



Medidata Case Study

INDUSTRY
SOFTWARE DEVELOPMENT

PROJECT NAME
AWS MANAGED SERVICES

USE CASE
10,001+ EMPLOYEES

Introduction

8KMiles is a Cloud solutions provider that is into consulting, implementation, and managed services for its customers on AWS Cloud. Security, reliability, and performance are the three key goals that 8KMiles sets forth during any phase of its operations.

This case study is about the high availability recommendations provided to one of the managed services customers on AWS Cloud.

Challenges

After the complete infrastructure went into production, it was brought under the managed services of 8KMiles. Our 24x7 monitoring and support identified and eliminated multiple DoS attacks and increased the uptime of the application, thereby providing improved performance and delivery.

As a part of our managed services, 8KMiles does a periodic review of the infrastructure. With the results from the review and the history of incidents, 8KMiles' managed services team identified the issues listed below.

1. Frequent DoS attacks
2. Infrastructure not being highly Available
3. Application not being highly Available

The customer's solutions page and blog that is located in a hosting provider's data center were facing issues regarding the uptime of the applications, as there was no high availability built-in.

With the goal to design a highly available, low latency, reliable and flexible infrastructure, the customer decided to move their applications from the hosting provider to Amazon Web Services (AWS).

AWS and Partner Solutions

8KMiles designed an architecture on AWS for this customer, which will be highly available and will provide a rich user experience and secure their application. This solution used a large array of Amazon Web Services (AWS) products, including:

- Amazon VPC – to create secure application infrastructure
- Amazon EC2 – to run their front end web servers
- Amazon CloudFront – to deliver static content to end users with low latency
- Amazon S3 – to store static content and backups
- Amazon RDS – for centralized scalable database infrastructure
- Amazon CloudWatch – to monitor their AWS setup closely
- AWS Elastic Load Balancers – to distribute incoming requests to Amazon EC2 instances
- AWS Simple Notification Service (SNS) – to send notification alarms

Security Solution

As the application was exposed to frequent DoS attacks, the 8KMiles managed services team suggested that the application be front ended by Unified Threat Management (UTM) to keep the application secure at all times. This improved the performance of the application by avoiding the frequent DoS attacks that brought down the performance, thereby providing improved security.

Results & Benefits

The Customer recognized the following business benefits:

- **Infrastructure and Application High Availability:** Spreading the infrastructure across multiple availability zones provided high availability during any hardware failure in any of the nodes, or in the case of availability zone failures.
- **Better Performance:** The application load was distributed to multiple instances placed under an elastic load balancer, which resulted in load sharing and improved performance of the whole infrastructure.
- **Improved Security:** The application was front ended by a UTM application to avoid DoS attacks. This had a positive impact on the performance of the application and improved security.
- **Low Latency:** With CloudFront distribution, Medidata solutions achieved low latency delivery of static content by caching resources at multiple edge locations. This further improved performance of the whole infrastructure, as it offloaded static content delivery from instances.
- **Ease of Management:** Medidata solutions used Amazon RDS for their database. As Amazon RDS is a managed database solution, it provides improved performance, high availability and minimal database management efforts.

