CASE STUDY

Empowering Muthoot Microfin with Cost-Effective, Secure, and Compliant Digital Signing Solutions

About the Customer

Muthoot Microfin is a key player in the Indian microfinance sector, providing financial services to underserved populations, especially in rural and semi-urban areas. As their operations expanded, the need for a more secure, efficient, and compliant document signing solution became critical.

Business Scenario

Muthoot Microfin faced two primary challenges:

Cost Inefficiency

The existing document signing processes were costly and inefficient, requiring a streamlined and cost-effective solution to reduce operational burdens.

Low Adoption of Aadhaar eSign

Despite the benefits of Aadhaar-based eSignatures, adoption was low due to reliance on non-CCA-approved eSign methods, which hindered compliance and operational efficiency.

eMudhra Solution

eMudhra implemented the **emSigner** solution for Muthoot Microfin, addressing both their operational and regulatory challenges. The solution was deployed on AWS private cloud infrastructure, provisioned and fully managed by eMudhra, ensuring optimal performance, compliance, and scalability.

Key features of the solution include:

Aadhaar eSign Integration: Secure and compliant Aadhaar eSign, tailored to replace the previously used non-CCA-approved eSign methods, ensuring regulatory adherence.

Biometric Authentication: Multiple options for authentication using fingerprint and face-based verification for maximum adoption, particularly in rural and semi-urban settings.

Custom eSign Sequencing: A flexible eSign mode sequencing mechanism that prioritizes Aadhaar eSign, followed by alternate secure signing methods when needed.
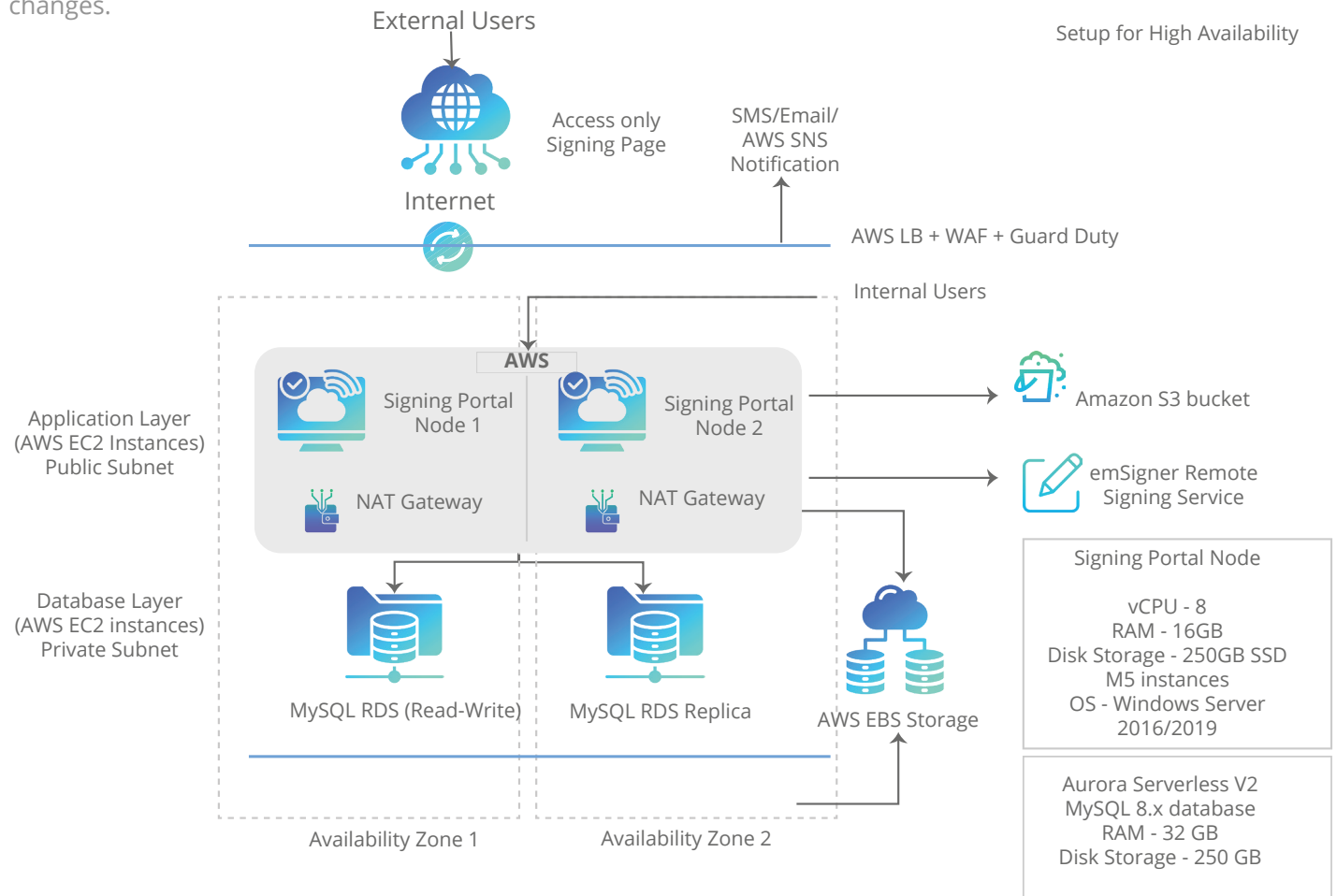
eSignature with Timestamping: Virtual signatures where fingerprint images are captured and applied to documents with timestamping, ensuring authenticity.

Cost Efficiency: emSigner significantly reduced the high costs associated with traditional signing methods by streamlining operations and enabling fully digital processes.

Solution Architecture

The emSigner solution was deployed in an AWS private cloud, fully managed by eMudhra. This secure infrastructure provided Muthoot Microfin with audit capabilities, ensuring data residency and compliance with all regulatory guidelines. The scalable nature of the solution also future-proofed Muthoot Microfin against potential regulatory changes.

External Users

Setup for High Availability

Access only Signing Page

SMS/Email/ AWS SNS Notification

Internet

AWS LB + WAF + Guard Duty

Internal Users

AWS

Application Layer (AWS EC2 Instances) Public Subnet

Signing Portal Node 1

Signing Portal Node 2

Amazon S3 bucket

NAT Gateway

NAT Gateway

emSigner Remote Signing Service

Database Layer (AWS EC2 instances) Private Subnet

MySQL RDS (Read-Write)

MySQL RDS Replica

AWS EBS Storage

Availability Zone 1

Availability Zone 2

Signing Portal Node

vCPU - 8
RAM - 16GB
Disk Storage - 250GB SSD
M5 instances
OS - Windows Server 2016/2019

Aurora Serverless V2
MySQL 8.x database
RAM - 32 GB
Disk Storage - 250 GB

Implementation Process

Cost Analysis and Planning
eMudhra and Muthoot Microfin collaborated to identify inefficiencies in their existing signing processes. A cost-effective strategy was developed to reduce operational overhead while increasing efficiency.

Private Cloud Deployment
The emSigner solution was securely deployed in a private cloud on AWS, managed by eMudhra. This deployment ensured that Muthoot Microfin had a scalable, compliant, and secure infrastructure with full audit capabilities.

Aadhaar eSign Adoption

eMudhra focused on increasing Aadhaar eSign adoption by creating custom workflows that seamlessly integrated with Muthoot Microfin's existing microfinance operations, addressing their low adoption rates.

Custom Development

Tailored features were developed to meet Muthoot Microfin's specific requirements, including biometric authentication and custom eSign sequencing, ensuring a smooth transition from older non-CCA-approved eSign methods to Aadhaar-based signing.

Regulatory Compliance

emSigner helped Muthoot Microfin achieve full compliance with Aadhaar eSign regulations, aligning the organization's practices with government requirements. eMudhra's solution also provided full audit access, data residency on AWS, and flexibility to accommodate future regulatory changes.

Use Case: Microfinance Operations

In Muthoot Microfin's microfinance business, loan agreements and related documents require rapid processing, especially in rural and semi-urban areas. The Aadhaar eSign and biometric authentication capabilities enabled by emSigner allowed Muthoot Microfin to process documents securely and efficiently.

The virtual signature feature, which captures and applies fingerprint images directly onto documents, ensured authenticity and compliance with regulatory standards. The flexible sequencing of eSign modes ensured that if Aadhaar eSign was unavailable, other secure signing methods could be used, enhancing operational flexibility while maintaining compliance.

Value Add to Customer

Cost Reduction: The implementation of emSigner significantly reduced operational costs by streamlining the document signing process and eliminating the need for non-compliant eSign methods.

Increased Aadhaar eSign Adoption: The custom workflows and biometric authentication mechanisms provided by emSigner resulted in a significant increase in Aadhaar eSign adoption, shifting away from less compliant methods.

Regulatory Compliance: Muthoot Microfin achieved full compliance with Aadhaar eSign and related government regulations, backed by the cloud-based audit features of emSigner.

Operational Efficiency: Document signing times were greatly reduced. The customized sequencing of eSign modes provided flexibility in signing methods, ensuring smooth operations in various circumstances.

Infrastructure Management: eMudhra's management of the AWS cloud infrastructure provided Muthoot Microfin with a seamless, worry-free experience, covering the entire stack from application to infrastructure.

Custom Development for Regulatory Adaptation: Continuous updates and custom development ensure that the emSigner solution remains adaptable to future regulatory changes, supporting Muthoot Microfin's long-term growth in the microfinance sector.

Conclusion

The implementation of **emSigner by eMudhra** has transformed Muthoot Microfin's document signing processes. The solution not only reduced operational costs but also increased the adoption of Aadhaar eSign, ensuring regulatory compliance and operational efficiency. With emSigner, Muthoot Microfin is well-positioned to continue serving its customers across India's microfinance landscape, confident in the security, flexibility, and scalability of its digital document workflow.

About eMudhra

eMudhra is a global leader in digital security solutions, specifically tailored for the BFSI sector. Leveraging AWS cloud infrastructure, eMudhra provides secure, scalable, and compliant offerings, including eSignatures, digital certificates, and identity management. These solutions help banks and financial institutions streamline document workflows, automate approvals, and ensure regulatory compliance, all while enhancing operational efficiency. With a focus on data residency and robust security, eMudhra's solutions are designed to meet the stringent regulatory requirements of the BFSI industry, enabling organizations to drive digital transformation and foster customer trust in a secure digital environment.