

ActivCard® Authentication

Challenge/Solution Guide

Recommended ActivCard products for securing networked-based applications and business processes.

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Challenge One

Strong Authentication Needed for VPN Remote Access Deployment

Solution

ActivCard offers proven two-factor authentication with one-time-use passwords to remotely access network resources. An easy-to-use dynamic password generator offers a simple PIN entry experience. This can be accomplished with a token, smart card, or USB key. All leading VPN solutions have a RADIUS agent that proxies authentication requests to the ActivPack™ authentication server for verification. With ActivCard, authentication to a VPN gate can be handled with this widely used open standard protocol.

If you are deploying PKI and have a VPN solution that supports x.509 certificates (e.g., Check Point NG), then using ActivCard Gold™ client software with either a smart card or USB key will allow users to carry and protect their dynamic password secrets, static passwords, and PKI certificates wherever they travel. A single smart card can also act as a corporate ID badge for multiple logical and physical access applications.

ActivCard Products

User Credential	Authentication Device	Smart Card Reader	Client Software	Authentication Server
One-Time Password	ActivCard One Tokens			ActivPack
One-Time Password	Smart Card	Any ActivCard Reader	ActivCard Gold	ActivPack
Digital Certificate	Smart Card	Any ActivCard Reader	ActivCard Gold	
One-Time Password	ActivKey		ActivCard Gold	ActivPack
Digital Certificate	ActivKey		ActivCard Gold	

Challenge Two

Strong Authentication Needed for Dial-Up Remote Access Users

Solution

Secure Windows® remote access server (RAS) or RADIUS-based dial-up can be achieved with ActivPack server and ActivCard tokens or smart cards. Strong two-factor authentication with one-time-use passwords protect your network perimeter against intruders and enhance the user's experience with a simple ATM-like PIN entry process. Common hacker tactics such as brute force, dictionary attacks, and man-in-the middle are neutralized with dynamic one-time-use passwords.

The RAS password is stored securely in the ActivPack authentication server database. Challenge/response or synchronous password modes can be used to authenticate with the ActivPack server. The RAS password associated with the authenticated user is retrieved from ActivPack and presented to the Windows dial-up / networking procedures for logon to the RAS server.

A static password for RAS is stored on a smart card or USB key, protected by a PIN. Once the user has presented a smart card and entered a unique PIN, the RAS password is retrieved from the smart card and presented to the Windows dialup networking functions for logon to the RAS server.

If your users also need help managing multiple username and static password combinations, then a smart card or USB key-based solution should be deployed. These devices use ActivPack for verifying dynamic passwords and ActivCard Gold to manage static password credentials.

ActivCard Products

User Credential	Authentication Device	Smart Card Reader	Client Software	Authentication Server
One-Time Password	ActivCard One Tokens			ActivPack
One-Time Password	Smart Card	Any ActivCard Reader	ActivCard Gold	ActivPack
One-Time Password	ActivKey		ActivCard Gold	ActivPack

Challenge Three

Want to Secure Local Network Login and Enterprise Application Login

Solution

ActivCard helps organizations achieve a return on investment by reducing helpdesk costs and increasing security. Secure local network login and enterprise application login can be achieved using ActivCard Gold client software and a smart card or USB key. End-users are authenticated using ActivCard Gold custom logon procedures and the credentials stored on their smart card or USB key. Once a user is authenticated, ActivCard Gold retrieves the user's corresponding credentials and passes them to an appropriate function. The credentials always remain unknown to the user.

Activcard Gold provides flexible alternative authentication schemes for use during the Windows 95/98/NT/2000/XP login process. Organizations can take advantage of new PKI login capabilities provided in Windows 2000/XP while leveraging the mobility and full security of PKI credentials. Download a Microsoft® login certificate directly to your smart card and take it with you to login from anywhere.

If you have not yet upgraded to Windows 2000 servers and are still operating on a Windows NT domain, then you can implement stronger security by requiring two-factor authentication and more complex passwords. ActivCard Gold integrates with existing Microsoft and Novell® password systems and can be used to access any system or application where a static password can be “dragged and dropped” into a standard Windows entry dialog box. By injecting long, complex static passwords into a user's smart card device, the corporation gains the benefit of stronger passwords – without the added helpdesk costs – while the user benefits from a simple PIN-entry experience.

ActivCard Products

User Credential	Authentication Device	Smart Card Reader	Client Software
Digital Certificate	Smart Card	Any ActivCard Reader	ActivCard Gold
Digital Certificate	ActivKey		ActivCard Gold

Challenge Four

Secure Access by Employees or Third-Party Partners to Websites and Extranets

Solution

To move sensitive information to the Internet so it can be accessed and shared by employees and business partners in a trusted manner, strong authentication must be used. ActivCard strong two-factor authentication enables users to share sensitive information on any public network without the fear of hackers gaining access by attacking simple passwords.

ActivCard Gold and a smart card or USB key secure access to any website with one-time passwords, PKI credentials, or complex static passwords – with a simple PIN entry experience for the end user. If you are thinking about or have implemented PKI, then putting digital certificates on a smart card to activate an SSL session not only provides mobility but ensures the certificate is bound to the actual owner, not the browser on the user's PC.

Ensuring and protecting digital identity is at the backbone of the latest Web services strategies such as Microsoft .Net and Sun™ ONE.

ActivCard Products

User Credential	Authentication Device	Smart Card Reader	Client Software
Digital Certificate	Smart Card	Any ActivCard Reader	ActivCard Gold
Digital Certificate	ActivKey		ActivCard Gold

Challenge Five

Password Management Costs are Mounting Due to Increasing Numbers of Employees and Applications

Solution

ActivCard Gold client software facilitates smart card-based storage of multiple user name and static password combinations, digital certificates, and secret keys. Users no longer have to remember multiple passwords to access network services. They just enter a single device PIN for access to the logon credentials securely stored in their smart cards. An easy-to-use “quick fill” feature offers login with stored static passwords via a simple “drag-and-drop.”

A typical corporate employee will have 10-15 static passwords used to gain access to all their various corporate accounts. To remember all these passwords, the employee will try to make them all the same and as simple as possible to remember. This leaves the corporate network vulnerable to intrusion. ActivCard reduces password risks and helps to thwart attacks by allowing users to create long, difficult to break passwords for their various applications – without the headaches of managing these complex passwords. The risks of password sharing, having passwords written down, and password stealing are eliminated. The end result is decreased IT helpdesk costs, enhanced user convenience, and improved productivity.

ActivCard Products

User Credential	Authentication Device	Smart Card Reader	Client Software	Authentication Server
One-Time Password	Smart Card	Any ActivCard Reader	ActivCard Gold	ActivPack
Digital Certificate	Smart Card	Any ActivCard Reader	ActivCard Gold	
One-Time Password	ActivKey		ActivCard Gold	ActivPack
Digital Certificate	ActivKey		ActivCard Gold	

Challenge Six

Need to Protect Sensitive Information and Documents Communicated Via Email

Solution

ActivCard Gold client software supports digital signatures with a certificate in Microsoft Outlook® Express, Microsoft Outlook, Netscape® Messenger, Novell GroupWise, and Lotus™ Notes. This allows users to digitally sign and encrypt email communications, ensuring they are not altered during transmission over the Internet and that only intended recipients can read them.

For true non-repudiation of electronic signatures, PKI credentials must be bound directly to the user via a two-factor authentication device. ActivCard Gold provides the first step for ensuring certificates are bound to the user while offering message integrity and non-repudiation. This advanced client software supports generation of a certificate's private key in the smart card or USB device. The private key never leaves the smart card so no system or party can learn its value. Any email message signed with the private key cannot be repudiated, ensuring that transactions are legally valid.

If users move from one workstation to another without a smart card, they might not have access to their certificates, depending on the PKI software they are using. With ActivCard Gold smart card-based PKI credentials, users can logon to any system to sign and encrypt email.

ActivCard Products

User Credential	Authentication Device	Smart Card Reader	Client Software
Digital Certificate	Smart Card	Any ActivCard Reader	ActivCard Gold
Digital Certificate	ActivKey		ActivCard Gold

Challenge Seven

Want Paperless Office and Need Secure Solution for Electronic Signatures

Solution

ActivCard Gold client software uses a standard PKCS#11 or CAPI interface to enable seamless interoperability of digital certificates with many popular third-party document-signing applications such as Microsoft Office XP, Adobe® Acrobat® 5.0, Entrust®, and Utimaco® SafeGuard Sign & Crypt. ActivCard offers true non-repudiation of signed documents and certificate portability.

Digital signatures have now become legally binding in many countries, but just as a written signature can be forged, a software based digital signature can also be compromised. Implementation of strong two-factor authentication gives higher confidence in non-repudiation by protecting PKI credentials in a portable, cryptographic device. To sign a document, the user has to present something they know, a PIN, and something they have, a smart card or USB key. Only then can the PKI keys and certificates be accessed for document signing.

ActivCard Gold client software works with any standard X.509 digital certificate and supports leading PKI solutions including VeriSign®, Entrust, Baltimore™, Microsoft, and iPlanet™.

ActivCard Products

User Credential	Authentication Device	Smart Card Reader	Client Software
Digital Certificate	Smart Card	Any ActivCard Reader	ActivCard Gold
Digital Certificate	ActivKey		ActivCard Gold

Challenge Eight

Need to Protect Sensitive Files and Information on Employee Hard Drives

Solution

Intellectual property is worth much more than tangible assets. Sensitive files getting into the wrong hands due to a lost or stolen laptop can cost a corporation millions of dollars. Utilizing technologies such as boot-up protection and hard disk encryption can protect files stored on PCs and servers.

If you want to keep specific files protected on your internal network or on your hard drive, then a file and disk encryption solution may be appropriate. ActivCard adds value to these solutions by securing in a smart card or USB key the private key and digital certificate used for encryption. ActivCard Gold client software works with leading file and disk encryption products such as Secret Agent and PointSec®.

Your encryption investment should be secured with strong two-factor authentication as well as a solid key escrow service. ActivCard and our third-party partners can bring this solution to you.

ActivCard Products

User Credential	Authentication Device	Smart Card Reader	Client Software
Secret Key	Smart Card	Any ActivCard Reader	<ul style="list-style-type: none">• ActivCard Gold• Secret Agent <u>or</u> PointSec
Secret Key	ActivKey		<ul style="list-style-type: none">• ActivCard Gold• Secret Agent <u>or</u> PointSec

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www.activcard.com

ActivCard, Inc.
TEL: +1 (510) 574 0100
FAX: +1 (510) 574 0101
info@activcard.com

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