

Financial Services & FinTech | Data Residency | AWS Outposts

How a leading **African fintech met Nigeria's data** residency requirements without sacrificing payment performance

Company

Leading African Fintech

Industry

Financial Services & Fintech

Partner

Flentas Technologies



Introduction

The company is one of Africa's leading fintech platforms, providing banking, payments, credit, and financial services to businesses and consumers across Nigeria. Two out of three adults in the country have used the platform, and transaction volumes continue to grow at a pace that puts real pressure on infrastructure, performance, and compliance.

As a regulated financial services provider, the Company faced a specific constraint that standard public cloud regions could not fully solve on their own: sensitive production data and workloads needed to stay resident within Nigeria, while still running on modern, fully managed AWS infrastructure. To meet this requirement without sacrificing performance or operability, The Company partnered with Flentas Technologies to deploy AWS Outposts, bringing AWS compute, storage, and database services directly into The Company's own data centre while keeping the platform managed through AWS's standard tooling and control plane.

At a Glance

Solution



Hybrid Cloud Modernization

Built a scalable platform combining cloud capabilities with on-premises requirements.



Application & Data Modernization

Enhanced performance, availability, and operational efficiency.



Security & Governance

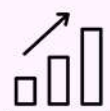
Implemented stronger security, compliance, and access controls.



Monitoring & Operations

Improved visibility through centralized monitoring and alerting.

Business Impact



Full data residency compliance for Nigerian regulatory requirements



Ultra-low latency for real-time payment processing



Strengthened security, compliance, and audit posture



Centralized monitoring and proactive incident response



Near-zero downtime migration of production workloads



Technologies & Services Used

Infrastructure



AWS Outposts



Local Gateway



Transit Gateway



AWS Service Link

Compute



Amazon EKS (Local Cluster)



Amazon EC2

Data Services



Amazon RDS



MongoDB

Storage



Amazon S3



Amazon EBS

Migration



AWS Database Migration Service (DMS)

Monitoring



Amazon CloudWatch



Amazon SNS

Security



AWS GuardDuty



AWS CloudTrail



AWS Config

Automation



Terraform

The Challenge

The Company needed an infrastructure model that satisfied Nigerian data residency requirements, delivered low-latency performance for real-time payments, and reduced the operational burden of running everything on self-managed, on-premises hardware.

01

Data Residency and Regulatory Requirements

As a financial institution, the Company required to keep certain production data and processing within Nigeria. A standard AWS region could not satisfy this on its own, which ruled out a conventional lift-and-shift cloud migration and made an on-premises AWS deployment the right starting point.

02

Infrastructure Complexity & Operational Overhead

Kubernetes-based applications, more than a dozen relational databases across multiple engines, a MongoDB cluster, messaging systems, & supporting workloads were all running on self-managed, on-premises infrastructure. Keeping this environment stable and current required significant manual effort and made it harder to scale as transaction volumes grew.

03

High Availability for a Real-Time Payments Platform

With millions of users depending on the platform for everyday transactions, any migration had to preserve application performance and protect data integrity, with minimal downtime for business-critical systems.

04

Security, Governance, & Visibility Gaps

Threat detection, configuration compliance, and audit logging were not consistently enabled across the environment, and monitoring was fragmented across infrastructure components. This made it difficult to enforce financial-grade security standards or catch performance and security issues before they became incidents.

The Solution

Flentas Technologies designed and delivered an AWS Outposts deployment inside the Client's own data centre in Nigeria, managed through the AWS London Region control plane. This gave Client the same AWS services, APIs, and operational model used in the cloud, running on infrastructure that satisfies local data residency requirements and keeps latency low for real-time financial transactions.

01

A Production-Grade AWS Outposts Foundation

A dedicated production VPC was deployed directly on AWS Outposts hardware, with subnets segmented by workload type and a Local Gateway configured to connect Outpost subnets to Client's existing on-premises network. AWS Service Link and Transit Gateway were configured to connect the Outpost back to the AWS London Region for control-plane operations and routing, so the environment behaves like standard AWS infrastructure while running on-site.

02

Kubernetes Running Entirely on Outpost Hardware

A dedicated Amazon EKS Local Cluster was deployed with both its control plane and worker nodes running on the Outpost itself, rather than in the AWS region. Existing applications were migrated using Helm charts, with an F5 load balancer integrated as the ingress controller, giving the Company a Kubernetes environment with the same operational consistency as a standard EKS deployment.

03

Multi-Engine Database Migration

Thirteen Amazon RDS instances spanning five database engines, along with a MongoDB cluster running on EC2 with replication for high availability, were migrated onto the Outpost using AWS Database Migration Service for live, low-downtime data transfer. Backup, retention, and parameter configurations were set per engine to meet production requirements.

04

Critical Workload and Storage Migration

Five critical EC2-based workloads, including secrets management, event streaming, and secure file transfer services, were migrated with Auto Scaling and backup configured for resilience. Five production Amazon S3 buckets covering analytics data, account documents, database backups, and centralized logs were migrated and reconfigured with KMS encryption and least-privilege IAM policies.

05

Security and Compliance Hardening

AWS GuardDuty, AWS Config, and AWS CloudTrail were enabled for continuous threat detection, configuration compliance, and full API-level audit logging. Security groups, NACLs, and IAM roles were hardened per workload tier with least-privilege access across the EKS, database, and EC2 environments.

06

Centralized Monitoring and Observability

Amazon CloudWatch dashboards and alarms were built for infrastructure-level visibility across EKS, RDS, EC2, and VPC metrics, with SNS-based alerting giving the operations team real-time notice of critical and warning events.

07

A Phased, Low-Risk Cutover

The migration was delivered in structured phases, from network and baseline setup through EKS and application migration, database and EC2 migration, and finally security, monitoring, and production cutover. Each phase included validation and testing to protect business continuity, and third-party integrations with financial institutions, payment processors, and Confluent Kafka Cloud remained uninterrupted throughout.

Business Impact

Full Data Residency Compliance

Production workloads now run on AWS Outposts within the Client's own data centre in Nigeria, meeting local regulatory requirements for data residency while retaining the operational model of standard AWS infrastructure.



Ultra-Low Latency for Real-Time Payments

Running compute and databases on-site, rather than in a distant AWS region, keeps latency low for the real-time transaction processing that the Company's payments platform depends on.



Stronger Security and Compliance Posture

Continuous threat detection, configuration monitoring, and full audit logging give the Client the governance controls expected of a regulated financial platform.



Greater Operational Visibility

Centralized dashboards and real-time alerting replaced fragmented monitoring, enabling faster detection and response to performance and security issues.



Improved Scalability & Resilience

Modernized application and database platforms, including Auto Scaling and Multi-AZ-ready configurations, give the company's a foundation built to support continued growth in transaction volumes.



Near-Zero Downtime Migration

Thirteen databases, five EC2 workloads, and five S3 buckets were migrated with data integrity validated throughout, and payment flows with financial institution partners continued without disruption.



Conclusion

By partnering with Flentas Technologies, the Client deployed AWS Outposts inside its own data centre, meeting Nigeria's data residency requirements while gaining the scalability, security, and operational consistency of AWS's managed services. The result is a hybrid infrastructure foundation built specifically for the demands of a regulated, high-growth financial platform, with room to support the Company's continued expansion across Africa.



Take Action

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