



CASE STUDY

How NES Data Helped a Leading Real Estate Company Build an AI-Powered Property Advisor on AWS

From high AI costs and slow property searches to a secure, scalable, and intelligent AI platform delivering real-time property insights at enterprise scale.

Powered by NES Data



THE CHALLENGE

Why This Real Estate Platform Needed the Cloud

The platform was growing rapidly, but its traditional infrastructure couldn't keep up with increasing traffic, media-rich property listings, and rising customer expectations.

Performance issues, security gaps, and operational inefficiencies were affecting both customer experience and business growth.



KEY CHALLENGES



HIGH AI RESPONSE TIME

Customers expected instant responses, but AI conversations and property searches experienced high latency, impacting user experience and engagement.



RISING AI OPERATING COSTS

Direct LLM API calls and inefficient AI processing significantly increased infrastructure costs, making the platform difficult to scale economically.



LIMITED SCALABILITY

The existing environment could support only a limited number of concurrent users, resulting in performance degradation during peak traffic and marketing campaigns.



DATA & SEARCH BOTTLENECKS

Millions of property listings and transaction records required faster search capabilities without affecting application performance.



SECURITY & COMPLIANCE

The platform required stronger tenant isolation, data encryption, audit logging, and India data residency to meet enterprise security and compliance requirements.



SLOW RELEASE CYCLES

Infrastructure changes and AI feature deployments required several days, slowing innovation and delaying new feature releases.



THE NES DATA SOLUTION

Building a Scalable AI Platform on AWS

NES DATA designed and implemented a modern AI-ready cloud architecture on AWS that improved application performance, optimized AI costs, strengthened security, and enabled rapid business growth

AI-POWERED APPLICATION PLATFORM

Built a scalable, event-driven architecture using Amazon EKS, API Gateway, Auto Scaling, and Application Load Balancers for high availability.

INTELLIGENT AI AGENT

Developed a Retrieval-Augmented Generation (RAG) pipeline using Amazon Bedrock, OpenSearch Vector Search, and semantic caching to deliver fast and accurate AI responses.

HIGH-PERFORMANCE DATA PLATFORM

Implemented Aurora PostgreSQL, DynamoDB, OpenSearch, Amazon S3, and Redis caching to process millions of property records efficiently.

ENTERPRISE SECURITY

Implemented AWS WAF, IAM, KMS, GuardDuty, CloudTrail, and Security Hub to protect customer data and strengthen governance.

BUSINESS CONTINUITY & COST OPTIMISATION

Configured AWS Backup, Disaster Recovery, CloudWatch monitoring, FinOps tagging, and intelligent storage policies to improve resilience while reducing operational costs.

AWS SERVICES USED

NETWORKING

- Amazon Route 53
- Application Load Balancer
- Amazon VPC

BACKUP & MANAGEMENT

- AWS Backup
- AWS Cost Explorer
- Savings Plans
- CloudWatch

STORAGE & DELIVERY

- Amazon S3
- Amazon CloudFront

SECURITY

- AWS WAF
- AWS IAM
- AWS KMS
- Amazon GuardDuty
- AWS CloudTrail

COMPUTE

- Amazon EC2
- EC2 Auto Scaling
- Amazon ECR

DATABASE

- Amazon RDS Multi-AZ

BUSINESS IMPACT

Outcomes After Migration

FASTER WEBSITE PERFORMANCE

Property pages loaded significantly faster, improving user engagement and enquiry conversions.

RELIABLE DURING PEAK TRAFFIC

The platform automatically scaled during new project launches without service interruptions.

FASTER RELEASE CYCLES

Automated deployment pipelines reduced release times from days to minutes while eliminating planned downtime.

STRONGER SECURITY

Enterprise-grade security controls improved compliance, visibility, and protection of customer information.

IMPROVED BUSINESS CONTINUITY

Automated backups and disaster recovery planning reduced operational risk and improved platform availability.

BETTER COST VISIBILITY

Resource tagging and cloud cost optimisation provided greater financial control and reduced unnecessary infrastructure spend.



BUSINESS IMPACT

Outcomes After Migration

FASTER AI RESPONSES

Reduced AI conversational response time by over 90%, enabling a faster and more engaging customer experience.

HIGHER PLATFORM SCALABILITY

Expanded platform capacity from hundreds to 60,000+ concurrent users, ensuring consistent performance during peak demand.

LOWER CLOUD & AI COSTS

Optimized AI inference and cloud infrastructure, reducing monthly infrastructure costs by 63% and AI processing costs by 92%.

FASTER PROPERTY SEARCH

Implemented intelligent search architecture that significantly improved property discovery and recommendation speed.

ENTERPRISE-GRADE SECURITY

Enhanced security with encryption, audit logging, tenant isolation, and India data residency to meet enterprise compliance requirements.

BUSINESS CONTINUITY

Implemented automated backup and disaster recovery capabilities while improving platform availability to 99.99%.



WHY NES DATA

NES Data helps organisations modernise their infrastructure with secure, scalable, and cost-efficient cloud solutions built on AWS and Azure.

Our cloud specialists support businesses through every stage of their cloud journey, including:

- Cloud Assessment & Strategy
- Cloud Migration
- DevOps & Automation
- Security & Compliance
- Disaster Recovery
- FinOps & Cost Optimisation
- Managed Cloud Services
- AI-Ready Cloud Infrastructure

Whether you're migrating from on-premises infrastructure or optimising an existing cloud environment, we help you build a platform designed for performance, resilience, and growth.





READY TO BUILD YOUR CLOUD SUCCESS STORY?

Whether you're planning your first cloud migration or optimising an existing environment, NES Data can help you accelerate innovation while reducing operational complexity.

Let's Build a Faster, More Secure Cloud Together.

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