

ARX Security Solutions for Finance, Banks and Clearing

ARX (Algorithmic Research) has a long-standing history of working with financial institutions worldwide. ARX specializes in developing and implementing flexible security solutions for diverse computing environments. Our industry focus is to help you securely conduct sensitive business transactions. These include:

- ▶ Securing Internet Banking - B2B and B2C
- ▶ Securing Branch Teller Transactions
- ▶ Securing Credit/Debit Card Issuing and Authorization
- ▶ Bank-to-Bank Secure Messaging (at Clearing House)
- ▶ Securing Visa- 3D Secure and MasterCard - SPA Internet Transactions

Securing Internet Banking - B2B and B2C

ARX offers solutions to banks that allow their business and/or private customers the ability to conduct secure financial transactions online. The types of transactions that require security provisioning include: large money transfers, stock and bond purchases, currency trading, and more.

The solutions provided by ARX are user friendly and easy to integrate without compromising the highest level of security. The solutions provide the bank with:

- ▶ Different authentication options for the users, such as:
 - ▶ Username/password
 - ▶ Smart card and reader
 - ▶ USB token
 - ▶ One time password (SMS)
- ▶ Privacy (encryption) options, such as:
 - ▶ SSL
 - ▶ Other symmetric encryptions based on 3DES
 - ▶ External encryption algorithms

Digital Signature of the Financial Transaction and verification by the bank provides both Non-Repudiation of the transaction by the customer as well as data integrity of the transaction details. The solutions also enable the bank to digitally sign transactions or receipts and to send signed emails to customers.

ARX software and hardware Products used to implement said solutions include: PrivateWire, PrivateCard, PrivateSafe reader, MiniKey USB Token, ARX PrivateServer HSM, and CoSign.

Partial Reference List

- ▶ BCP

- ▶▶ CMVM
- ▶▶ Deutsche Bank, worldwide
- ▶▶ Bank Hapoalim, Israel
- ▶▶ Bank of Philippines

Securing Branch Teller Transactions

In this era of increasing fraud, banks are increasingly pressured by their internal audit departments to secure transactions that occur at the branch. The bank wants to insure that every sensitive transaction is authenticated, has not been changed and the teller who authorized the transaction is easily identified.

ARX provides a solution for securing branch teller transactions that allows for:

- ▶▶ Access control by the teller to the computer terminal itself
- ▶▶ Authentication of the teller
- ▶▶ Digital Signature of the financial transaction.

ARX software and hardware products used to implement said solutions include: CoSign, PrivateCard, PrivateSafe reader, MiniKey USB Token, and PrivateServer HSM.

Partial Reference List:

Standard Chartered Bank

Securing Credit/Debit Card Issuing and Authorization (for clearing houses and banks)

ARX offers a total solution for issuing and/or authorization of credit/debit cards, supporting both magnetic strip cards and the chip card standard, EMV, which will be deployed by the end of 2005 in most of Europe.

ARX's solution provides:

- ▶▶ Online verification of customer secret pin codes
- ▶▶ Online and batch verification of pin codes and the newer CVV standard
- ▶▶ Pin Generation and Key generation
- ▶▶ Full support for the EMV standard
- ▶▶ Support for 3rd party processors for Pin Translate functionality

The ARX solution includes both software and hardware components including: PrivateServer HSM and 3rd party software products.

Partial Reference List:

Setefi Bank Group (Italy),

Polcard (Poland)

Leumicard (Israel)

HSBC (Brazil)

Bank-to-Bank Secure Messaging (at Clearing House)

Large financial organizations need to secure electronic fund transfers. ARX provides the technology to encrypt and digitally sign each and every sensitive transaction between the central Clearing House and the member banks. ARX's solution provides for centralized management and control, multi-platform support and conforms to the highest security standards.

ARX's solution is based on PrivateServer HSM.

Partial Reference List:

Cetrel (Luxemburg)

Monetary Authority of Singapore

Masav Clearing of Israel

Security Solution for Visa 3-D Secure and MasterCard-SPA Payment Systems

Due to the continuous disputed of Internet transactions, both Visa and MasterCard have introduced respectively, 3D Secure and SPA online purchasing options. ARX provides a comprehensive security solution that conforms to the security protocols as defined by these purchasing standards. The solution includes advanced authentication mechanisms, digital signature capabilities which confirm the credit card transactions and secure storage of SSL keys.

With ARX's products, sensitive credit card data is protected and digitally signed authenticating the user of the Internet transaction, eliminating any possibility of repudiation.

ARX's solution is based on PrivateServer HSM.

Partial Reference List

Polcard (Poland)