minfy™

AWS Case Study

The Magic Of Regional Language Entertainment, Globalized Through The Cloud

Abstract

Through helping Addatimes - an entertainment portal for the Bengali-speaking community - get onto the cloud, Minfy has enabled community members across the world enjoy the unique effervescent entertainment magic of Bengali shows and movies.

The Client

Addatimes is an entertainment portal offering streaming content in the Bengali language for its 300-million strong community located across the globe. Positioned as the world's first Bengali video-on-demand channel, the original programming on the platform includes web series, short films, entertainment and educational videos, live sports and events, reality shows, and full-length movies across genres.

Addatimes adds new shows and content each month, at times every fortnight. The ad-free content in high-definition is supported by reasonable subscription plans and has garnered a significant and growing worldwide fan following. Subscribers can access the wide variety of programming on-demand across a multiplicity of platforms including the Addatimes website or app, Android TV, Amazon Fire TV stick, and also through any smartphone irrespective of its size and features.

Business Challenge:

With the plethora of entertainment options available online, there is an extremely competitive landscape when it comes to digital media streaming. Any portal that hopes to break through the clutter, garner market share, and retain its customers must offer a superlative experience. This means Addatimes needed to ensure minimal downtime, lag-free streaming, up-to-date content, and error-free application interactions. In addition, the portal had a diverse set of customers primarily spread across South-East Asia, and the Middle-East. It needed to offer seamless customer experience no matter what device was being used, or where the viewer was accessing the content from.

To deliver superlative customer experience as it grew globally, Addatimes was increasing its capital expenditure towards purchasing expensive on-premise network infrastructure. But these costly resources were not being utilized optimally because of variations in demand based on programming popularity, geographical location of users, or time of day.

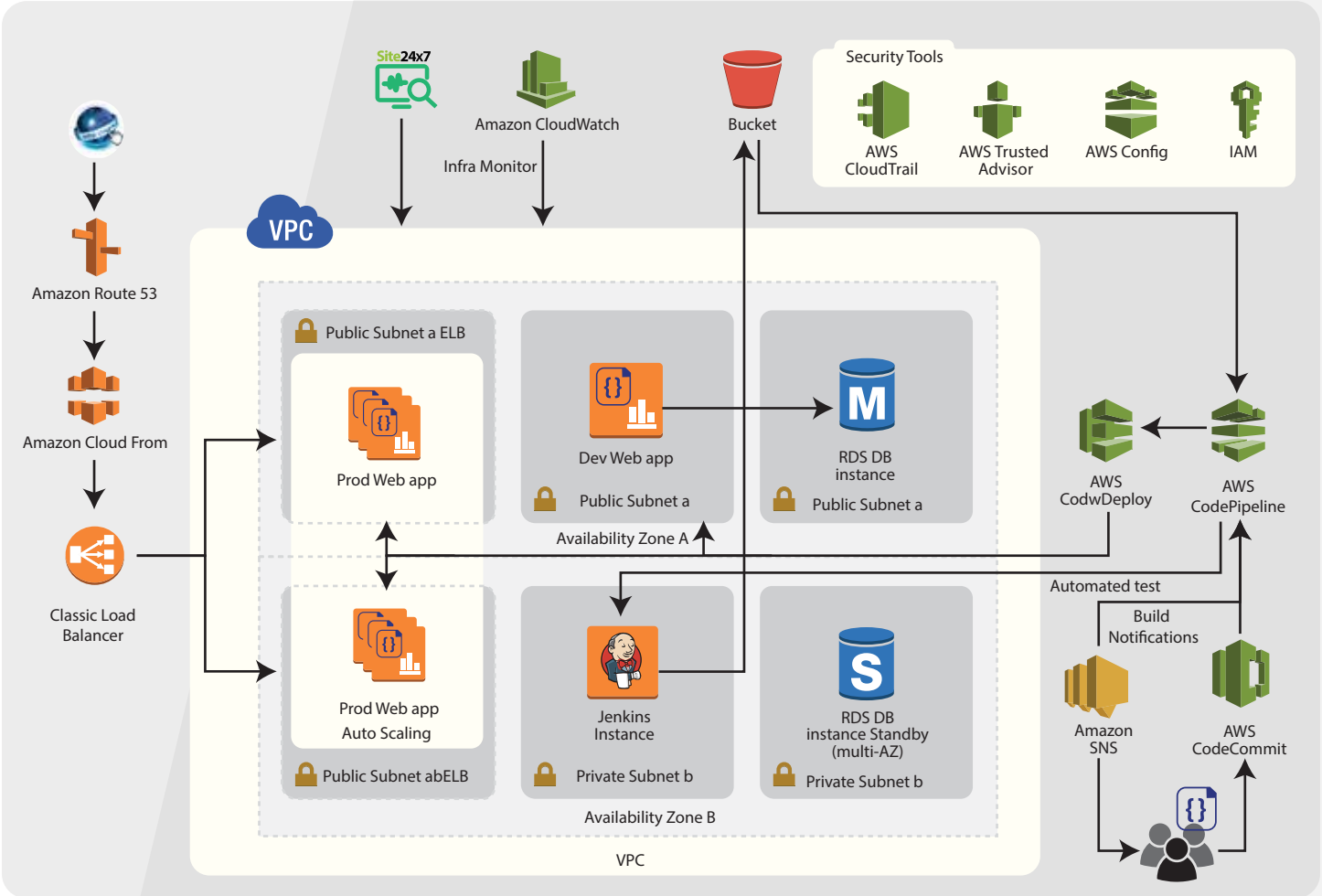
On the content side, the portal had to keep its programming relevant to remain competitive. For this, the website applications needed to be frequently refreshed to keep the media content up-to-date. However, the software development processes at Addatimes were not optimized as the company had not yet implemented industry best practices such as separate branches for development, testing, and production.

To deal with these challenges, Addatimes decided to explore using the cloud for its benefits of scalability, cost, and ease-of-deployment. Initially, the company approached Minfy to help manage the hosting of their programming content on the cloud. Later on, the company also asked for support with implementing a DevOps framework to manage programming releases and daily content updates

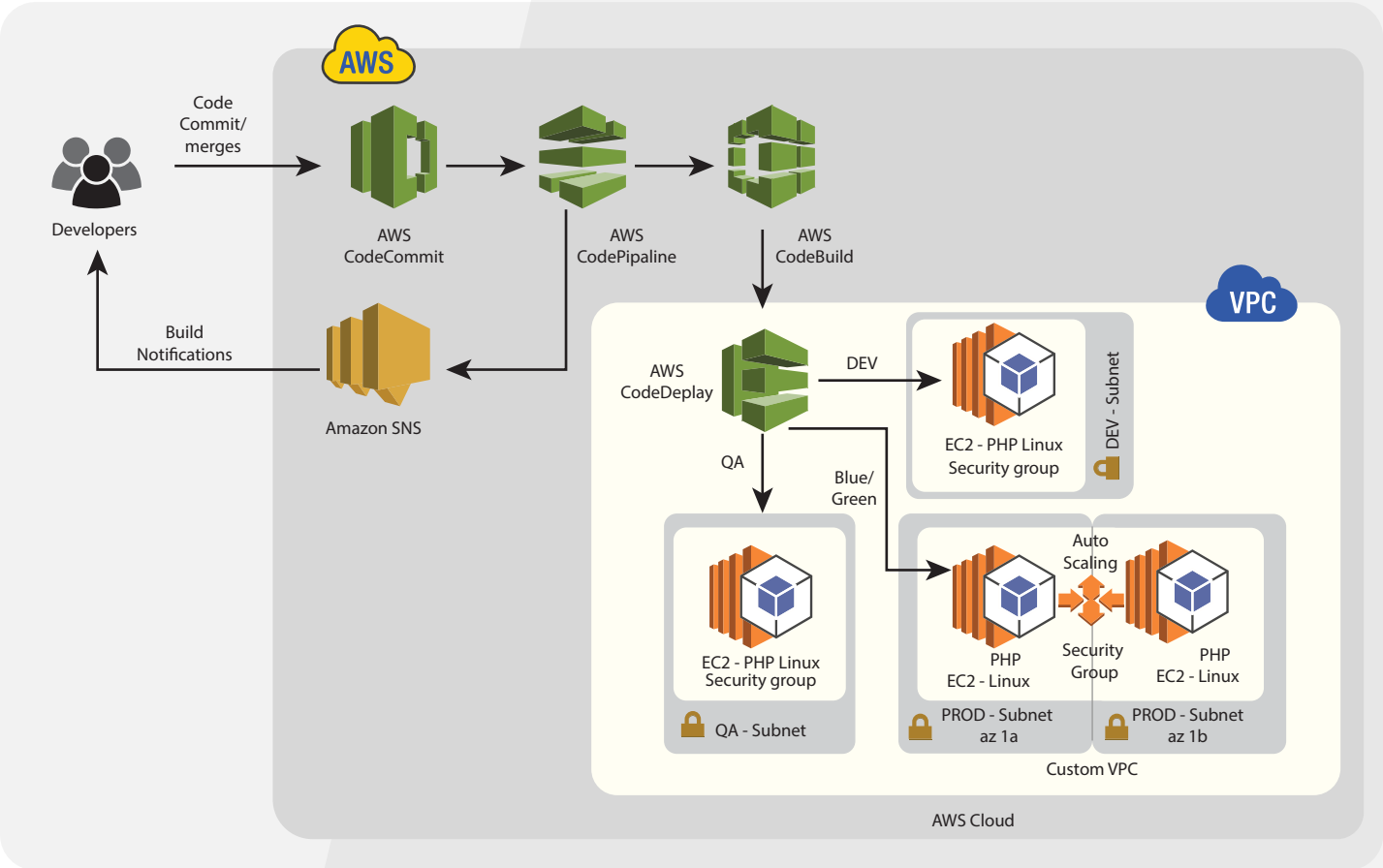
Using the AWS DevOps stack to implement the DevOps framework

To tackle Addatimes' unique challenges, Minfy, an AWS managed-services specialist, developed a robust yet simple DevOps compliant infrastructure for streaming content that would be hosted on an AWS cloud architecture. The high-level architecture diagrams below provide an overview of the solution.

- The main website application would be run on a LAMP stack (Linux, Apache Web server, MySQL, PHP).
- The AWS CI/CD stack would include AWS Code Commit, CodeBuild, Code pipeline, Code Deploy, EC2, and S3 buckets.
- The architecture also includes Amazon Route 53, CloudWatch, RDS, Cloudtrail, config and classic load balancer
- AWS EC2 instances configured with Auto Scaling groups



Our DevOps approach:



Source Code

AWS CodeCommit was used as source code repository for this CI and CD Pipeline

Branches by environment – Code commit branches merged from master to DEV, QA and for Prod the code is merged from QA/UAT on approved releases

Build

AWS Code Build pulls the PHP code committed changes which has new media content links and pushes them as a zip file to S3 as a revision

Deploy

Code deploy pulls zipped PHP code from the S3 bucket and deploys into the auto scaling group using blue/green mode

Build notifications

AWS SNS is used to update the developers and project lead about code deployment update status such as failures and success.

Roll Back

Roll back was done manually for any discrepancies on the media content post deployment using S3 bucket artefacts

Cloud Infrastructure Highlights and Benefits

AWS VPC

Addatimes Web application instances were hosted inside secured VPC (Virtual private cloud) private subnets and security groups. The security groups have restricted access except web traffic ports such as http and https which are exposed via Load Balancer.

AWS EC2 – ASG

Addatimes web application production instances were deployed on Auto Scaled instances on multi-availability zones (Multi-AZ)

ASG (Auto Scale Group) was configured to scale up the instances when CPU utilization goes high and scale in when utilization comes down.

Instances scaled up by ASG are attached to the target group which is in turn attached to the Application Load Balancer

AWS ALB

ALB is used to distribute the web traffic workloads to multiple instances deployed on Multi-AZ

Patch based routing is done using ALB rules to multiple instances under ASG.

Target group is configured with mapping of context path where instances added are a minimum of 2 and a maximum of 10 by ASG policies based on CPU utilization.

AWS RDS

MySQL DB was hosted on fully managed AWS relational database service with

- automated snapshots
- auto minor version upgrade

AWS S3

Following were stored on highly scalable and durable object storage services AWS S3 (Simple Storage Services)

- Build artefacts
- EC2 instance AMI snapshots
- Addatimes – Web application static images, JSS, and CSS files
- CloudWatch Logs

AWS CloudWatch logs

CloudWatch was used to trace RDS logs, ALB logs and PHP logs

Monitoring

We were monitoring EC2, RDS instances and application insights using third-party monitoring tools.

The Result: a smooth, hassle-free, entertainment experience

With the Addatimes web application now hosted on the AWS cloud, customers have never had it better. Downtimes have all but disappeared, links across the site and application work the way they are meant to, and HD quality videos stream smoothly across locations.

The superlative customer experience the platform provides is making it the port-of-first-call for Bengali folk across the world as they tune in to their favourite shows after a hard day's work. And as the Minfy team continues to enable the speedy, stutter-free, and cost-effective programming the site has come to be known for, it looks at its efforts as just a small contribution towards enhancing the cultural bonds among the Bengali community spread across the world.

About Us:

Minfy™, a born in the cloud firm, helps enterprises with impeccable IT solutions for the cloud era. We help organizations move ahead in the digital world by changing the way they use IT. For over 5 years, we have dedicated ourselves to providing best-of-breed & well-architected cloud solutions to our customers, and are committed to partnering with them for success. Our offerings encompass SAP on cloud, Next-Gen Managed Services, Dev-Ops, CI & CD, and Microservices.