



UniMate Application in Tablet Electronic Signature Authorization

CASE STUDY:

UniMate Application in
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Introduction

Beijing Certificate Authority Co., Ltd. was established in February, 2001. In compliance with international standards, and by applying heavy-duty password technology and other related security technologies with self-owned independent intellectual property, the company provides its customers with digital certificate application, verification, generation, issuance, storage, search, revocation services; via a variety of PKI and digital certificate application technology-based information security solutions, Beijing Certificate Authority has also constructed safe, trustworthy and reliable environments for e-Government Affairs, e-Commerce and Corporate information. The Company received the "Beijing Grade A Certificate for Information Security Service Capacity", and possesses first-class information security experts and professional security service team. Beijing Certificate Authority is a domestically-first-rate information security authority, a front-runner in China's electronic certification service industry, as well as one of the enterprises with the most potential for growth.

Challenges

Customer authorisation was previously performed using traditional hand-written signatures. Consent of documents would involve the customer to sign the document, such as a form or contract, and photocopy, scan or fax the document to BJCA.

This long-established method of authorisation poses a multitude of problems. Firstly, the method consumes a lot of time and resources. Completing the signature approval process may take 2 to 3 days, and a considerable amount of resources are required to complete the process. Neither mail nor email route satisfy non-repudiation nor guarantee the document will successfully reach its destination. Secondly, transporting the document through either aforementioned channel has the possibility of being intercepted, a violation in confidentiality. Intercepted documents risk the document's signature stolen, or worse, the document being maliciously altered or destroyed, a violation in integrity. Lastly and widely known, hand-written signatures violate authenticity by being capable of impersonating the original signee.

From the issues above, the previous authorisation method falls short in authenticity, confidentiality, integrity and efficiency, and lacks authentication that is secure and real-time.

Solution

A suggested solution as a replacement for the previous customer approval system was to implement a simple electronic signing system, in which the customer provides their signature to a tablet and sends the signature electronically. This solution had the benefit of significantly reducing the time and resources to complete the authorisation process than before by shifting the process to be electronic, but lacked the security requirements of authenticity, confidentiality, integrity.

The project as a proposed replacement was a digital signing system which incorporates a digital signature and certificatebased two-factor authentication. UniMate token with TRRS and iDock port was chosen to provide two-factor authentication on the tablet devices.

The authentication process contains two factors: the signature from the customer and the UniMate authentication token. An Android tablet with an embedded security chip collects a handwritten signature from the customer, and signs the digital signature with a customised UniMate token. The CA issued digital certificate signed by the two-factor authentication token ensures the integrity of the signature, and through the further use of the added security chip on the tablet device, the authenticity of the electronic signature can be verified at the end of the transferring process.

UniMate's support for robust tailored PKI authentication, customisable APIs, ISO 7816 smart card standard and TRRS and iDock compatibility provided the strong security requirements and features to enable the digital customer signing project to come to fruition.

Conclusion

Following the deployment of the system, the customer authorisation system is capable of handling real-time and secure customer authorisations. UniMate's customised application with tablets to secure signature authorisation from customers have resulted in significantly reduced processing time to perform customer approvals, and substantial costs and resources have been saved due to the efficiency of new system.

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