

MakeMyTrip's Cloud Migration

Summary

TO THE NEW helped MakeMyTrip to migrate its complete applications stack running in two traditional data centers to AWS within a short span of under six months

The Client

Founded in the year 2000, MakeMyTrip Limited is the largest travel portal in India offering bookings of flight tickets, holiday packages, hotel reservations, rail tickets, bus tickets, cab services, visa services and more. As of 2018, the company has 14 company-owned travel stores in 14 cities, over 30 franchisee-owned travel stores that primarily sell packages in approximately 28 cities, and counters in four major airports in India under MakeMyTrip brand. MakeMyTrip also enjoys international presence with offices in New York, Singapore, Kuala Lumpur, Phuket, Bangkok, and Dubai.

Business Pain & Challenges

While running all operations from traditional data centers, MakeMyTrip had to spend considerable time and effort in the procurement, upgradation and maintenance of servers. In addition, the infrastructure could not effectively handle traffic fluctuations, thereby impacting business negatively. Overtime, MakeMyTrip realized that moving to cloud would be a more scalable, reliable, secure, and cost-effective solution. The ability to instantly replicate the complete environment, launch new servers for experimentation when needed, managed services like databases, load-balancer, etc. were additional characteristics required for reducing administrative efforts and thereby increasing the team's productivity.

Industry: Travel

Highlights

- ✓ Migrated 1500+ servers running in two data centers to AWS in less than six months
- ✓ Designed zero downtime migration strategy for making each application live on AWS
- ✓ Leveraged Terraform for infrastructure orchestration and environment replication



Business Solution

MakeMyTrip was running around 1500 servers with 100+ databases, applications, and microservices that needed to be migrated. TO THE NEW worked with MakeMyTrip to prepare an overall migration plan, including landing-zone setup, designing run and operate model (for deployments, monitoring, backups, configuration management, centralized logging, etc.) on AWS and categorize all applications in different migration waves.

The biggest challenge in the overall migration journey was to ensure zero impact on end customers. TO THE NEW took a hybrid setup approach treating AWS site as a parallel data center to begin with. All build, deploy, and monitoring mechanisms were re-architected to make a replica state of each application available on the traditional data center along with AWS at any point in time. This allowed the MakeMyTrip team to divert a small percentage of the overall traffic to AWS for initial testing, gradually increasing the traffic towards AWS while keeping a check on scalability and performance and finally shifting 100% traffic to AWS. This approach ensured that in case of any unforeseen issues, the complete traffic could be immediately be diverted back to the data center.

Solution Overview

- Implemented a hybrid approach for deployments, roll-backs, and database replication
- Used common tools on AWS and data center environment for monitoring, configuration management, and security needs
- Private network connectivity was established between existing data centers and AWS using AWS Direct Connect
- Used Route53's Private DNS to eliminate the need for hardcoded application and database endpoints
- Implemented advanced security mechanisms leveraging AWS CloudTrail, Inspector, WAF, GuardDuty, and Lambda
- Used Terraform for infrastructure orchestration and environment replication
- Deployed applications across multiple availability zones for high availability
- Leveraged S3 for infrequent access and Glacier for low-cost backup and long-term archival needs

Business Outcomes/Results

TO THE NEW completed the migration activity within a short span of under six months. MakeMyTrip started serving 100% traffic from AWS and immediately decommissioned one of the data centers. The new setup was more stable and had significant performance improvements.

Technology Stack



Amazon
Web Ser-
vices (AWS)



Other
Technologies



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