



## CASE STUDY

# 99.9% Uptime for GCAA's Signing Workflows Powered by eMudhra

## About the Customer

The General Civil Aviation Authority (GCAA) is the UAE's federal regulator for civil aviation. A member of ICAO and CANSO, it operates the Sheikh Zayed Air Navigation Centre—one of the region's most advanced air-traffic management hubs—and drives innovation in safety and digital transformation across UAE airspace.

## Client Background

### Client Name

General Civil Aviation Authority

### Industry

Aviation

### Location

Abu Dhabi, UAE (regional office in Dubai)

## Impact at Glance

Regulatory  
Compliance  
**100% UAE-law  
compliant**

Paper  
Usage  
**100% digital  
workflows**

Manual  
Handoffs  
**Automated  
in-app signing**

Uptime  
& Resilience  
**99.9%+ SLA  
(DR ≤ 24 hrs)**

Audit-  
Readiness  
**Instant, tamper  
-proof Logs**

## Business Scenario

GCAA sought to replace manual, paper-based workflows (maintenance records, certificates, approvals) with a fully digital, legally compliant signature platform. Their requirements included:

- **UAE-resident hosting & DR:** AWS UAE region, with on-premise fallback, meeting TDRA data-residency rules
- **Regulatory compliance:** Align with Federal Decree-Law No. 46/2021 on e-transactions
- **Oracle integration:** Seamless document signing within existing Oracle applications
- **Scale & reliability:** Support hundreds of daily sign-offs with enterprise-grade uptime

## eMudhra Solution

**emSigner Gateway on AWS UAE:** A containerized, SaaS-style deployment in the UAE region (with on-prem DR), delivering API-driven, PKI-based electronic signatures fully compliant with UAE law.

### Key Features of the Solution:



**UAE-Compliant Hosting:** AWS UAE region + on-premise DR for full data sovereignty



**Legal Digital Signatures:** Supports advanced QES/AML standards; optional UAE Pass authentication



**Oracle-Ready Integration:** Out-of-the-box REST APIs & webhooks for Oracle apps



**Structured Workflow:** Template/form placeholders; multi-party signing; ordered routing; delegation



**Audit & Archival:** Tamper-proof logs, comments, timestamps; automated archival back to Oracle/GCAA DMS

## Solution Architecture

eMudhra's AWS-hosted emSigner Gateway sits between GCAA's Oracle applications and the UAE Pass/Root CA infrastructure. It leverages containerized microservices for signing, cloud HSMs for key management, and built-in DR, backup, logging, and monitoring to ensure secure, always-on operations. Below shared is the implementation process:



### Kickoff & Design

Workshops to map Oracle workflows, compliance & DR requirements



### Deployment & Integration

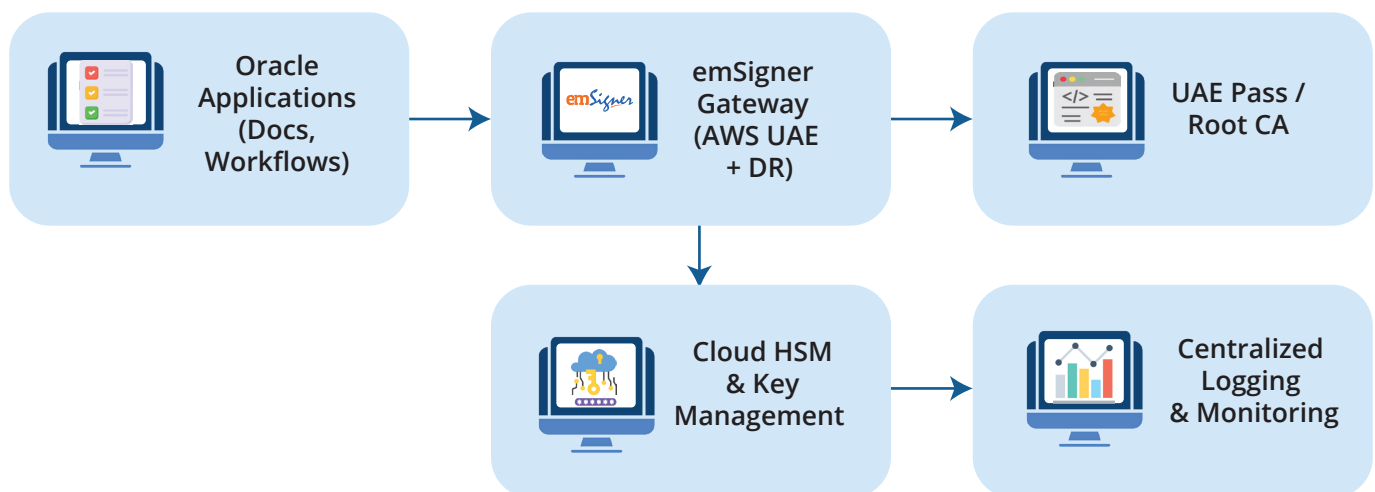
AWS UAE provisioning; on-prem container setup; API/webhook connection to Oracle



### Validation & Training

End-to-end signing tests; GCAA-admin & user training; hypercare during go-live

## Architecture Diagram



## Value Added to GCAA



100% Regulatory Assurance – UAE-law compliant electronic signatures



Paperless Transformation – From 100% manual to fully digital workflows



Oracle Workflow Automation – In-app signing, no manual exports/imports



Enterprise-Grade Security – Cloud HSM, PKI, non-repudiation & audit logs



High Availability & DR – 99.9% uptime SLA, RTO/RPO ≤ 24 hrs



Scalable Adoption – Mobile/web signing, templating, delegation & reminders

## Conclusion

With eMudhra's AWS-hosted emSigner Gateway, GCAA replaced slow, paper-heavy processes with a secure, compliant, and automated digital-signature platform—enabling faster approvals, full audit readiness, and alignment with the UAE's "go paperless" initiative.

### About eMudhra

**eMudhra** is a global leader in PKI, digital identity, and trust services, enabling banks and financial institutions to securely digitize transactions. With expertise in e-signature solutions, compliance-driven security frameworks, and identity management, eMudhra empowers organizations to build trusted digital ecosystems.