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**BANKING** | 

CASE STUDY

In Under 6 Months: How Qatar Central Bank Launched a National EMV PKI Framework with eMudhra

About the Customer

Qatar Central Bank is a leading central banking institution in the Middle East, responsible for regulating and overseeing the country's financial and payment infrastructure. Focused on enhancing economic sovereignty, the bank has been actively working to establish a secure and independent domestic payment ecosystem. As part of this initiative, Qatar Central Bank sought a robust Public Key Infrastructure (PKI) solution to power their newly launched national card payment scheme, ensuring compliance with global security standards while reducing reliance on international payment networks.

Client Background

Client Name

Qatar Central Bank

Industry

Banking & Payments

Location

Middle East

Impact at Glance



Business Scenario

Qatar Central Bank sought to establish a domestic payment scheme to reduce reliance on international card networks like Visa and MasterCard. The objective was to retain transaction fees within the country, enhancing economic efficiency while ensuring greater control over the national payment infrastructure. To support this initiative, a domestic card payment system was introduced, similar to India's RuPay. However, setting up a secure Public Key Infrastructure (PKI) for EMV transactions was a key challenge, requiring a specialized solution for issuing and managing EMV certificates.

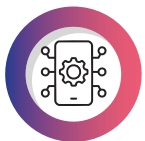
eMudhra Solution

eMudhra provided its **emCA solution**, a robust EMV-compliant Certificate Authority (CA), enabling the secure authentication of domestic card transactions. The solution ensures that every transaction, card, and payment terminal is cryptographically verified, providing the highest level of security for the domestic payment ecosystem.

Key Features of the Solution:



EMV-Compliant Certificate Authority (CA): Establishes and manages digital certificates for card issuance and terminal authentication.



Seamless Integration with Domestic Card Infrastructure: Ensures secure transaction processing within the domestic payment network.



High-Value Payment Authentication: Guarantees compliance with EMV standards for secure, large-scale transactions.



Quick Deployment & Easy Management: Allows rapid setup and efficient administration of the entire PKI framework.

Solution Architecture

The emCA solution was deployed within Qatar Central Bank's secure infrastructure, ensuring full control over certificate issuance while complying with EMV security standards. The architecture supports authentication for card issuance, payment terminals, and acquiring banks, allowing seamless transaction processing. The licensing model ensures scalability, giving Qatar Central Bank cost-effective, long-term control over its EMV PKI operations.

Implementation Process



Rapid Deployment

The emCA solution was deployed swiftly, ensuring a fully functional EMV-compliant CA within a short time.



Custom Licensing Model

Tailored for long-term cost-effectiveness and operational efficiency.



Full Compliance with EMV & Payment Regulations

Ensures all domestic card transactions adhere to global security standards while maintaining sovereignty over the domestic payment ecosystem.

Use Case: EMV PKI for Domestic Card Schemes

Qatar Central Bank successfully implemented eMudhra's emCA solution to establish a secure PKI framework for its domestic card scheme. This enabled the country's payment infrastructure to operate independently, eliminating the need for foreign card networks while maintaining the highest security and compliance standards.

Value Added to Qatar Central Bank



First-of-its-Kind in the Region: The only available EMV PKI solution in this part of the world.



Enhanced Security: Ensures strong authentication for every transaction, card, and terminal.



Cost Savings: Reduces transaction costs by avoiding fees associated with international payment networks.



Regulatory Compliance: Fully meets EMV and local financial regulations.

Conclusion

With eMudhra's emCA for EMV schemes, **Qatar Central Bank** successfully established a secure and independent domestic payment system. The domestic card infrastructure now operates with full security and compliance, providing the country with a cost-effective, sovereign payment ecosystem. This initiative positions **Qatar Central Bank** at the forefront of digital payment innovation while fostering economic resilience.

Client Impact & Future Prospects

The successful deployment of the domestic card scheme has reinforced **Qatar Central Bank's** commitment to financial independence and enhanced security within the national payment ecosystem. By adopting eMudhra's emCA solution, the bank has ensured end-to-end transaction security, setting a benchmark for other nations looking to establish independent payment infrastructures. The scalability of the solution allows for future expansions, including potential integrations with regional and international partners seeking to leverage a secure and cost-effective payment model.

About eMudhra

eMudhra is a global leader in PKI, digital identity, and security solutions, offering EMV-compliant certificate authorities for domestic and private card schemes. With expertise in secure digital transactions and compliance, eMudhra empowers central banks and financial institutions to build trusted, scalable, and sovereign payment infrastructures that align with global security standards.