



IdenTrust™ Trust Gate

Solution for Man-in-the-Browser Challenge

A New Challenge for Financial Institutions and Corporations

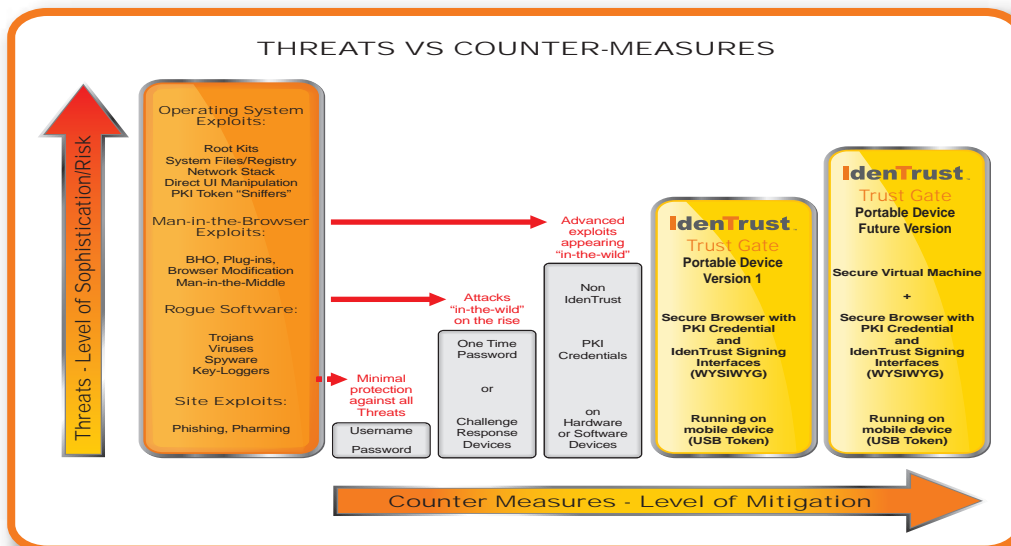
Hackers and fraudsters continue to refine their methods of attack. One that is gaining increased adoption is the Man-in-the-Browser (MITB). This method utilizes a Trojan horse that can modify transactions and web pages dynamically as they are created in the browser. The user is unaware of the attack because they receive the expected result within their browser. Because these attacks are perpetrated on a transaction, not at an authentication level, they cannot be fended off by advanced authentication methods alone. A MITB attacker need only to attack the browser installed on the desktop, embedding components that directly manipulate the Browser. Any authentication method will be bypassed since the attack won't be launched until the user has successfully authenticated into an application. Consequently, relying on the integrity of the browser on the workstation is highly susceptible to MITB attacks.

Recently, MITB attacks have escalated becoming more frequent and sophisticated. As banks and their customers primarily transact utilizing the Internet and browser-based applications, MITB attacks will become more prevalent. Some example MITB attacks include:

- Stealing users' online financial credentials and instantly forwarding them to a remote server where criminals immediately begin initiating unauthorized funds transfers.
- Redirecting payment authorizations to a different payee than the one intended by the user.
- Redirecting money transfers (wire or ACH) to a different account than the one specified by the user.

The IdenTrust Trust Gate

The IdenTrust Trust Gate token combines the power of the IdenTrust globally, interoperable identity Rule Set with a secure browser, two-factor authentication, and a hardened smart card interface onto a user friendly USB Token. By integrating these elements into a single device, IdenTrust (along with its technology partners) has created a solution that provides defense against MITB and other forms of attacks. As illustrated below, the solution also lays the foundation for defending against future threats that may evolve in the wild.



Benefits

Security

- Full anti-Phishing protection
- Defense against all known fraud exposures, such as Man-in-the-Middle, Man-in-the-Browser and sophisticated malware including Zeus
- Multiple layers of protection including defense against key loggers at the operating system level and a secure browser with locked-down configuration which negates the threat of malicious software infection
- High assurance login mechanism using digital signatures – applications can verify the integrity of the transaction cryptographically and check status of the certificate in real-time
- Stronger authentication than One Time Passwords (OTP's)

User Experience

- Completely portable – no need to install any client software enabling the token to be used with any PC anywhere
- Remote and highly secure token software update mechanism – token software can be updated in real-time. No need to reissue hardware to combat new exposures
- You only need one – one token for any bank application, in any country and for use across any network

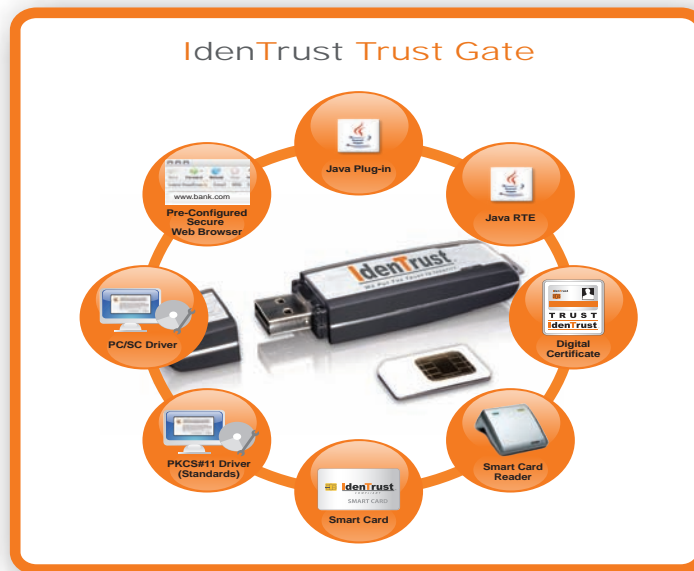
The IdenTrust Trust Gate token contains all the necessary components for creating a digital signature and performing two-factor authentication. Trust Gate delivers both the application(s) and necessary drivers, eliminating the need for either software installation and/or administrative privileges.

Digital signature and two-factor authentication is provided by the on-board smart card which holds the user's bank-issued IdenTrust Identity and other administrative key material. The smart card is designed to only accept authentication and digital signature instructions from the application residing on the IdenTrust Trust Gate token. This prevents any Rogue software, plug-ins or PKI 'Token' sniffers from compromising any digital signature or authentication events.

Applications delivered from the IdenTrust Trust Gate token are 'read-only', with software integrity validation built into the token. With this capability, any attempt by malware or hacker is detected when launching the application. If an application has been modified, the user will be alerted and the application will not launch.

The combination of software integrity validation, a hardened browser, a smart card, and zero reliance on a workstation footprint delivers an impenetrable MITB solution.

Components of IdenTrust Trust Gate



Secure Browser: Standards-based Firefox browser that can be utilized for delivering web based applications. This version has been hardened to execute only the authorized version on the Trust Gate token, guaranteeing that the browser does not utilize any plug-ins external to Trust Gate. Additionally, the browser can be hardened to fit specific customer requirements, such as limiting the trusted root certification authorities.

Smart Card and Drivers: This is a combination of a Smart Card (SC), SC Reader, and associated hardened PKCS#11 driver. The SC is a common criteria evaluated at EAL CC 4+. The PKCS#11 driver is hardened to only accept instructions from applications residing on Trust Gate.

Java Run Time Environment (JRE): The JRE can be utilized for executing secure Java based applets and on-board applications.

Signing Library: An IdenTrust-compliant Java library that provides for consistent and legally enforceable (in conjunction with IdenTrust Identity) digital signatures.

IdenTrust Identity: An IdenTrust-compliant digital certificate issued by an IdenTrust participating financial institution. IdenTrust Identity provides ability to create digital signatures that are globally interoperable and can be legally enforceable in 172 countries.

Remote Software Update: The Remote Software Update agent can ensure deployed Trust Gate tokens are securely updated with new versions of on-board software components.

Benefits of IdenTrust Trust Gate

In combination with an IdenTrust Identity, Trust Gate provides increased security, portability, enhanced user experience, global interoperability, and legally enforceable transactions.

Security Benefits

- Read-only Application Executables and Plug-Ins
- Pre-configured read-only security settings (Java, Trusted Certificates, etc.)
- Application access controlled via PKI credentials residing on the Trust Gate token
- On-board browser configurable with authorized web sites

Portability

- Eliminates the need for any installation or configuration on the client workstation
- Increases mobility by only requiring Guest privileges on the workstation

User Experience

- Simple two-factor authentication and digital signature functionality
- Consistent digital signature interface across applications

Management and Integration

- Overall reduction of integration and management cost
- Customized bank home page and URL address on the token
- Automates remote and secure update (for Firmware & Software on board)
- Easy management of applications on the token, allowing:
 - Software updates to the token can be distributed to the entire user population without cost
 - Development of web applications with uniform user experience for digital signatures

Features of IdenTrust Trust Gate MITB Solution

Zero Foot Print Device

- Driverless operation
- Only Guest privileges required
- On-Board application and software component storage

Man-In-The-Browser Protection

- Hardened Browser (on-board)
- Secure PKCS#11 driver restricted to only accept instructions from on-board browser
- Integrity checks to ensure modified application is not executed

IdenTrust Rule Set Compliance

- CC EAL4+ or higher evaluated smart card chip
- Minimum PIN protection policy
- IdenTrust Signing Interface Libraries (ISIL) Specification
- IdenTrust Signing Plug-In (ISPI) Specification (available Dec-08)

Miscellaneous

- Platforms: Windows 2000, Windows XP, and Windows 2003 Server
- USB 2.0 and 1.1 compatible
- Secure Remote Software Update Capability

About IdenTrust™

IdenTrust is the global leader in trusted identity solutions, recognized by global financial institutions, government agencies and departments, and commercial organizations around the world. IdenTrust enables organizations to effectively manage the risks associated with identity authentication; work interoperably with countries around the world; minimize investment in creating their own policies and legal frameworks; and deploy a spectrum of products insuring trust, smarter, faster, and more cost effectively.

The only bank-developed identity authentication system, IdenTrust provides a unique legally and technologically interoperable environment for authenticating and using identities worldwide. The IdenTrust Trust Infrastructure is predicated on a proprietary framework that combines policies, legal framework, trusted operations and technology (P.L.O.T.) to create a comprehensive environment for issuing trusted identities. IdenTrust is the only company to provide a solution incorporating all four of these elements. Customer agreements are valid, binding and enforceable in 172 countries. IdenTrust identities are globally interoperable under uniform private contracts recognized in countries around the world. Competing offerings, in contrast, rely on a dizzying maze of public laws that vary from jurisdiction to jurisdiction. Additionally, the IdenTrust Trust Infrastructure maintains the privacy of each and every transaction processed by reading only digital certificate information, not the message itself.

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