Simplifying management of digital certificates for trusted e-business

IBM SecureWay Trust Authority

Highlights

Provides authentication and reduces the risk of non-repudiation for e-business transactions

Handles digital certificates for multiple uses, such as e-commerce or identification of remote employees

Uses digital signing to foster confidence that transferred data has not been altered

Offers the scalability needed for your growing e-business

Uses a virtual smart card interface to ease migration to smart cards

Simplifies administration of digital certificates within large organizations and across organizational boundaries

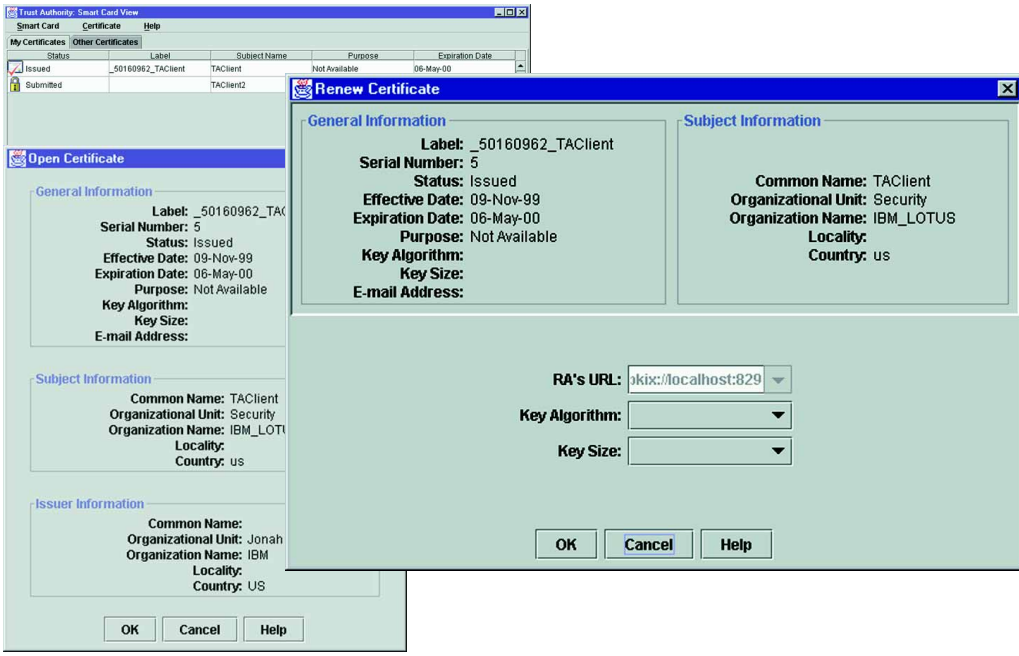
Automates the registration process to speed digital certificate administration

Allows user-defined extensions to your digital certificates

Works with SecureWay Policy Director to integrate authentication with access control

Build trust into e-business

Trust. It's one of the most critical elements required to conduct successful e-business. In dealing with someone face to face, it's not that difficult to establish a high level of trust. But when the people you're conducting business with are virtually invisible, there is a critical need to establish a trustworthy method for determining identity of users, authenticity of data and privacy. It's also important to protect against tampering and unauthorized interceptions and to have an audit trail of all your transactions.



The SecureWay Trust Authority client simplifies digital certificate management.

e-business

Conducting e-business across boundaries without compromising privacy and security

IBM SecureWay® Trust Authority enables you to establish security and trust in your business communications according to your needs—based on the policies you have established for your e-commerce transactions. Digital certificates—or electronic identities—are the preferred means for authentication and access control over unsecured networks, such as the Internet. The registration and certification process helps determine the degree of trust in the certificates. With Trust Authority, you can use digital certificates to identify and authenticate your e-business users and tailor the automatic registration process according to the level of trust you need.

Trust Authority infuses trust into the extended enterprise by allowing e-business transactions to travel across organizational boundaries with a high degree of privacy, security and confidence.

A flexible, easy-to-use PKI solution

SecureWay Trust Authority is an easy-to-use, multiplatform public key infrastructure (PKI) solution for handling electronic registrations and certifications. Because Trust Authority is based on PKI, you can enable applications to use certificates to grant access, maintain transaction privacy, protect data integrity, provide authentications and reduce the risk of repudiation. Trust Authority helps you register customers, employees and authorized users, and it can be integrated with your existing databases to support automatic verification of registration data—all in accordance with your established registration and certifications policies.

To promote vendor interoperability, Trust Authority supports several open industry standards and initiatives, including Secure Sockets Layer (SSL), Version 2 and Version 3, IPsec, S/MIME, Lightweight Directory Access Protocol (LDAP), PKI for X.509V3 (PKIX) and Common Data Security Architecture (CDSA).

Trust Authority provides browser- and client-based registration capabilities for maximum flexibility. Trust Authority has advanced features that support hierarchies and cross-certification at any level.

Trust Authority components

Trust Authority focuses on simple installation and includes a directory, database, Web server, certificate authority and registration facility. Trust Authority uses IBM SecureWay Toolbox for cryptographic and trust functions.

Registration facility

Trust Authority registration facility (RF) uses a business process framework to help you handle the administrative tasks of user registration, supporting both browser- and client-based requests. The RF helps to ensure that only certificates that support business activities are issued, and that they are issued only to authorized users. Administration can be handled through automated processes, or users can handle administration manually.

Certificate Authority

A trusted certificate authority (CA) manages the complete life cycle of digital certification. Cryptographic hardware, such as IBM SecureWay 4758 PCI Cryptographic Coprocessor, can be used to protect the CA's signing key.

Trust Authority client
The Trust Authority client, a Windows® based application, allows users to obtain and manage certificates without using a Web browser. A virtual smart card is included to simplify migration to the use of real smart cards.

Administration interface
A Web-based administration interface enables authorized registrars to approve or reject enrollment requests and administer certificates after they have been issued.

Audit subsystem
An audit subsystem computes a message authentication code (MAC) for each audit record. If audit data is altered or deleted after it has been written to the database, the MAC can detect the intrusion.

WebSphere Application Server
IBM WebSphere™ Application Server combines the control and portability of server-side business applications with the performance and manageability of the Enterprise JavaBeans™ model. It offers a comprehensive, Java™-based Web application platform that supports deployment of e-business applications and components, including JavaBeans components, Java servlets, JavaServer™ Pages and Enterprise JavaBeans applications for transactions, enterprise system access and dynamic Web content. From design to development to deployment, WebSphere Application Server Advanced Edition helps you build Web sites capable of handling your most advanced e-business applications. It supports medium- to high-level transactional environments and runs on Microsoft® Windows NT®, IBM AIX® and Sun Solaris™ operating environments.

DB2 Universal Database
As the foundation for e-business, IBM DB2® Universal Database™ is a multimedia, Web-ready relational database management system strong enough to meet the demands of large corporations and flexible enough to serve medium-sized and small businesses. DB2 Universal Database combines power for business intelligence (data warehousing and data mining) with high performance and reliability to drive the most demanding industry solutions. Industry-leading application vendors like SAP, PeopleSoft and Siebel Systems support DB2® in a wide variety of applications from ERP to Supply Chain Management to Customer Relationship Management.

SecureWay Directory
IBM SecureWay Directory provides a common directory for customers to address the proliferation of application-specific directories, a major driver of high costs. IBM SecureWay Directory is an LDAP cross-platform, high-performance, robust directory server for security and e-business solutions. The SecureWay Directory can support millions of entries to provide one of the most scalable PKI solutions available today.

Extending security with S/MIME and VPN support

Trust Authority extends the reach of your business applications with the added support of Secure Multipurpose Internet Mail Extensions (S/MIME), a specification for electronic messaging, and virtual private networks (VPNs), a technology that supports tunneling protocols for encrypting data transported over the Internet.

With Trust Authority, you can easily integrate e-mail and messaging products that implement S/MIME. Trust Authority also allows you to register and issue certificates for VPNs, providing your business with a framework for converting a public network into a VPN.

Open Internet and cryptography standards

Trust Authority is an open, standards-based solution. Trust Authority implements International Telecommunications Union (ITU) X.509 V3 certificates and the following Internet Engineering Task Force (IETF) Request for Comments (RFCs):

- RFC 2459 Internet X.509 Public Key Infrastructure Certificate and CRL Profile
- RFC 2510 Internet X.509 Public Key Infrastructure Certificate Management Protocols
- RFC 2511 Internet X.509 Certificate Request Message Format
- RFC 2559 Internet X.509 Public Key Infrastructure Operational Protocols- LDAPv2
- RFC 2587 Internet X.509 Public Key Infrastructure LDAPv2 Schema
- RFC 2251 Lightweight Directory Access Protocol V3

Trust Authority implements the following Public Key Cryptography Standards (PKCS) and cryptographic algorithms:

- PKCS #10 standard syntax for certification requests
- PKCS #7 format for cryptographic messages
- PKCS #11 programming interface for cryptographic devices such as smart cards
- RSA, a public key cyrptographic algorithm used for encryption and digital signing
- DSA, Digital Signing Algorithm
- MD5, a one-way message-digest hash function
- SHA-1, Secure Hash Algorithm

Integration with Policy Director

To fully integrate your registration and certification processes with your e-business functions, Trust Authority-issued certificates can be used by IBM SecureWay Policy Director, the central control point for IBM SecureWay FirstSecure components. With Policy Director, you can unite your core security technologies around common security policies—reducing total cost of ownership and the likelihood of security breaches.

Trust Authority is one of the primary offerings that is part of IBM SecureWay FirstSecure, an integrated, policy-driven security solution built on open industry standards.

Open for trusted e-business with IBM SecureWay FirstSecure

IBM SecureWay FirstSecure enables companies to build and operate secure and trusted environments to conduct e-business. FirstSecure offers an integrated, policy-driven solution for your IT security needs, including digital identities, network boundary protection, detection of viruses and intrusions, and tools for developing secure applications. Trust Authority can be purchased separately or as a component of SecureWay FirstSecure.

For more information

For more information about IBM SecureWay Trust Authority, visit: *www.ibm.com/software/security/trust*

To learn more about IBM SecureWay FirstSecure, visit: *www.ibm.com/software/security/firstsecure*

IBM SecureWay Trust Authority at a glance

IBM SecureWay Trust Authority, Version 3.1 can be installed on:

- IBM RS/6000® systems with IBM AIX, Version 4.3.2
- Intel®-based systems with Microsoft Windows NT 4.0 (with Service Pack 5)

IBM SecureWay Trust Authority, Version 3.1 also requires the following prerequisite products, which are included in Trust Authority:

- IBM SecureWay Directory, Version 3.1.1
- IBM DB2, Version 5.2 Fix Pack 10 (Enterprise Edition)
- IBM WebSphere Application Server, Version 2.02 Standard Edition including IBM HTTP Web Server, Version 1.3.3 and JDK, Version 1.1.6

IBM SecureWay Trust Authority client:

- Trust Authority client can be installed on Windows 95, Windows 98 or Windows NT 4.0

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