



## Smart Card Two-Factor Authentication

The combination of a smart card and PIN provides Two-Factor Authentication, where two items are needed: something physical the user *has* (a smart card) and something the user *knows* (a PIN). Since something physical and something non-physical are both required, the result is a much more secure means of authenticating users.



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## Background

The combination of a smart card and a PIN provides Two-Factor Authentication, where two items are needed: something physical the user has (a smart card) and something the user knows (a PIN). Since something physical and something non-physical are both required, the result is a much more secure means of authenticating users.

Logins based on usernames and passwords are not as secure as Two-Factor Authentication since usernames are easily determined—they are essentially single-factor authentication (i.e. something you know—the password or personal identification number (PIN)). To make the system more secure, a physical entity is added to the login requirement—a smart card. A smart card is a badge-like device that stores user credentials. These credentials can include name, Microsoft Windows certificates, and card lifetime.

## DeltaV Logon—Smart Card Optional

The DeltaV logon dialog has been modified to allow the user to check the **Use Smart Card Logon** checkbox, which removes the user name entry and directs the user to insert a smart card and enter a PIN. (See Figure 1.)

The DeltaV Logon dialog box in standard mode displays the following fields and buttons:

- Current user: ADMINISTRATOR
- Computer: PLANET (dropdown menu)
- Use Smart Card Logon (unchecked)
- User name: ADMINISTRATOR (dropdown menu)
- Password: (text input field)
- Buttons: OK, Cancel, Logoff, Change Password

The DeltaV Logon dialog box in Smart Card mode displays the following fields and buttons:

- Current user: ADMINISTRATOR
- Computer: PLANET (dropdown menu)
- Use Smart Card Logon (checked)
- Insert card and enter PIN: (text input field)
- Buttons: OK, Cancel, Logoff

Figure 1—DeltaV Logon Smart Card Optional



## DeltaV FlexLock and DeltaV Logon—Smart Card Required

FlexLock has a new menu option that DeltaV administrators and Windows administrators have the privilege to select that requires users to use a Smart Card and PIN rather than a user name and password. When the **Smart Card Required** option is selected, the DeltaV logon dialog changes to prompt the user to insert a smart card and enter a PIN. This setting is set for *each* workstation and is preserved during DeltaV upgrades. (See Figures 2 and 3.)

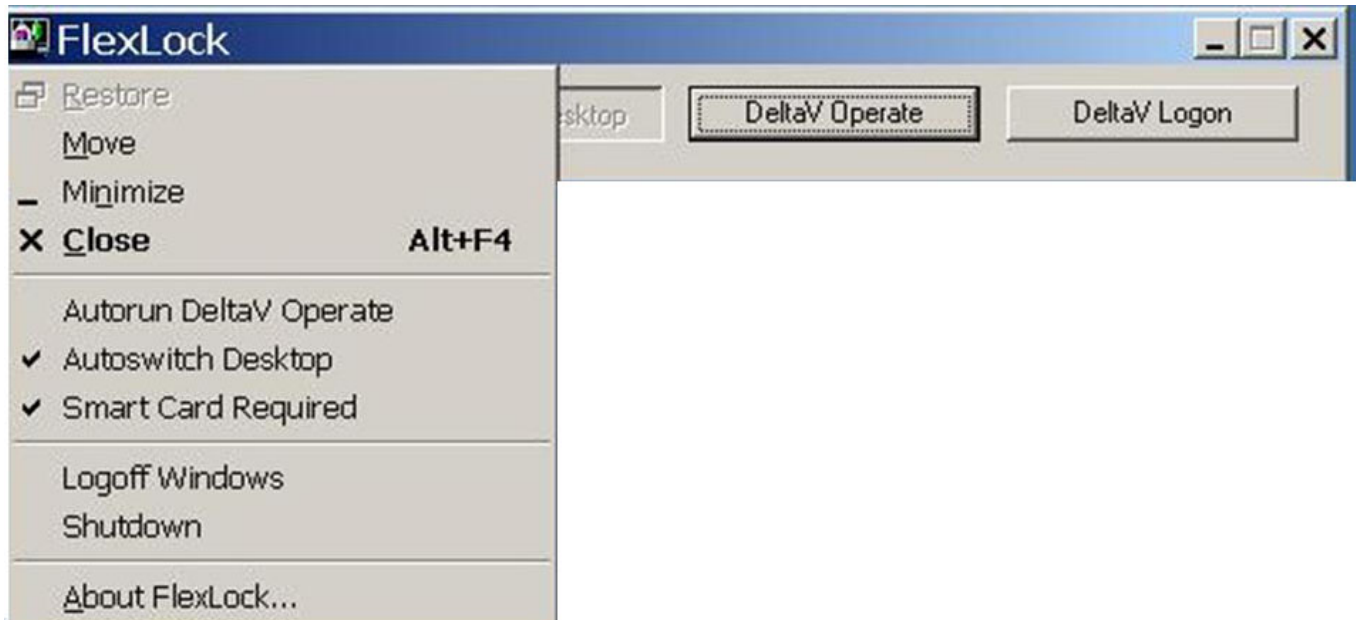


Figure 2—DeltaV FlexLock—Smart Card Required



Figure 3—DeltaV Logon—Smart Card Required

## Windows Remote Desktop Settings

Smart Card credentials can be transferred through the Windows Remote Desktop application. If you are using Smart Cards as a means of ensuring physical presence at a specific workstation, then the workstation settings must be changed to **not** allow users to remotely connect to the workstation being configured for local-only access. The **System Properties** dialog can be found on the control panel of the workstation.

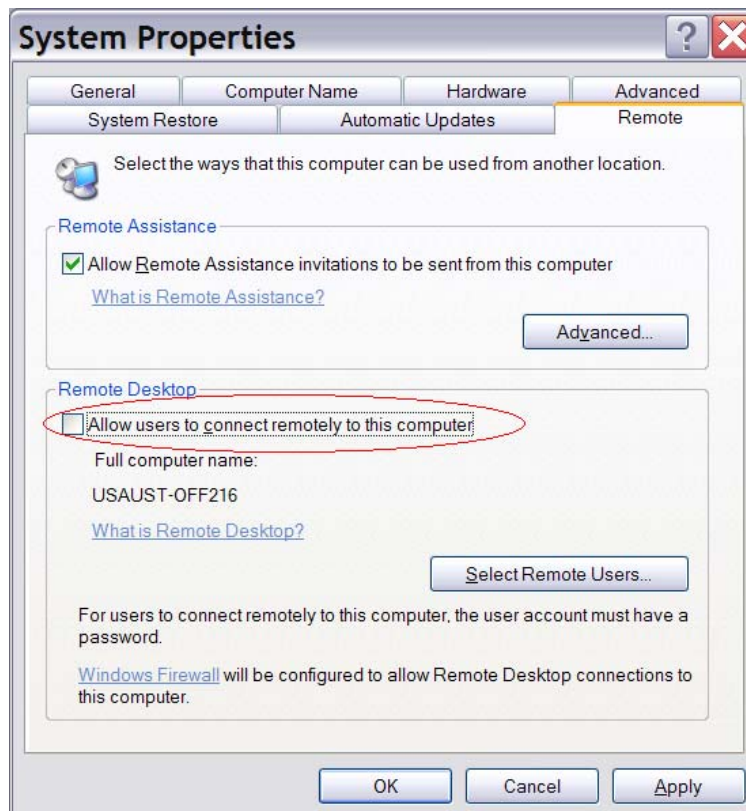


Figure 4— XP Remote Desktop Settings



## Microsoft Smart Card Enrollment

Smart Card Two-Factor Authentication will work with any hardware compatible with the Microsoft Crypto API Interface. System administrators must run the utilities supplied with the card reader to set up the cards for each user. They must also use the required Microsoft Certificate Authority Server application to enroll users' certificates and embed them on the users' cards. (See Figure 5.)

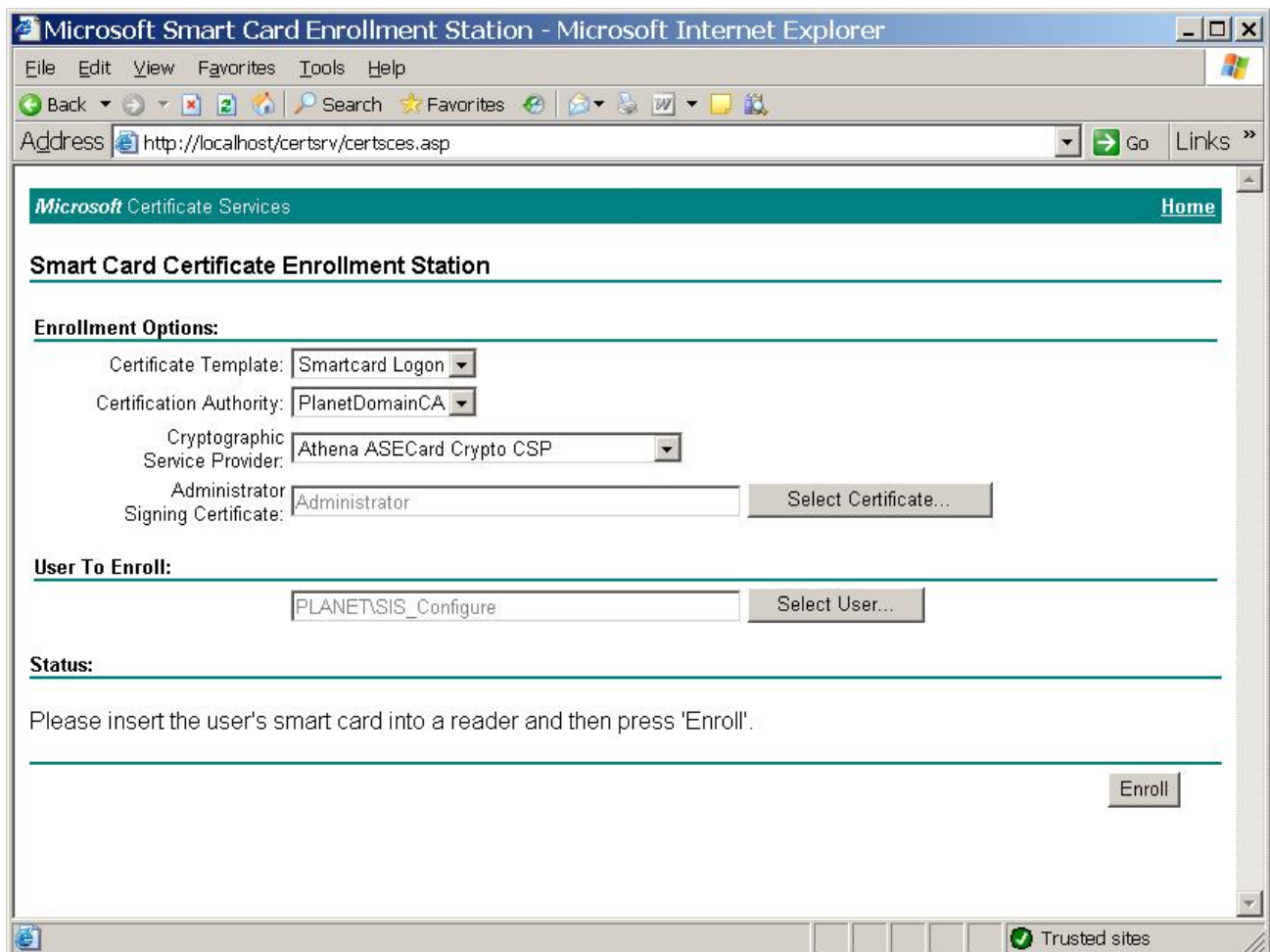


Figure 5—Certificate Enrollment



## Summary

- This security enhancement is supported in DeltaV version 9.3 software and later.
  - Two options will be available: card allowed and card required.
- The setting will be stored in the workstation's registry and will persist through future upgrades of the DeltaV software.
- The Smart Card readers must be compatible with Microsoft Windows XP.
  - The DeltaV system has been fully tested with Athena smart card readers.
- The DeltaV system uses the utilities supplied with the card reader.
- Smart Card authentication replaces the DeltaV logon at the operator workstation level.

## System Requirements

- The system requirements to deploy smart card Two-Factor Authentication are:
  - Windows 2003 Active Directory installation in the DeltaV software
  - A Windows 2003 Server with Certificate Authority deployed
  - Windows XP-compatible Smart Card readers installed on DeltaV workstations requiring Two-Factor Authentication

## Support

Smart Card Two-Factor Authentication works only for Smart Card solutions and not biometric devices (e.g. fingerprint readers). Any Smart Card readers that are compatible with Microsoft Windows XP are supported.