Case Study

Hong Kong Private Hospital Implements Digital Signing with Trusted Solutions

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Tradelink

A prestigious private hospital in Hong Kong known for its high-quality patient care, advanced knowledge, expertise, and healthcare technology is undergoing digital transformation (DX). As part of its DX efforts, the organization looked to digitize the way it handles medical records and orders to reduce paperwork yet still maintain a trusted environment.

Challenge

In Hong Kong, the use of electronic signatures for medical record management is becoming commonplace, particularly in private hospitals, for better efficiency and accuracy in medical record handling. To ensure that patient privacy is upheld to the highest standards, the hospital, with over 30 specialty centers offering diagnostic and therapeutic services, needed to upgrade the way it handles patients' medical records by implementing a trustworthy digital signing solution. Its objectives are as below:

- enabling digital signature to facilitate paperless workflow;
- associating trusted electronic signature with individual users for accountability;
- supporting audit records of signing and verification of electronic records;
- observing industry guidelines for electronic signature, for example FDA 21 CFR Part 11 for drugs records, and Electronic Transaction Ordinance in Hong Kong

Solution

The hospital implemented the Trusted Signing Solution (TSS) offered by Tradelink Electronic Commerce (Tradelink) and its wholly-owned subsidiary Digi-Sign Certification Services Limited (Digi-Sign) that supports trusted remote signing in PDF format. TSS is based on Public Key Infrastructure (PKI) that leverages Thales Luna HSMs as the certified foundation of digital trust. TSS enables a paperless workflow for the signing of the digital medical related documents which helps to enhance operational efficiency and data security within the hospital.

What does Tradelink TSS provide?

- Leveraging the unique status of Digi-Sign as a Recognized Certification Authority in Hong Kong, Tradelink designed and offered the TSS that provides:

- the custody of digital certificates issued by Digi-Sign with a self-management portal
- a remote signing platform for PDF signatures
- integration with the hospital's existing two-factor authentication (2FA) authorization for the verification of signer's identity
- extensive API modules for future application development / integration

Why Luna HSM Was Selected?

- Leveraged as the secure root of trust for data storage and transfer, Luna HSMs provide high-assurance protection for cryptographic keys used by applications on-premises. It can also be used in cloud environments, and across hybrid environments
- Manages all private keys by storing and protecting them across multiple usages and lifecycle policy
- The extensive API support of Luna HSMs allows the IT team to easily integrate the security elements during application development
- With multi-tenant capabilities, Luna HSMs can provide functions on role separation and crypto isolation
- Robust FIPS 140-2 Level 3 and Common Criteria EAL 4+ certified Luna HSM solutions are tamper-resistant and evident mechanisms, which offer the highest level of security and further enhances the overall security posture of the digital signing solution

Thales and Tradelink worked together to implement the digital signing solution. This included the validation of integration, which helped ensure an efficient, scalable, and secure end-to-end signing process. With an established one-time password and fingerprint authentication mechanism already in place, Tradelink developed a solution to enable eligible staff to sign and approve specific electronic documents in a secure, traceable, and legally bounded manner.

Results

The joint solution that has been deployed within the hospital's existing IT infrastructure provides a secure environment for digital signing. The solution was implemented for processing of all of the hospital's medical records. Now, the medical record management of the entire organization is paperless while ensuring the accuracy and integrity of every document.

With Thales Luna HSMs, user certificates and keys always remain in a FIPS-validated, tamper-evident hardware. Together with Tradelink's application, the healthcare provider is equipped with the most efficient digital signing solution tailored to the business.

About Tradelink

Tradelink is Hong Kong's digital efficiency champion. Since 1997, we have successfully brought the benefits of smart technology to the city. Tradelink offers a wide range of identity management solutions that can be applied to digitally authenticate and validate identity of individuals and organizations for maximizing security.

About Thales

The people you rely on to protect your privacy rely on Thales to protect their data. When it comes to data security, organizations are faced with an increasing number of decisive moments. Whether the moment is building an encryption strategy, moving to the cloud, or meeting compliance mandates, you can rely on Thales to secure your digital transformation.

Decisive technology for decisive moments.