



PERSONAL COMMERCE ASSISTANT™



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Personal Commerce Assistant (PCA™) is the industry's leading secure on-line eWallet and Personal Information Manager (PIM) solution. The system includes a powerful development and deployment platform for the rapid delivery of secure information and transaction services across Internet, Intranet, and mobile channels. With PCA, your customers can securely and conveniently access their information and conduct transactions anytime, anywhere, from any device.

PCA enables Financial Institutions, Commerce Service Providers, and eBusinesses to increase revenues, reduce costs, enhance security, minimize fraud, strengthen brand, and extend their relationship with their customer. The system includes a comprehensive suite of BackOffice and CRM applications. PCA can be readily integrated with existing applications as well as extended to provide new information and transaction services.

PCA is a product that your customers will *value, trust, and use everyday*. Its patent-pending technology provides a level of security, privacy, and convenience not available from any on-line eWallet or PIM. It is the only system of its kind to employ a fully-integrated and self-contained Public Key Infrastructure (PKI) to ensure end-to-end system security and user privacy. Unlike other highly secure systems, all complexities associated with the security infrastructure are hidden from the user.



TARGET MARKETS

Financial Institutions (FI)

- Banks
- Card Issuers
- Payment Processors

Commerce Service Providers (CSP)

- ISPs, Portals and Internet Shopping Malls
- Telco's - Wired and Wireless Carriers
- Financial Service Aggregators and EBPP Providers
- Major merchants with significant on-line presence

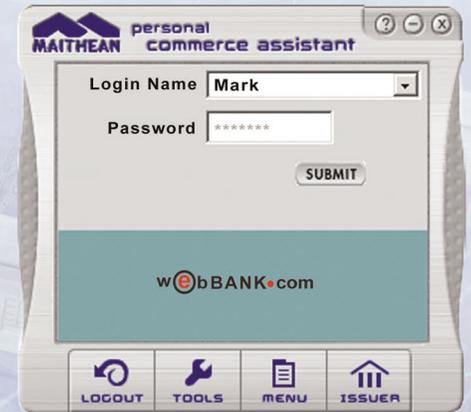
eBusiness - Enterprise Vertical Applications

- Multi-channel secure information access
- eContent access and DRM
- Integrated order entry, payment and tracking

BENEFITS YOUR CUSTOMERS WILL VALUE

Unlike traditional eWallets and on-line PIMs, PCA is a product that your customers will value, trust, and use everyday!

- Powerful on-line eWallet enables secure ecommerce from any device using SET™, SecureCode™, or SSL
- Full function on-line PIM - set an appointment on your PC and get a reminder on your cell phone or vice-versa
- State-of-the-art security protects information at all points in the system and guarantees user privacy
- Convenient and available - accessible from any Internet enabled device, 24x7, at home or on the road
- Easy-to-use - intuitive user interface, fast download, automatic installation, and automatic updates
- Integrated receipt manager automatically captures and manages payment and receipt information
- Intelligent Assistant helps users manage data and instantly fills forms eliminating errors or tedium



PCA Customer Features

PIM	eWallet
○ Contact Manager	○ Form-Fill Assistant
○ Datebook Scheduler	○ Credit Card Manager
○ Task Manager	○ Receipt Manager
○ Notes Manager	○ Address Manager
○ Password Manager	○ SET, SPA, 3-D Secure, SSL
○ Bookmark Manager	○ Smartcard enabled
○ Portfolio Tracker	○ Package Tracker
○ Calculator	○ Online Privacy Manager

*Secure
Anytime
Anywhere
Any Device*

PCA

BENEFITS TO PCA SERVICE PROVIDERS

Increase Market Share and Drive Revenues

- Attract new customers
- Reduce customer acquisition and retention costs
- Reduce customer service and operation costs
- Cross-sell and promote products by sending targeted one-to-one marketing messages to your customers
- Increase card-usage volumes by pre-loading your card into the PCA and making it the first card in the wallet

Strengthen Brand and Customer Relationships

- Showcase your brand on every customer desktop and beyond including PDAs, cell phones, and set-top boxes
- Build loyalty and trust by providing your customers with a service they will depend on and use everyday
- Improve customer satisfaction and retention
- Provide superior customer service with PCA's Customer Management System (CMS)
- Integrate PCA with existing systems and services including on-line banking and EBPP systems

Enhance Security and Manage Risk

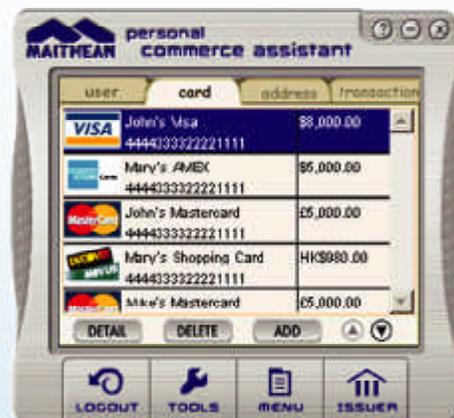
- Strengthens system security with PKI based user authentication and non-reputable transactions
- Reduces fraud with screening and detection tools
- Supports bank-specific security and registration policies

Multi-Channel Delivery Platform

- Rapidly add secure information and transaction services that function across multiple delivery channels
- Integrate existing services with PCA based services
- Consolidate and migrate existing services to PCA

PCA Security Features

- End-to-end Public Key Infrastructure
- Strong user authentication
- Thin-client architecture
- Tamper evident self-disabling software
- Automatic user logout
- Encrypted data storage
- Isolated multi-level network architecture
- Cryptographic hardware support
- Unique software serial number per install



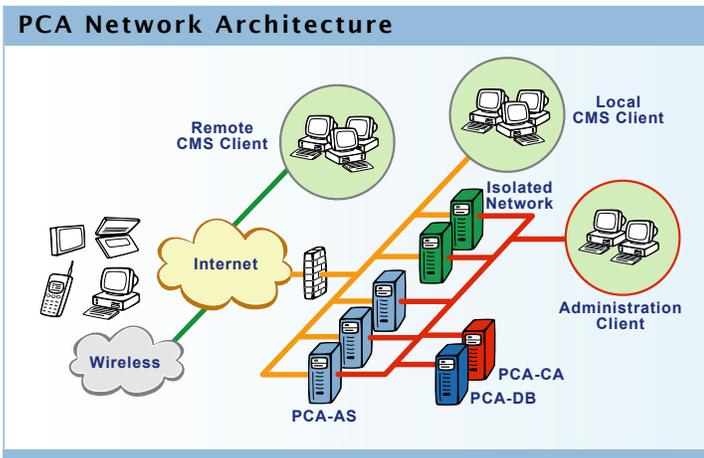
PCA ARCHITECTURE AND TECHNOLOGY

Security

PCA provides a level of security not available in any other eWallet or PIM product. State-of-the-art cryptographic technologies and data management practices are employed to ensure end-to-end system security. Data as well as system components are protected by multiple security mechanisms.

PCA's security infrastructure is based on SecureTranz™, a self-contained PK based security system that provides strong authentication, integrity, privacy, and non-repudiation. A sophisticated identity management system manages all users, access devices, and their respective relationships. Unique immutable IDs authenticate each user, access device, and software installation. Tamper evident technology continuously protects all system software against integrity attacks from hackers and viruses. PCA software cannot be modified or cloned. At user login, the system strongly authenticates the user as well as validates system integrity and component relationships.

PCA Network Architecture



PCA employs a thin-client dataless architecture. No user information is stored on the client device (PC, PDA, cell phone, etc.). Information is downloaded to the client device for the duration of the login session and is immediately deleted upon logout. This eliminates the risk of information being lost or compromised in the event a client device is lost or stolen. It also makes the PCA Client naturally immune to hacker attacks that target data extraction.

All information is encrypted and stored on a secure PCA Server. The PCA server is protected by multiple layers of software, hardware, and physical security. *Customer private data* is encrypted with a key available only to the customer. *System private data* is encrypted with a key available only to the PCA provider. To further protect against unauthorized access, user accounts are automatically disabled after a predetermined number of failed login attempts.

Intelligent Assistant

The Intelligent Assistant (IA) is a personal agent that automatically performs data management, form-filling and cookie management tasks for the user. It provides secure management of commonly used personal data items such as account IDs, passwords, names, addresses, and credit card information. It protects user privacy by monitoring and selectively filtering cookies that third-parties use to track user activities.

The IA significantly improves the user's on-line experience by reducing time, tedium and errors. With the IA, the user does not have to manually fill out registration or shopping cart forms. Its neural-net engine analyzes browser content to identify form-fill opportunities and cookie filter events. Upon identification, it instantly fills the input fields and manages cookies per the user specified preferences. The IA automatically "learns" new data items, fill behaviors, and cookie filters. The PCA system includes server-based tools to manage and extend the IA neural-net.

PCA Client

PCA Client is the only component of the system that your customers will ever see. It is a thin-client (dataless) application that runs on your customer's PC, PDA, cell phone, or other Internet enabled device. Its design provides ease-of-use, convenience, and security. It downloads in seconds, installs automatically, and updates itself. Its intuitive simple to use interface effectively insulates the user from technological complexities.

PCA Customer Management System

PCA Customer Management System (CMS) is a fully-integrated backoffice application suite that provides comprehensive customer service, relationship management, account management, reporting and system administration functions. Its intuitive point-and-click user interface enables you to provide quality customer service at the lowest possible cost.

PCA customer service centers may be located at the main operation center or at one or more remote locations. CMS agent logins and access privileges are authenticated through the system's PK security infrastructure. All customer service operations are digital signed and logged to for audit.

PCA Server

PCA Server sets new standards for scalability, availability, cost/performance and security. Its distributed multi-tier architecture employs 3 logical servers:

Discover the possibilities. Discover PCA, the next generation in electronic commerce.

PCA Architecture and Technology (*continued*)

- PCA Application Server (PCA-AS)
- PCA Database Server (PCA-DB)
- PCA Certificate Authority (PCA-CA)

These servers may be deployed on a single computer or distributed across multiple computer systems (recommended). Each component may be replicated to enhance performance, availability and/or security.

The PCA-AS performs all message processing, transaction management, and cryptographic processing. Its Message Processor validates and decrypts all incoming messages; and formats, encrypts, and digitally signs all outgoing messages. Its Transaction Manager manages process workflow, database connection pooling, and transaction coordination/recovery with the PCA-DB.

The PCA-AS provides physical and logical network isolation between PCA clients and its secure data repositories - PCA-DB and PCA-CA. System security is further enhanced by its

dataless architecture. No user or system data is persistently stored on the PCA-AS. Data exists on the PCA-AS only for the duration of the message/transaction. The system achieves FIPS 140-1 Level 3 compliance when configured with the system's optional Hardware Security Module (HSM).

PCA-AS's can be deployed in a replicated configuration to meet growing transaction volumes and availability requirements. Its built-in load balancing mechanism distributes load across all available servers and provides transaction migration and recovery. A PCA-AS cluster will continue to operate without service interruption or transaction loss, even in the event of a server failure. PCA server agents monitor the health and load on each server, and provide auto recovery and remote management functions.

The PCA system includes a SQL database management system (PCA-DB) and X.509 certificate authority (PCA-CA). The inclusion of these components simplify system installation and operation as well as eliminates the need for expensive third-party products. The system also provides fully integrated support for Oracle and Microsoft databases and third-party CA services.

ABOUT MAITHEAN

Maithean is a leading provider of secure scaleable on-line information and transaction solutions. Its NetPay™ family of payment products provides issuers, processors, and commerce service providers with a comprehensive suite of secure payment solutions. Its Personal Commerce Assistant™ (PCA™) product is a unique on-line multi-channel information system that combines the functions of a secure eWallet, PIM and Intelligent Assistant. PCA can be securely accessed *anytime, anywhere, from any device*.

Maithean's products are built on SecureTranz™, an SOA based platform for the rapid development and deployment of secure multi-channel information and transaction systems. SecureTranz provides a comprehensive transaction, communication, and PK security infrastructure that operates ubiquitously across Internet, Intranet and mobile delivery channels.

Maithean has been providing software and engineering services to the financial and telecommunication industries since 1993. Its customers include ACI Worldwide, BEA Systems, Canon, Hughes Electronics, Merant, Netscape; NTT Data, Pacific Bell, Sun Microsystems, Telecom Finland, VeriFone, VeriSign, Visa, Wells Fargo and Xerox PARC.



800.340.5049 | 650.326.0799 (*fax*)
sales@maithean.com | www.maithean.com