Case study

INFOVISION
#AccelerateDigital

Cloud-Native MVNE Platform Transformation for a Leading U.S. Mobile Virtual Network Operator

Overview

A leading U.S. Mobile Virtual Network Operator (MVNO) partnered with InfoVision to architect and deliver a brand-new Mobile Virtual Network Enabler (MVNE) platform built entirely on AWS. Using a serverless, cloud-native architecture and AWS-native services, InfoVision delivered the full platform within a fixed 5-month deadline, achieving 100% CI/CD automation and a 40% reduction in end-to-end testing cycle time.

5 Months	100 %	40 %	Serverless
Platform Delivered on Schedule	CI/CD Pipeline Automation on AWS	Faster E2E Testing via GitHub Copilot	100% AWS Cloud-Native Architecture

The Challenge

The client's legacy MVNO systems could not support MVNE ambitions. The challenges included:

- Aging, monolithic MVNO infrastructure unable to scale to MVNE requirements
- Non-negotiable 5-month deadline for first activation and SIM provisioning
- Multi-vendor API ecosystem requiring strong governance and interoperability
- Partner onboarding at scale - pSIM, eSIM, enterprise and celebrity MVNOs
- Telecom-grade E2E testing across SIM lifecycle, provisioning, and billing
- Unified CI/CD framework needed across distributed, multi-vendor teams

The AWS-Powered Solution

InfoVision designed and delivered a fully serverless, AWS-native MVNE platform from the ground up:

- AWS API Gateway as the central integration hub for all MVNE partner and system APIs
- Lambda + ECS/Fargate serverless compute - auto-scaling with zero infrastructure overhead
- Terraform IaC for identical multi-environment provisioning (dev/staging /prod)
- GitHub Actions CI/CD fully integrated with AWS ECR, SAM, and CloudFormation
- CloudWatch dashboards and alerting for real-time activation and API health monitoring
- GitHub Copilot-assisted test automation delivering 40% faster E2E regression cycles

AWS Services Used

API Gateway	AWS Lambda	ECS / Fargate	Amazon S3
CloudWatch	IAM	VPC	Secrets Manager
CloudFront	CloudTrail	AWS SAM	Amazon ECR

Business Outcomes

- **Platform Delivered on Time:** The greenfield MVNE stack was built and deployed on AWS within the client's five-month commercial deadline, enabling first subscriber activation and SIM provisioning on schedule.
- **Fully Automated Releases:** A GitHub Actions + AWS pipeline achieved 100% CI/CD automation - from code commit through SAST/DAST scanning, Docker build, ECR push, and SAM-based AWS deployment, with zero manual steps.
- **Faster Testing with AI:** GitHub Copilot-assisted test generation cut E2E regression cycle time by 40%, enabling rapid release cadences without compromising telecom-grade quality standards.
- **Scalable Partner Onboarding:** AWS API Gateway–backed onboarding frameworks reduced the engineering effort to onboard each new enterprise or celebrity MVNO partner, enabling faster go-to-market for new revenue streams.
- **Improved Subscriber Activation:** CloudWatch-driven monitoring and automated health checks delivered measurable improvements in activation success rates and significant reductions in API failure incidents.
- **Operational Efficiency:** Terraform IaC eliminated environment drift across AWS accounts. SonarQube and Snyk security gates, integrated into the AWS pipeline, reduced post-release defects and security vulnerabilities.

Why AWS — The Strategic Advantage

- **Serverless Scalability:** AWS Lambda and ECS/Fargate enable the MVNE platform to scale automatically with subscriber and partner volumes. No capacity planning, no infrastructure overhead.
- **Security & Compliance:** AWS IAM, VPC segmentation, Secrets Manager, and CloudTrail provide enterprise-grade security and audit capability required for telecom regulatory compliance..
- **Accelerated Innovation:** AWS SAM and CloudFront enable rapid deployment of new MVNE services and APIs globally, reducing time-to-market for new partner offerings and subscriber products.
- **Well-Architected Foundation:** The platform was designed in alignment with the AWS Well-Architected Framework, optimising for operational excellence, security, reliability, performance, and cost efficiency.