



CASE STUDY

Building National eCommerce Payments Infrastructure in Oman

ABOUT

Our customer is Oman's national ATM/POS switch network and payment gateway and one of the principal authorities in the region.

KEY IMPACT

100%

Penetration Among Banks in Oman for Debit Card Transactions

24

Member Banks Onboard

30-40

Basis Points Savings on Interchange Costs

30%

Annual eCommerce Transaction Growth

50th

Ranked Nation in UN E-Governance out of 163, up from 66th

Summary

Our customer, Oman's national ATM/POS switch network and payment gateway and one of the principal authorities in the region, appointed FSS to implement the national payment gateway in the Sultanate of Oman. This case study elaborates how FSS helped them progress the country's debit payment processing system using the FSS Payment Gateway and FSS Settlement and Dispute Management System solutions, fostering reforms in the payment and settlement system.

Overview

Regulatory heads of the payment sector in Oman have focused on maintaining a balance between safety, stability, and efficiency. It has aimed to adopt and practice international best practices by strengthening its regulatory and supervisory framework. The bank - as the investor, operator, and regulator of Oman's national payment systems - has been adopting a calibrated approach and building new and innovative business models to broaden the payments ecosystem in Oman.

Oman uses debit cards for most of its payment transactions and with the growing trend in electronic payments, the country needed an advanced and robust payment infrastructure. As a result, the bank planned to deploy a centralized e-payment acceptance infrastructure with the aim to widen the adoption of debit cards and further advance digital payments in the country.

Business Need

The bank wanted to:

- Build centralized online acceptance infrastructure for processing debit card transactions.
- Offer complete data security and privacy to each member acquirer institution.
- Rationalize and control merchant fees (MDR) and bank costs by eliminating interchange processing fees.
- Enhance customer experience with a modern, state-of-the-art seamless payment infrastructure facility to support multiple institutions and expand the merchant acquiring segment in the region.
- Implement and integrate a robust system to manage all interbank settlements and disputes between their partners or member banks to improve processing speed and save time.

The primary push was to have a common platform available to all acquirers and merchants in the country, to improve infrastructure supply, standardize and control payment acceptance and drive down infrastructure costs for all ecosystem participants, especially small and mid-sized banks catalysing market growth.

Solution and Implementation

The criticality and the scale of the project necessitated the central bank to collaborate with a technology partner with wide payments expertise. In 2015, the bank released an RFP to identify the right vendor and technology platform that could support the national payments vision. After a multi-stage technical, commercial, and infrastructural evaluation process, the regulator engaged with FSS to develop and implement a robust payment gateway and settlement and dispute management system to accelerate digital payment transactions. The following factors were considered by the central regulator to award the project to FSS:

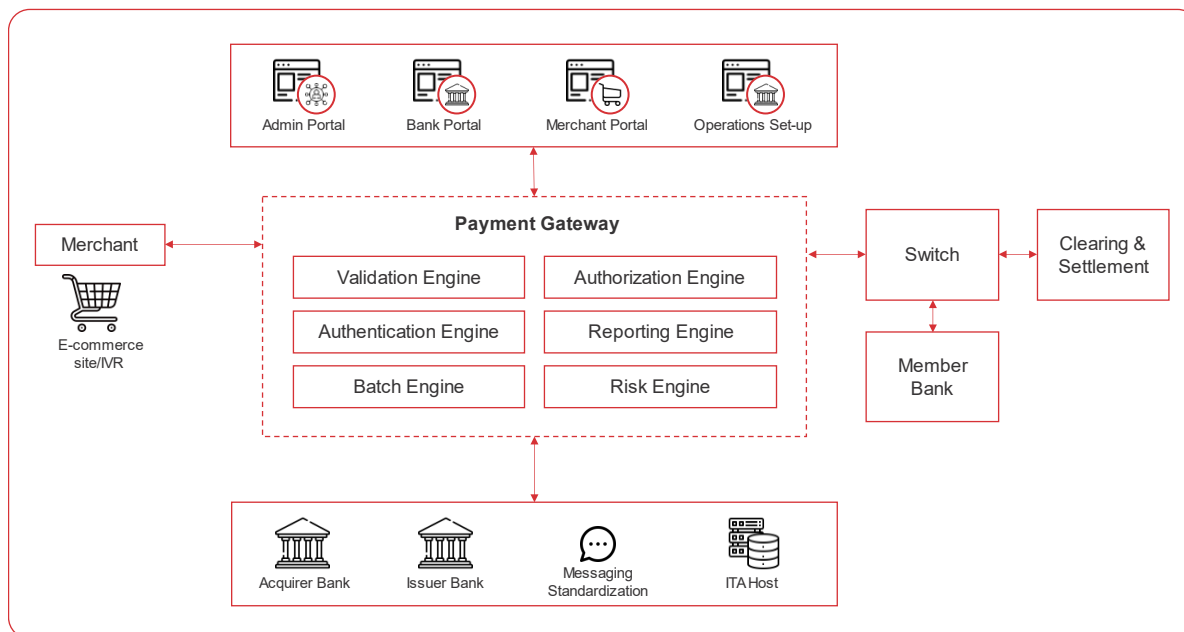
- **Experience Across the Payments Ecosystem:** FSS has three decades of global payments industry expertise that includes deploying multiple omnichannel acquiring products and payment processing solution for tier-one banks, payment processors, and merchants.
- **FSS as a Managed Services Provider:** FSS ability to manage the complete payments lifecycle from implementing the payment acceptance infrastructure, supporting operational management, undertaking functional enhancements, reporting as well as incident management.
- **Proven Scalability and Reliability:** FSS has extensive experience working in predominant debit card markets with a proven ability to scale, benchmarked at 4,000 transactions per second at Oracle labs.
- **Strong Risk Management:** FSS Payment Gateway is PADSS 3.2 compliant with advanced built-in real-time risk controls and tokenization service limiting fraud exposure and associate costs.

FSS Payment Gateway

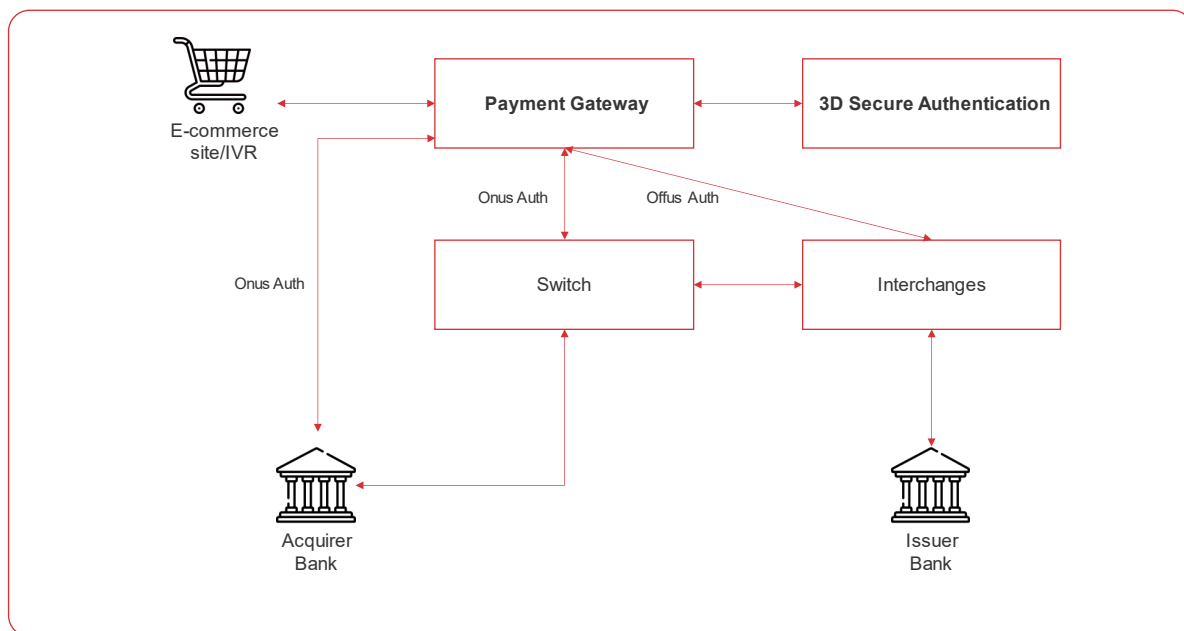
FSS Payment Gateway is deployed at the bank's data center and can be accessed by 24 member banks. The data is decentralized, providing complete data security and privacy to each member institution. Participant banks do not incur any additional costs to begin offering electronic payments while each member has the complete autonomy to define its go-to-market approach.

The gateway is designed to support a multi-institutional model, and participant banks can access the Payment Gateway over a secure connection to process transactions, create merchant accounts, and view transactional reports. Besides acquiring transactions from participant banks, FSS Payment Gateway interfaces with the central switch to authorize and switch transactions among members banks, where the issuer authorizes cardholder identities, and the SMS/e-mail gateway transmits a one-time transaction passcode.

Function Overview



Process Flow



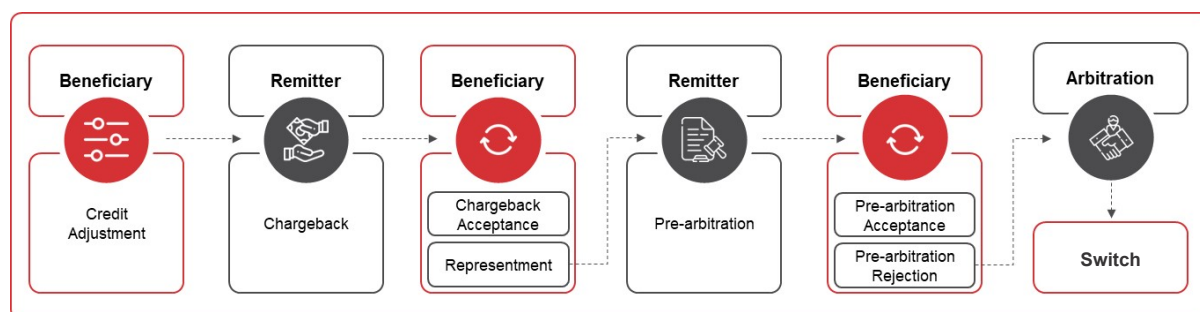
The Payment Gateway was implemented in 12 weeks and currently, 24 banks in Oman are connected to the Payment Gateway. The architecture supports active-active configuration to ensure continuous service availability and load balancing between nodes for seamless handling of traffic. The gateway supports seamless horizontal and vertical scaling for existing and new instances, basis capacity utilization, and transaction workloads.

FSS Settlement and Dispute Management System

Payment transactions disputes are expensive to resolve and can cause frustration to the customer if not resolved quickly. It was for these reasons that the bank looked for a sophisticated, yet flexible dispute and settlement management system designed to oversee, control, and intervene if necessary to resolve such transactional disputes. The bank chose FSS SDMS as the right solution to overcome this challenge.

FSS's Settlement and Dispute Management System (SDMS) is a centralized, SLA-driven system that gives users the ability to customize parameters for settlement cycles, fees, and penalties. It also offers extensive reporting capabilities, with separate dashboards and portals for partners and member banks.

Process Flow



The FSS Settlement and Dispute Management System (SDMS) has seamlessly integrated with the bank's payment systems helping the central authority to supervise, validate, clear, and settle interbank payment transactions, while also allowing the member banks the capability to create, exchange, process and settle disputes. The dynamic and automated workflow capabilities of the solution further simplify the process providing a more secure and efficient dispute resolution between members banks.

FSS SDMS allows central banks to define rules, set up maker-checker and institution-level parameters, configure charges, penalties, and collect fees for delayed processing of disputes. The solution provisions files for reconciliation, handle reporting and GL accounting. The solution includes a Partner Portal and a Member Portal for providing better services and support to their own operational teams. A multilevel access control system is available for providing and displaying summary reports as well as various dispute activities and settlement reports to help provide an audit trail and boost operational efficiency.

Impact

FSS and the bank's collaboration are driving e-commerce growth in Oman, while also cutting costs and creating new revenue opportunities for member banks and merchants.

- **Growth in Cashless Transactions:** The availability of a central infrastructure for processing payments is driving digital payments growth in Oman, reducing dependence on cash. The average annual increase in volume and value of transactions routed through the central switch for the last seven years was 32.19% and 31.34% respectively. Currently, **24 banks** have been onboarded. The bank's payment gateway processes more than **7 million transactions per month**.
- **Increases Cost Efficiency:** By providing a debit national payment gateway, the bank enables member banks to switch transactions between themselves, without the need to engage an intermediary, thereby eliminating the fees paid to international card schemes such as Visa, MasterCard, and American Express. On a per-transaction basis, interchange fees are approximately 30 to 40 basis points lower than fees incurred for routing via international card schemes, providing an incentive for many merchants to adopt digital payments.

Aside from that, member banks are not required to incur additional costs, capital investment, or operational expenditure to accept electronic payments with each other and to offer expanded online acquiring services.

- **Data Localization:** A national payment gateway allows to maintain all their customer and payments data locally within the country and protect personal information, preventing foreign surveillance, and stimulating economic Oman's economic growth.

In conclusion, through the implementation of the FSS Payment Gateway and FSS Settlement and Dispute Management System, the bank ensures the safety & security of e-commerce transactions by meeting all the latest industry acceptable standards, facilitating the national usage of debit channel by controlling MDR charges and minimizing stakeholder's investment costs by centralizing the Payment Gateway at a national level.

About FSS

FSS (Financial Software and Systems) is a leader in payments technology and transaction processing. FSS offers an integrated portfolio of software products, hosted payment services and software solutions built over 30+ years of experience. FSS, end-to-end payments products suite, powers retail delivery channels including ATM, POS, Internet and Mobile as well as critical back-end functions including cards management, reconciliation, settlement, merchant management and device monitoring. Headquartered in India, FSS services leading global banks, financial institutions, processors, central regulators and governments across North America, UK/Europe, Middle East, Africa, and APAC.



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