Enabling The Next Generation Of e-Business

A Circle Of Trust

CertCo®

From Risk To Reliance In The Global Electronic Marketplace

As the global economy shifts from physical to electronic interactivity, the need for risk-free high value transactions is crucial for its evolution.

CertCo's approach to technology is the leading instrument of change in managing e-Business risk, with scalable solutions that create and enable new opportunities by managing risk across open networks.

Reliance is the topmost level of trusting digital identities for high-value Internet transactions. Find out how *CertCo* is now developing, deploying and evolving the next generation of e-Business transaction integrity.

CertCo®

The Evolution Of Trust

A Thousand Years of Identification

Trust and security have been key issues in international trade for as long as people have been buying and selling across borders.

Marco Polo went to China carrying a parchment with the wax seal of his sovereign—certifying who he was and for the ability to pay merchants for his purchases—that seal created a condition of trust among trading partners.

From signet rings and wax seals—to fingerprints, iris scans and biometric analysis—a thousand years of identification techniques have evolved to certify and manage transactional business needs.

For Corporations and Financial Institutions

CertCo is at the forefront of a new technology initiative, offering advanced transactional risk management services across the Internet. CertCo has created a comprehensive set of trust enabling products and integrated systems—technology that is unique and revolutionary—combining our experience in financial risk and security management with our patented technologies in PKI. Our enhanced PKI certificate-based technologies, employ all current and developing standards, providing a trust infrastructure and risk-management services that support high-value business-to-business digital transactions.

A Digital Transaction?

The Internet offers unprecedented opportunities for businesses to connect on a global basis. Until now, these opportunities have been hampered by a lack of trust in digital transactions.
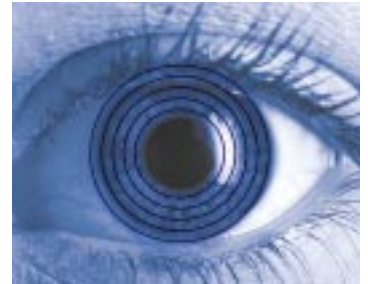
In the new millennium an evolving e-Business world requires new processes to identify, authenticate, authorize and contractually bind electronic transactions between trading partners.

But what exactly is a transaction?
It is a non-voidable communication between two parties who can verify the identity, time, value and content integrity of the communication.

It is confidential, and one that allows both parties to verify the authenticity and authorization of their counter-party. The transacting parties are able to present all these evidences for legal and auditing purposes should there be a need for recourse at any time in the future.

Just like Marco Polo's wax seal, the combination of identity verification, and the integrity of the identifying technique provider must be sufficiently trusted to establish binding non-repudiation.

It is this expertise that CertCo has developed into patented processes, systems and services that will enable business-to-business e-commerce…the ultimate step in the evolution of trust solutions.

The Focus for e-Business Is Security

The New Technology Vision

Security is an economic issue—one that CertCo's core multidisciplinary approach has developed a visionary strategy for. *Security is best if it is undetectable and inescapable.*

This technological quantum leap of trusted partners involved in high-value digital transactions is being conducted in a revolutionary environment of complete reliance.

CertCo has defined a significantly new syntax for e-Business—one of digital signature veracity—and a digital transaction semantic in which there are binding contracts, recourse and non-repudiation.

In the business world a signature and a person's authority is paramount to insuring the binding of a business transaction. The question becomes, how do you provide the same certainty in an electronic world? The necessity and the risk of relying on digital credentials varies by e-Business model—but the need to understand business risks and how to manage them is at the core of every business.

Reliance Across Open Networks

Most of today's security technology research focuses on how trust is defined, created and exchanged in a dynamic open network environment that is subject to inherent risks. Accounting for risk that occurs when the best trust management fails requires a new way of thinking about security issues. CertCo has integrated its patented software and technology with risk management techniques, cryptography, legal frameworks and global policy rules into scalable enterprise solutions.

Reliance extends the new basis of e-Business profitability through Certifying Identity and Managing Risk.

CertAuthority™
The most comprehensive PKI standards-compliant certification authority available today. CertAuthority integrates hardware & software based cryptography with a powerful distributed architecture that reduces the need for physical protection of the CA.

CertValidator™
CertValidator is an OCSP responder and repository that stores the status of digital certificates, allowing members of an electronic trust community to validate the status of certificates in real time—facilitating trusted electronic commerce.

CertGuardian™
CertGuardian controls and manages the risk exposure associated with the use of digital certificates. It enables financial institutions or organizations to offer their corporate customers financially backed warranties on certificate-based information.

Reliance:

CertCo is the leading online risk assurance authority, providing one of the world's most secure e-Business technology and systems.

Our business solutions unleash the full potential of the Internet by enabling corporations and trust institutions with the capability to safely conduct global high value transactions over open networks.

We enable corporations to become the trusted issuers of credentials that others can rely on to transact business with. Issuers stand behind the identity, authority and the use of the credentials—*thereby creating trust.*

CertCo's integrated product suites feature electronic authentication and assurance systems based on public key infrastructure ("PKI") technologies, allowing the trust provider to manage their risk while enabling their customers to safely conduct e-Business.

CertCo was formed in l996 by a core group of multi-disciplinary professionals—who came together with a common goal—to invent solutions to the problems of trust, security and risk management in online commerce.
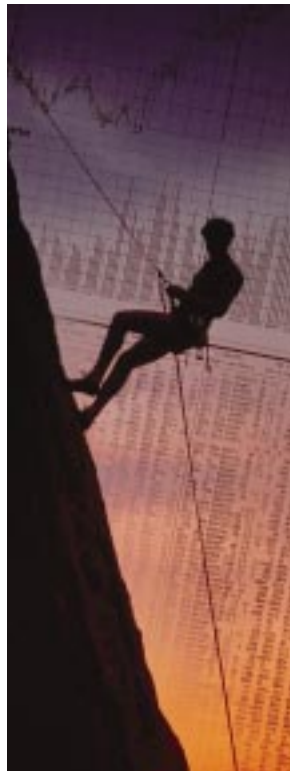
CertCo is a visionary company based on its wealth of experience from such diverse areas as banking, capital markets, cryptography, derivatives, software development, security, international law and university think tanks.

CertCo's vision extends beyond technology to assure the creation of e-Business solutions that manage risk as a critical business process.

The highest plane of Reliance.

Risk managed high-value transactions for B_2B Internet commerce.

Our staff includes people who understand risk management and critical back-office financial systems needed to support business-to-business commerce; lawyers who specialize in digital signature legislation and how governments and courts around the world are interpreting it; cryptographers who define threat models associated with public infrastructures and who build systems, techniques and processes to avoid those threats; and computer technologists who build mission-critical transactional risk management systems.

CertCo provides the first complete technology and business solution to build a trustworthy infrastructure that supports large-scale globally secure e-Business.

Profiles of Success

Root Certification Authority for MasterCard and VISA (SET-Secure Electronic Transactions).

Certification Authority for Barclays Bank Endorse, a U.K government initiative pioneering smart card-based digital signature service.

Root Certification Authority for the State of Utah.

Selected as Root and Cryptography support for Hewlett-Packard Company's most advanced technology for managing and providing strong encryption services.

Participant in NACHA (National Automated Clearing House Association) Interoperability Pilot.

Major contributor to the formation of "Identrus", a for-profit company dedicated to enabling the widespread adoption of trusted business-to-business electronic commerce founded by eight of the largest financial institutions in the world.

Certification Authority for Digital Signature Trust Co. (DST), a subsidiary of Zions First National Bank.

CertCo

"took the signing keys and cost us $680,000"

CertCo Trust Solutions Control e-Business Risk

Applying Vital Trust Technologies

The problems that businesses encounter everyday as they expand their e-commerce activities on the Internet are increasingly varied and complex. Next-generation PKI technologies pioneered by CertCo have helped solve and manage these problems of risk, providing the highest level of secure online identity and recognition. But what is PKI?

The PKI (Public Key Infrastructure) is a system that provides the basis for creating and maintaining a trustworthy network environment through the generation and distribution of cryptographic keys and digital certificates. PKI is regarded as the highest level secure method of digital identity on open network systems. Utilizing a matching pair of cryptography "keys", one public and one private, in conjunction with digital certificates—a document that stores vital information about the user and authorized privileges—a framework of trust that is at the core of CertCo technology is established.

CertCo Trust Solutions are currently controlling real-world e-Business risk scenarios such as:

Purchasing Fraud

Preventing a former employee from making a fraudulent or malicious purchase commitment after they leave. Many companies today operate in a just-in-time (JIT) purchasing environment using digital signatures to authorize online purchases. Millions of dollars in annual savings are gained by reducing on-hand parts inventories and buying as needed. We protect these systems!

Identity Fraud

Protecting against fraudulent high-value auction bids by assuring trading partners of valid identity is essential where commodities and precious artworks are bought and sold over the Internet. Recent news reports highlighted the problem when A 13-year-old boy with a modem and a yen for the finer things in life placed $3.1 million worth of bids on an online auction site including: $24,500 for a red 1971 Corvette convertible, $500,000 for a Van Gogh painting, and $1.2 million for a medical office in Florida.

Anonymity on the Internet creates opportunity for thefts of money, information or services. CertCo provides advanced PKI technology that solves these problems.

Medical Privacy

Guarding against improper access to personal medical records, while providing easy review by widely dispersed doctors' offices are increasingly part of the challenges facing HMOs and Insurers. Protecting against the liability of improper access, and the accuracy of critical care information that is available on the Internet is a compelling reason to integrate CertCo Trust Solutions into large-scale health systems.

CertCo Trust Solutions

CertAuthority

CertValidator

CertPro Services

CertAuthority - The rich feature set of CertAuthority establishes a trusted PKI hierarchy, either within a group framework—such as an industry consortium—or within a financial institution, corporation or government agency. CertAuthority permits organizations to offer digital certificates for both internal and external subscribers. These digital certificates allow system users to conduct business confidently over the Internet and internal Intranets in a secure 'trusted' electronic communications environment.

> The most complete array of advanced PKI technology products for e-Business available and in development.

Patented Security With Multi-Step™ Signing

Utilizing CertCo's Multi-Step Signing, a patented fragmented key and distributed approval technology—CertAuthority can be configured flexibly. It can operate as a highly secure Root CA, or as a sub-CA for the direct issuance of end-user digital certificates. CertAuthority also manages a hierarchy of CA and issuer keys in a single CA system, eliminating the need for administrating multiple CA domains.

CertValidator - CertValidator is at the cutting edge of an emerging new technology standard which provides real-time validation of electronic identities using the Online Certificate Status Protocol (OCSP). CertValidator's implementation of this standard provides relying parties with the real-time status of a digital certificate, allowing them to make an informed and trusted decision about the transaction at hand. CertValidator acts as a digital certificate repository and validation engine, providing online digital status checks on certificates stating whether the status is revoked, valid, or unknown. It works seamlessly with CertAuthority and is completely interoperable with CA systems from other leading CA vendors.

Validating The Transactional Instant

CertValidator provides real-time status of certificate information for end users, both receiving and centrally managing certificates and certification revocation lists (CRLs) from multiple certificate authority (CA) systems, and from other organizations, allowing for a total system-wide capability.

CertPro℠ Services - CertCo Professional Services has a world-class team of professionals to assist our client base with the design, planning and implementation of their PKI architectures. These professional services include:
- PKI requirements, analysis and system design
- Threat and vulnerability analysis
- System and site security
- Cryptographic design
- Development and implementation of system rules and contracts
- Management of business, regulatory and legal risks

The Evolution Of Reliance

CertGuardian™ is a product currently in development which will permit organizations to offer relying parties financially-backed warranties on information received from unknown parties which are signed with a digital certificate. CertGuardian implements CertCo's patented business process technology and includes capabilities to authenticate identity, check certificate validity and manage risk exposure on a transactional basis.

Security *is* an Economic Issue

Tenfold Increase In e-Business By 2003!

The e-Business Transaction Surge

Research shows that the electronic commerce market is rapidly emerging as a prime avenue through which companies can lower costs, forge closer and more economically efficient relationships with buyers and sellers, and increase profits. Internet commerce has the potential to transform business processes between unknown buyers and suppliers by removing geographic barriers, streamlining business processes, reducing overhead, and speeding execution. The Forrester Report estimates that in 1999, business-to-business Internet commerce will represent $131 billion in revenues and will expand to $1,521 billion in 2003.

According to Killen & Associates, purchases made over the Internet will represent 27.9% of the global total for remote purchases. Gartner Group estimates that business-to-business Internet commerce will affect more than 90% of procurement organizations in 1999.

As the e-Business marketplace rapidly evolves, a variety of electronic commerce models are evolving in an effort to extract value from networked-based transactions. Traditional models currently used today are between parties who have an existing relationship, such as member only intranets and customer/supplier extranets.
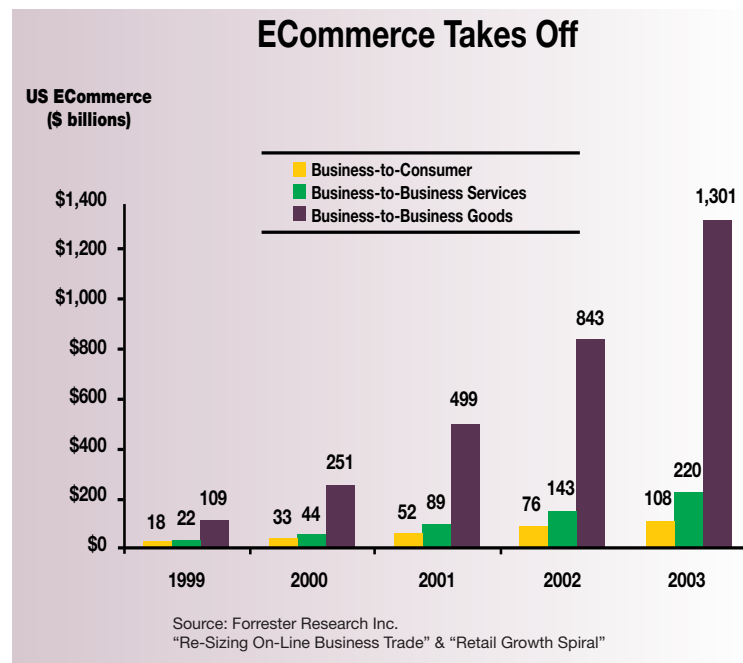
The Technology For New Economic Models

Electronic third party distributors and auction markets, are beginning to emerge and these models seek to connect unknown buyers to unknown sellers. The value of these new models is in enabling participants with broader access to historically distant markets and in reaching far more customers than ever before. Connecting the world's best buyers with best sellers increases productivity, reduces costs, opens new markets, and enables new business models to evolve. When two parties are communicating on the Internet, they are known only by their electronic addresses. In these cases, how are businesses to know that they are dealing with legitimate employees of legitimate businesses? How will the buyer know the seller will deliver and how will the seller know that he/she will be paid?

CertCo Solutions Provide Binding Reliance

For high value networked-based transactions, parties will need to trust the issuers of digital credentials. CertCo believes that there is a significant near-term market opportunity for businesses, as providers of electronic commerce services for their customers' trading relationships, to facilitate high-value Internet transactions. In recognition of these business needs, CertCo has developed next-generation certificate based technologies and services.

ECommerce Takes Off

US ECommerce ($ billions)

- Business-to-Consumer
- Business-to-Business Services
- Business-to-Business Goods

Year	Business-to-Consumer	Business-to-Business Services	Business-to-Business Goods
1999	18	22	109
2000	33	44	251
2001	52	89	499
2002	76	143	843
2003	108	220	1,301

Source: Forrester Research Inc.
"Re-Sizing On-Line Business Trade" & "Retail Growth Spiral"

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