Cloud Watch and Cloud Trail to monitor our services hosted in AWS infra. We have also created AWS alarms on top of those services to integrate with our alerting solution. In short AWS service not only provide us with cloud monitoring but also facilitate us to incorporate more mature and reliable alerting solution around our SaaS application.

Another major reason for us to choose AWS was its proven track record and reliability. Managed services provided to us by AWS helped us a lot to increase development velocity and time to market.

Architecture

While architecting Connect SaaS, we created a cloud-native application supporting the following:

- Cost-effective (Elastic)
- Highly scalable and available
- Secure

Given these requirements, we selected the micro-services pattern with every service being containerized and every service should support orchestration. For service containerization, we used Docker containers and we used AWS managed Kubernetes (EKS) for container orchestration.

AWS Service	Business Purpose
AWS EKS	Kubernetes service for container orchestration
AWS S3	S3 for storage
AWS SNS/AWS SQS/ AWS ACS	For Notifications, alerts and messaging
AWS Cloud Watch	To collect and track metrics, collect and monitor log files, set alarms
AWS Cloud Front	As content delivery network

The high-level architecture of Connect SaaS is given below:
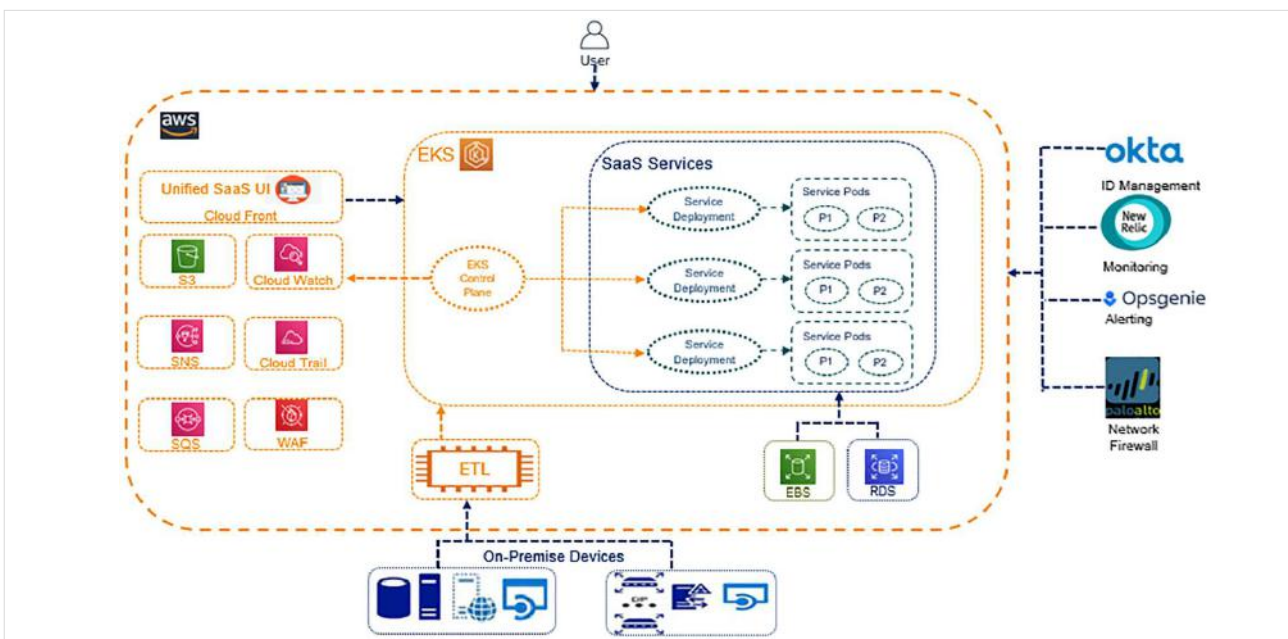
Outcome

The engagement started on March 2019 and the first public go-live was in Sep 2019 as an outcome of which Client was able to come up with a couple of saleable SaaS products in the market as well as created a robust Cloud platform to build more SaaS offerings and applications:

Till date there are many features we can roll out as part of our SaaS initiative. Some of them are given below:

1. SaaS-based analytics and reporting – A unified SaaS application that offers Vulnerability Management and Security Configuration Management reports to empower CISOs, CIOs and IT security leaders
2. Customers can now schedule date and time as per their convenience to automate the report generation and delivery
3. A SaaS platform with robust monitoring, alerting and security features inbuilt

About Incedo

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