POWERED SMART CARD WITH A BIOMETRIC ONE TIME PASSWORD SYSTEM

A full biometric authentication system with backend authentication server and ID management system

PARTNERS:

CARDLAB INNOVATION APS & QUARDLOCK APS, Denmark

COORDINATOR:

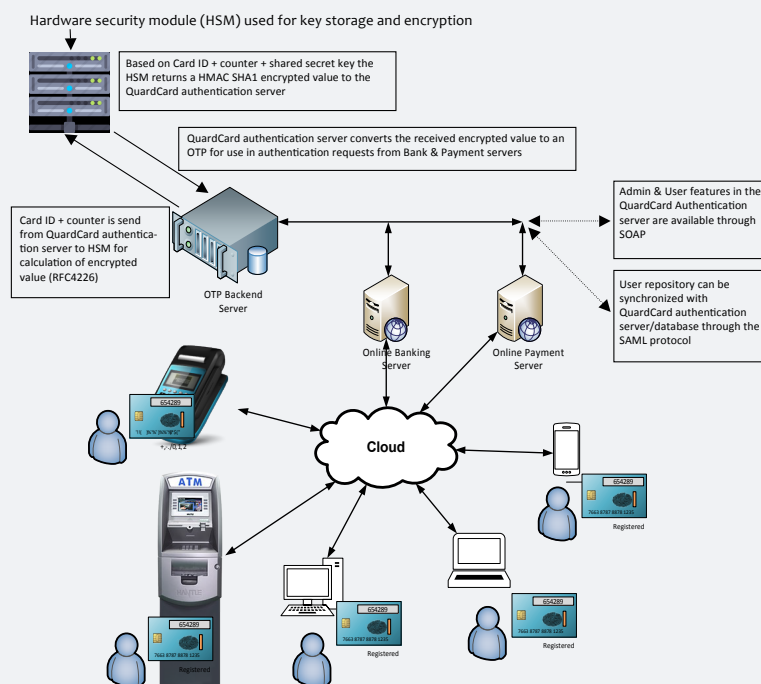CARDLAB INNOVATION APS, Denmark, represented by CEO, FRANK SANDELØV

www.cardlab.com   -   www.quardlock.com

QUARDCARD AUTHENTICATION SERVER SETUP

Hardware security module (HSM) used for key storage and encryption

Based on Card ID + counter + shared secret key the HSM returns a HMAC SHA1 encrypted value to the QuardCard authentication server

QuardCard authentication server converts the received encrypted value to an OTP for use in authentication requests from Bank & Payment servers

Card ID + counter is send from QuardCard authentication server to HSM for calculation of encrypted value (RFC4226)

OTP Backend Server

Admin & User features in the QuardCard Authentication server are available through SOAP

User repository can be synchronized with QuardCard authentication server/database through the SAML protocol

Online Banking Server

Online Payment Server

Cloud

ATM

Registered

Registered

Registered

Registered

QUARDCARD PROJECT OUTCOME

TECHNICAL OUTCOME

- PSD 2 enabled card authentication system
- Full offline authentication for tokenized identity
- Diverse card powering platform from energy harvesting to rechargeable batteries
- Biometric authentication on all types of contact & contactless cards
- Cloud/ On site server based backend authentication.
- API generation for end user interface
- Updated card manufacturing process
- Improved biometric sensor embedding technology

PRODUCT OUTCOME

- Backend server authentication system
- Biometric card with energy harvesting for payments, ID and access control
- Biometric OTP card for secure E-Commerce, E-banking and E-Government
- Biometric connected card with host device for secure App authentication
- Biometric connected card capable of converting virtual to physical card
- Biometric "Cold Wallet" card for Crypto Currency platforms
- Biometric rechargeable battery card for high frequency and long life time usage