Netmagic to AWS Migration Customer: PayU

About Customer

PayU is a fintech company that provides payment technology to online merchants. The company was founded in 2002 and is headquartered in Hoofddorp, Netherlands. It allows online businesses to accept and process payments through payment methods that can be integrated with web and mobile applications.

Problem Statement

PayU needed to migrate 2 of their core applications, PayUbiz and PayUmoney from their existing Netmagic data center to AWS cloud. The challenge was 400+ VM's needed to be migrated in just 3 months to support the annual sale days of two of the largest e-comm players in India. They were required to handle 8000+ transaction per second at database level with improved reliability and automated scalability, which their existing on-premises setup could not deliver.

Proposed Solution

- Powerup Architects worked closely with the PayU team to do a detailed Application Discovery of the current Netmagic environment.
- Based on the data collected a blueprint architecture was designed mapping the current environment to AWS services following the 6 R's of Migration. A detailed TCO analysis was also done so that the customer is clearly aware about the benefits of moving to AWS cloud.
- Proper Load Testing was done to finalize the sizing for the application servers.
- All the application servers were migrated using AWS VM Import/Export.
- The MYSQL databases on-premise was migrated to AWS Aurora using Database Migration Service.
- User sessions and database cache was stored in Redis Cache.
- Classic Load Balancers were used to distribute traffic between the application servers.

- Direct Connect was setup between on-premise and AWS Mumbai DC. VPN tunnels were also setup for redundancy.
- Kafka will be used to stream all the logs and Logstash will be used to analyze them.
- All sensitive data like user card details are encrypted using KMS.

Outcomes

- Customer was successfully migrated to AWS Aurora RDS from MYSQL database.
- Flipkart's Xiaomi Sale was a huge success with the AWS infrastructure able to handle 8000+ TPS.
- Customer was able to achieve the required scalability and security on cloud.

AWS Services used

- EC2 – to host all application and web servers
- EBS – as storage attached to EC2
- VPC – to create the required isolated networks on AWS
- Elasticache - to host the Redis Caching engine
- RDS Aurora – to host the database
- KMS – to encrypt data at rest on EBS and S3
- S3 – to host the OVF images, to store backups other static details and logs
- CloudWatch – used as the monitoring tool
- Classic Load Balancer – to distribute the traffic and SSL termination
- Direct Connect – to establish a direct private line between AWS and customer DC
- IAM – for Identity and Access Management