



CASE STUDY

NASDAQ OMX relies on Gemalto HSMs to deliver a cloud offering secure enough for financial services

The inventor of the electronic exchange, The NASDAQ OMX Group provides transformative technologies for the entire lifecycle of a trade—from risk management to trade to surveillance to clearing. In the U.S. and Europe, the company owns and operates 23 markets, three clearinghouses, and five central securities depositories. The company’s technology drives more than 70 marketplaces in 50 countries, powering one in ten of the world’s securities transactions.

Background

Like other firms in the financial services sector, NASDAQ OMX has to comply with a range of regulatory mandates. Like any organization in any industry, NASDAQ OMX also has to manage costs. Because of these twin demands, NASDAQ OMX had initially set out to develop its own cloud-based platform, one that would provide the security protections required to handle their sensitive information, while enabling reductions in their IT costs. Based on the experience gained through this successful endeavor, the company opted to bring a cloud-based solution to market that its customers would be able to leverage. The result of this effort is FinQloud, a cloud computing platform designed for the financial services industry.

Challenge

To deliver a cloud solution that is viable for the financial services market, NASDAQ OMX needed to ensure a host of stringent security policies and compliance mandates would be addressed.

Solution

By leveraging Gemalto HSMs, NASDAQ OMX has been able to provide maximum security of the cryptographic keys used to encrypt customer data.

Results

With Gemalto HSMs, NASDAQ OMX has been able to deliver a successful cloud solution that has been audited and verified to be compliant with relevant regulatory mandates.

In developing FinQcloud, the team at NASDAQ OMX was tasked with enabling customers to leverage the cost and agility benefits of the cloud, while at the same time ensuring that this platform met the security, privacy, and regulatory demands of the industry. Toward this end, the organization needed to leverage data encryption so they could provide FinQcloud customers with the persistent control over data access they required. In architecting the FinQcloud solution, the team at NASDAQ OMX realized they'd need to apply the highest levels of security to the cryptographic keys associated with this encryption. Consequently, before rolling out FinQcloud, NASDAQ OMX sought to leverage robust hardware security modules (HSMs).

The Solution

To identify the optimal HSM platform for the FinQcloud offering, several groups within NASDAQ OMX—including security, internal audit, and global infrastructure teams—undertook an analysis of the options available. Through the course of this evaluation, Gemalto SafeNet Luna SA HSMs emerged as the logical choice. Following are a few key reasons:

- > **Proven vendor.** NASDAQ OMX had previously purchased Gemalto SafeNet KeySecure, an encryption appliance used to encrypt sensitive data in the company's internal infrastructure. The NASDAQ OMX team was highly satisfied with Gemalto's products, services, and support. Given the expertise and effort of Gemalto's people during this initial engagement, NASDAQ OMX came to trust and count on the company's expertise in data protection.
- > **Experience in securing financial transactions.** Gemalto has a well-established track record in securing data for financial organizations. In fact, Gemalto solutions are used to protect over 80% of the world's fund transfers, secure transactions for five of the world's largest central banks, and safeguard the majority of ATM transactions in Europe, the Middle East, and Asia.
- > **Certifications.** Luna SA HSMs offer the highest level of tamper resistance and security and have been validated to be compliant with FIPS 140-2 Level 3 and Common Criteria EAL 4+ standards.
- > **High availability, cloud-friendly architecture.** NASDAQ OMX needed to ensure their cryptographic infrastructure was capable of delivering the high availability required by the FinQcloud service. Luna SA HSMs offers high availability features that enable multiple Luna SA appliances to be grouped together to form one virtual device, providing failover in the event of a system failure. Further, the solution is optimized for virtual platforms and cloud environments, featuring support for vSphere, Microsoft Hyper-V, and Citrix XenServer.

Today, NASDAQ OMX is using Gemalto HSMs to store and protect cryptographic keys. These keys are used to support the encryption of all the sensitive customer data that gets managed within the FinQcloud platform.

"Both within our own internal operations and within our FinQcloud offering, maximizing security of sensitive data is a critical mandate. Gemalto data protection capabilities are part of FinQcloud, which helps us meet our industry's stringent security and compliance objectives."

-Adam Honoré, Managing Director, FinQcloud

Results

Through its implementation of Luna SA HSMs, NASDAQ OMX realized several benefits:

- > **Ability to leverage cloud securely.** By encrypting information with secured and well managed encryption keys, NASDAQ OMX was able to meet the security, privacy, and regulatory demands of the financial services industry, while at the same time enabling customers to leverage the cost and agility benefits of the cloud.
- > **Robust security.** With Gemalto HSMs, NASDAQ OMX is able to institute maximum security controls over the cryptographic keys that secure client data. These security controls represent a key requirement for making FinQcloud a viable option for customers.
- > **Consistent compliance.** FinQcloud has been independently audited, and, in part due to its rigorous controls over keys and data, the service has been confirmed compliant with a host of relevant requirements, including Securities and Exchange Commission Rule 17a-4 and Commodity Futures Trading Commission Rule 1.31.

About Gemalto's SafeNet Identity and Data Protection Solutions

Through its acquisition of SafeNet, Gemalto offers one of the most complete portfolios of enterprise security solutions in the world, enabling its customers to enjoy industry-leading protection of data, digital identities, payments and transactions – from the edge to the core. Gemalto's newly expanded portfolio of SafeNet Identity and Data Protection solutions enables enterprises across many verticals, including major financial institutions and governments, to take a data-centric approach to security by utilizing innovative encryption methods, best-in-class crypto management techniques, and strong authentication and identity management solutions to protect what matters, where it matters. Through these solutions, Gemalto helps organizations achieve compliance with stringent data privacy regulations and ensure that sensitive corporate assets, customer information, and digital transactions are safe from exposure and manipulation in order to protect customer trust in an increasingly digital world.

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