CLOUD FORCES

National Matching Platform

A multi-year engagement with an independent, not-for-profit organization - modernizing a mission-critical web application and migrating the production stack to AWS, then running it.

> **Confidential:** The client's identity, sector, and program details have been withheld. This case study describes Cloud Forces' work in generic terms only.

1. At a Glance

100+	15x	99.99%	24/7
VMs migrated	Less OpEX	Uptime	Managed ops

2. Technology Stack

Cloud Forces applies the same core application and infrastructure stack across engagements, ensuring every client benefits from a proven, hardened foundation.

APPLICATION

- Next.js · React · TypeScript
- Tailwind CSS · shadcn/ui
- PostgreSQL · Prisma ORM
- REST APIs · Server-Side Rendering
- GitHub Actions · CI/CD pipelines

INFRASTRUCTURE & SECURITY

- Amazon Web Services (AWS)
- EC2 (right-sized) · VPC · S3
- RDS (managed databases) · EBS
- CloudWatch · custom alerting
- IAM · VPC security groups · NACLs
- Encryption at rest & in transit
- Hardened OS baselines

3. The Challenge

The client operates a national, mission-critical online platform running multiple parallel application and matching cycles each year. Its users span individual applicants, participating institutions, and internal administrators - each with distinct workflows, permissions, and annual deadlines that cannot slip.

When Cloud Forces was engaged, both the application and the infrastructure had reached end-of-life. The codebase carried years of accumulated complexity, production workloads ran on an aging VM fleet managed by an unresponsive legacy provider, disaster recovery was non-existent, and release cadence had slowed to a crawl. The organization needed a single partner capable of modernizing the software, re-platforming the infrastructure, and then running both.

4. What Cloud Forces Delivered

Application Modernisation

- **End-to-end feature delivery** across applicant, institutional, and administrator workflows - from intake forms through multi-stage review cycles to final outcome delivery.
- **Core domain logic refactoring** supporting several concurrent annual cycles, each with its own rules, timelines, and stakeholder roles.
- **Performance, stability, and UX improvements** with release processes designed to land safely inside tight, immovable operational windows.
- **Integrations with external data providers** and supporting services used across the platform.

Cloud Migration & Production Operations

- **Full infrastructure discovery and audit** - every VM, its role, resource allocation, network dependencies, and security posture.
- **Target-state AWS architecture** - right-sized EC2, VPC segmentation, managed RDS, automated backups, and AWS-native disaster recovery.
- **Phased, low-risk migration** with validation and rollback procedures at every step, executed around the client's live operational calendar.
- **Ongoing 24/7 managed operations** - monitoring, alerting, patching, incident response, and regular infrastructure reviews.

5. Cloud Forces' Role

- Full-stack application development and ongoing feature delivery
- AWS architecture design and infrastructure modernization
- Phased production migration with zero critical-service downtime
- Security hardening, backups, and disaster-recovery design
- Production operations takeover and ongoing 24/7 managed services
- Trusted long-term partner across both software and infrastructure

6. The Result

> The client now operates a modernized web application on a resilient AWS environment, with Cloud Forces as its single point of accountability for both the software and the production stack underneath it. Annual cycles run on schedule, infrastructure is fully observable and recoverable, and the relationship has extended over multiple years as a continuously active build-and-run engagement.