



Cloud Migration of Payment Acquiring, Processing Bank in S Asia with NewNet STC

A Case Study from NewNet Secure Transactions, Inc.



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Customer Overview

This Bank is a leading financial institution in Asia, offering a wide range of banking and payment services to millions of customers across the country. Bank operates a network of numerous branches and a wide chain of ATMs, as well as an online and mobile banking services. This Acquiring & Processing Bank also provides payment acquiring services to thousands of merchants and a large population of card holders. Bank's broad range of payment acquiring services enable the merchants to accept in-store, web, and mobile payments from various card schemes and payment methods. The volume of transactions in the country is increasing steadily with a healthy growth in the merchant volume and the consumers' card and wallet usage for digital transactions.

Business Challenge/Requirement

As the payment industry evolves rapidly, the Bank faces increasing competition and customer expectations. To stay ahead of the market, the Bank needs to offer fast, reliable, secure, and innovative payment solutions to its merchants and customers. However, Bank's legacy payment infrastructure is complex, costly, and inflexible, limiting its ability to scale, innovate, and comply with the changing regulatory and security requirements. The Bank's payment infrastructure consists of multiple on-premises proprietary hardware-based solutions that handle the payment specific functions and network management functions. These systems are expensive to maintain, difficult to integrate, and prone to performance and availability issues.

Moreover, the Bank's payment infrastructure highly requires personnel intensive, and datacenter driven procedures that are time-consuming, error-prone, and uneconomical.

Performance & Reliability: It is most essential to deliver and sustain top notch performance availability and highly scalable payment processing systems to support the routing and transport of millions of transactions corresponding to billions of dollars annually. The chosen systems and solutions must invariably have the targeted scalability to expand to meet the higher demands of performance over the years.

Redundancy: The payment solution seamlessly integrates with the respective wallets and payment merchant web portal and mobile application together with the selected backend processing systems supporting a variety of payment transaction types required by multiple customer categories. Operating with the best in breed virtualized and hybrid networks, the solution for payment processing must have the highest level of redundancy to suit deployment and payment service models. The need is for a system that can deliver high end services uninterrupted and continuously, meet international standards of security and support all relevant payment and transaction protocols.

Capacity for Transaction Volume Growth: Total transaction processing volumes continue to grow at a steady pace and exceed several million transactions annually. The Bank continues to sign up more customers, integrate new wallet payment services, and there is a significant growth requirement expected in future transaction volume.

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Generic objectives expected to solve for include:

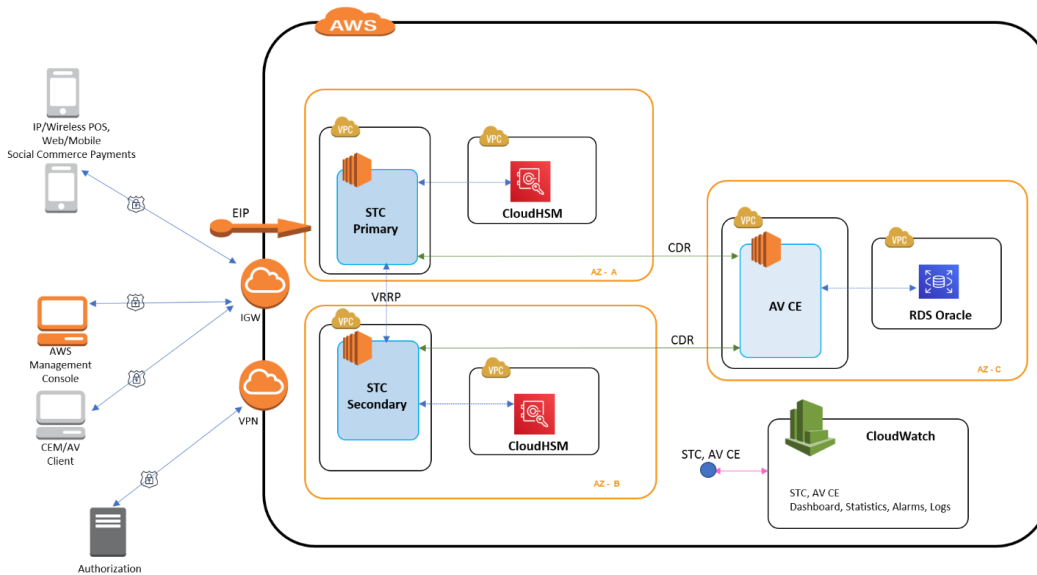
- Reduce per transaction costs as volume scales
- Address risk of fraud and the resulting costs
- Meet ever evolving regulatory compliance
- Location redundancy and expansion

NewNet Solution

To overcome these challenges, the Acquiring Bank decided to migrate its payment acquiring services to the cloud, leveraging the AWS platform and the NST Cloud payment solution of STC. NewNet with its STC solution enables the Payment acquiring and processing Banks to be on par with standard payment processor in any global regions for web, mobile payments and omnichannel commerce. STC ensures full conformance to security standards, support of latest payment protocols including ISO 20022, high volume performance for the peak transactions, and industry reputed support services round the clock. All these are made available on multiple global cloud service providers' infrastructure including AWS, Azure, Google, and Oracle Cloud.

NST's STC is a top-notch industry leading payment routing, switching, and routing solution that seamlessly replaces the on-premises payment acquiring services of the Bank and thereby migrates the services from their current datacenter to the AWS cloud. STC solution provides payment-specific key management and cryptographic functions based on the AWS CloudHSM that meet PCI DSS requirements. NewNet STC simplifies key exchange processes by using asymmetric cryptography and securely loading keys into the service without the need for manual key exchange procedures. STC is seamlessly integrated with AWS CloudHSM, a service that provides specific instances of the CloudHSM for the STC's interaction and identified for usage with the Bank's payment transaction handling.

With STC in AWS and AWS CloudHSM, the Bank can securely store and manage its encryption keys on FIPS-validated hardware, protected with customer-owned and operated instance of the CloudHSM that run in its own Virtual Private Cloud (VPC) in AWS.





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Benefits of NewNet STC for Bank

By migrating its payment acquiring services to the cloud, the Bank achieved multiple benefits covering the full spectrum of payment security and customer satisfaction.

Payments from wallets, online purchases, smart mobile purchases, mobile payment application devices etc. interface with STC in an extremely straightforward, easy to consume manner, requiring no modification to the residing payment application on the device population with secure IP/web/mobile web connections. The cloud-based deployment of STC provided the perfect platform for client mobile and mobile application integrations. The solution offers an array of benefits and are discussed in detail below.

High volume payments handling: High volume secure payment transport for Mobile, Web, and Ecommerce payments and operating specific payment protocols and routing these transactions at high speed to the authorization servers, and the AWS cloud environment for high performance computing, resiliency, elastic scalability, comprehensive dashboards, and geographic redundant operations.

Optimum processing power: Cloud deployments have almost limitless and scalable processing capability and storage ensure most optimized transaction processing. STC is efficient to support their settlement requirements corresponding to the multiple payment types including Ecommerce, and Mobile/Web payments.

Leverage Cloud Infrastructure: STC, along with AWS cloud infrastructure, offers significant benefits to the processing and acquiring transaction processing industry segment including:

- Geographically agnostic
- Scalability with rapid creation of additional instances
- STC enables central monitoring and always current to regulatory requirements
- Extremely secure/disaster recovery capability, and
- Elastic computing - pay for the usage and grow on demand

High end Performance & Seamless Operations: STC together with AWS CloudHSM for high end security is unmatched in terms of the payments' functionality, fit, features and future roadmap to enable the customer to meet the current payment routing, switching, transport needs. Custom requirements for additional services are accomplished with new capabilities' developments on the STC by NewNet. Primary and secondary instances set up with STC on AWS for ensuring seamless operation of payment processing, uninterrupted operations with round the clock support etc., are all extremely critical to meet the customer criteria for success.

Scalability: The Bank can process hundreds of thousands of payment transactions per day with high reliability and low latency, and easily scale up or down its payment infrastructure based on the demand. The Bank can also launch new payment services and features faster and easier, without worrying about infrastructure management.

Reduced costs and complexity: The Bank can reduce its operational costs by managing the entire HSM lifecycle and its key management requirements with STC and AWS CloudHSM. The Bank can also reduce its compliance and audit overhead by using AWS CloudHSMs that meet PCI DSS standards. The Bank need pay only for the resources it consumes.



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Enhanced security and compliance: The Bank can protect its payment data and keys with the highest level of security and compliance, using FIPS-validated hardware and customer-owned, CloudHSM instances. The Bank can also simplify its key exchange processes and avoid the risks of manual key exchange procedures, using asymmetric cryptography and secure key loading with STC. The Bank can also leverage the AWS security and compliance capabilities, such as encryption, identity and access management, logging and monitoring, and auditing and reporting.

Expandability & future capabilities: STC with its support for ISO 20022 protocols opens up amazing potential for supporting far reaching functionalities to the Bank as they plan to offer services related to A2A, RTP, Open Banking payments etc. Leveraging the standard capabilities, STC is easily configurable and can be quickly evolved into supporting these newer services with respective payment entities while continuing to support the present day's card and wallet-based transactions with the respective card networks. The solution is also designed to integrate the payment capabilities originating with the rollout of CBDC based payment plans of the respective central banks within each countries.

Conclusion

The Payment acquiring and processing Bank is a leading financial institution in Asia that leveraged NewNet STC which is an industry first Cloud payment solution for payment acquiring in AWS with CloudHSM. By migrating its payment acquiring services to the cloud, the Bank improved its performance and scalability, reduced its costs and complexity, and enhanced its security and compliance. This leading Bank is now able to offer fast, reliable, secure, and innovative payment solutions to its merchants and customers, and stay ahead of the market.

About NewNet Secure Transactions, Inc.

NewNet Secure Transactions is a recognized global provider of secure transaction routing and transport. NewNet delivers reliable and scalable transaction transport from consumer-initiated devices and tokenization of sensitive data. Reliable and scalable transaction transport and routing systems ensure the security of transaction data flowing through the public dial, broadband and mobile networks around the world. NewNet focuses solution delivery to FinTech, Cloud Services and Telco enterprises.

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