



eID Management

The right choice for E-Private Banking

Liechtensteinische Landesbank AG

Liechtensteinische Landesbank AG (LLB) was founded in 1861 and is the oldest bank in the principality of Liechtenstein.

As an all-purpose bank with an especially strong position in the core business of private banking, LLB offers its customers comprehensive services in personal investment advice, asset management consultation and financial planning. LLB shows that setting up an internal public key infrastructure needn't be a drawn-out, expensive experiment, but that the technology can instead be used in a targeted, cost-effective manner.

E-banking is an important service offered by banks-whether in the retail or private banking sector-to their customers and external asset managers. These services are of course rendered with the highest quality, and therefore also with maximum security. Correspondingly high demands are placed on the security components and technologies used.

The public key infrastructure (PKI) concept has established itself for maximum-security applications. A multitude of security functions can be realized using a public key infrastructure and the corresponding cryptographic mechanisms.

One core function, for example, is the authentication of users; that is, the positive proof of their identity by means of digital certificates. Additional applications include data transmission that is guaranteed to be unaltered and confidential, or digital signatures for documents and e-mails.

The use of digital certificates on smart cards, especially for user authentication, offers significant advantages over other processes.

Compared with cross-off list or the SecurID card, the smart card is user-friendlier, more convenient and above all, more secure. Smart cards contain a special processor



Unlimited access
to your world

eID Management

for cryptographic operations and secure memory for maximum protection of the user's digital identity. The smart card can be used if the personal password is entered and will automatically be rendered unusable after multiple false entries. The simplest handling - scan the smart card and enter password - generally results in a low error susceptibility in the registration process.

What work was involved?

When LLB became one of the first financial institutions to enter the market with its iBanking. llb.li solution in 1999, it was already relying on the use of PKI technology - not only for a secure Web connection (SSL) but also for user authentication.

The significance and the potential of this technology was recognized even then. LLB relied from the outset on the public certification authority Swisskey. When Swisskey abruptly ceased operations as a public certification authority in May 2001, an alternative solution had to be found right away.

LLB decided to implement an internal certification authority (CA) together with the company Trivadis. Two months later, it was ready to begin operations. In this time, Trivadis had analyzed LLB's

requirements, proposed a PKI model and then realized this model with AET's BlueX eID Management solution. The solution that was developed was thus able to be tailored exactly to the situation and requirements of LLB. LLB can define for itself the structure and content of the certificate and has the option of issuing anonymous certificates.

It is also a great advantage for LLB that this solution offers total control over the life-cycle of a certificate or smart card. The process of issuing, renewing and blocking certificates can now be set up optimally as needs dictate.

Technical implementation of the internal certification authority (CA) was carried out based on Microsoft Certificate Services.

The generation of keys is generally crucial, as the security of the system is strongly dependent on their quality.

iBanking customers today can choose from various carrier media for the certificates and the corresponding cryptographic keys. Disks, USB hardware tokens and smart cards are offered, whereby the last two systems should clearly be favored from the security point of view. LLB's iBanking runs on all Windows systems and on Mac OS, Unix and Linux.

Conclusion

The setup of an internal certification authority was able to be implemented completely within the scheduled framework and entered into productive operation following successful tests.

LLB's assessment after a bit more than 1 year operating the internal certification authority is consistently positive. The Electronic Banking support team praises the user-friendliness of the CA software, which allows it to efficiently process customer applications and issue certificates. In fact, over 3,000 certificates have already been issued. Moreover, the expenses for customer support have gone down dramatically. iBanking customers appreciate the system's security and, above all, the certificates' ease of use.

Overall, the project leaders speak of a massive accumulation of PKI know-how brought about through the early entrance into the technology and the years of operation. This experience has since proven useful in various ways on other internal projects, e.g. for the virtual private network and remote access. The use of PKI technology in other areas of application is being discussed at LLB.