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Dell E-Family PBA Enrollment

APPLICATION NOTES – AN0124

February 8, 2009

Document Number AN0124, A.1

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1   Introduction

This application note assists you with enrolling and presenting your contactless smart card with the Dell®
E-Family Latitude™ or Precision™ contactless smart card reader for Pre-Boot Authentication (PBA). Once
these procedures are completed successfully, you will have additional security when logging onto the Dell
laptop.

Dell has integrated a contactless smart card reader into selected models of Latitude or Precision laptops.
PBA is available out-of-the-box with the contactless smart card reader. Before the operating system is
initialized, PBA provides an additional layer of security utilizing two-factors, card and PIN.

For card technology or smart card usage with Dell's Pre-Boot Authentication (PBA,) contact HID Global at
dellhotline@hidglobal.com.

2   Contactless Card PBA Compatibility

The Dell embedded 13.56 MHz contactless smart card reader utilizes the most flexible, secure and
standardized approach available today. The PBA compatibility with the Dell contactless smart card reader is
shown in Table 1 Compatible Card Technologies.

Table 1 Compatible Card Technologies

Card Technology	Compatibility
HID Prox (125 kHz)	None
Indala Prox (125 kHz)	None
HID iCLASS® (13.56 MHz)	Read from a secure memory area
NXP DESFire® (13.56 MHz)	Card Serial Number (CSN) Only
NXP MIFARE® (13.56 MHz)	Card Serial Number (CSN) Only
Sony Felica® (13.56 MHz)	Card Serial Number (CSN) Only
ISO14443 Type A/B (13.56 MHz)	Card Serial Number (CSN) Only
ISO15693 (13.56 MHz)	Card Serial Number (CSN) Only

If you use an HID or Indala proximity card for physical access, upgrade to a multi-technology card to utilize
your existing infrastructure. A multi-technology card has both 125 kHz (proximity) and 13.56 MHz
(contactless smart card) technologies inside a single card. This allows the cardholder to continue using the
existing readers at the door, while using the contactless smart card reader in the Dell E-Family Latitude or
Precision laptops with a single card.

If you are unsure of what card technology you have, or whether your card technology is compatible with the
Dell contactless smart card reader, contact HID Global at dellhotline@hidglobal.com.

3   Prerequisites

Before you attempt to enroll a contactless card through the Dell ControlPoint Security Manager ensure you have the following equipment and information.

- **A compatible contactless smart card**

    See compatible contactless smart cards in Table 1 Compatible Card Technologies, page 3.

- **A compatible Dell E-Family Latitude or Precision laptop**

    The contactless reader is available in selected Dell E-Family Latitude and Precision laptops.

- **BIOS Password**

    For information about the BIOS password, reference the interactive help provided with the Dell ControlPoint Security Manager software. Launch the help by clicking the question mark (?) symbol in the upper right corner.

- **Microsoft® Windows® Password with Administration Rights**

    For determining the computer user's administration rights, reference the Windows User Accounts Manager. Go to **Start** > **Settings** > **Control Panel** > **User Accounts**.

4 Enrollment Procedure

Use the following procedure to enroll a contactless smart card into the Dell laptop for PBA.

1. Launch the Dell ControlPoint Security Manager from one of the following options.

   - From the Programs menu, click **Security Manager** (see Figure 3 Dell ControlPoint Security Manager, page 6.

   - Click **Dell ControlPoint** (see Figure 2 Dell ControlPoint Screen, page 6).
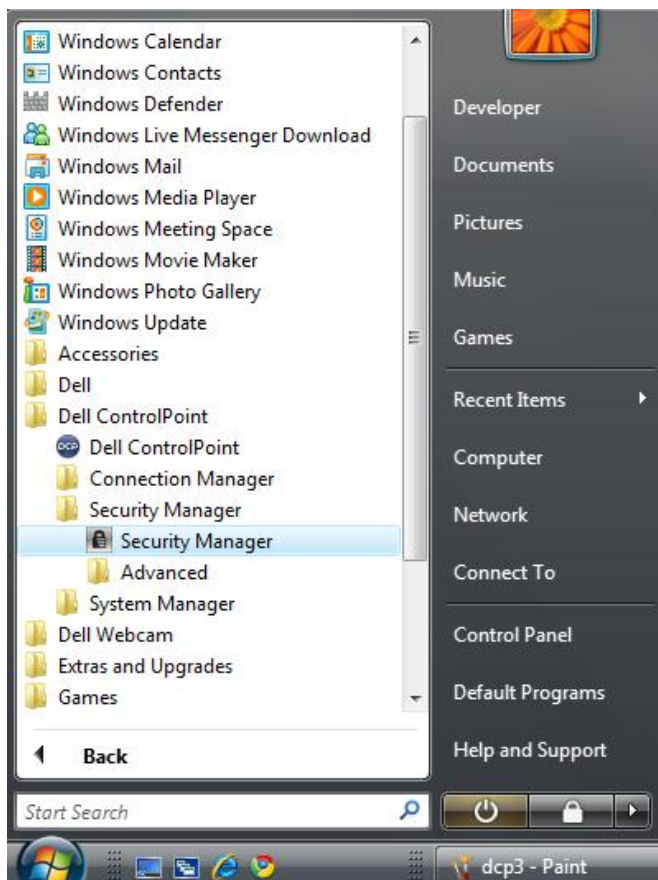
   - Press the Function (Fn) and F7 keys simultaneously.

Figure 1 Windows Programs Menu
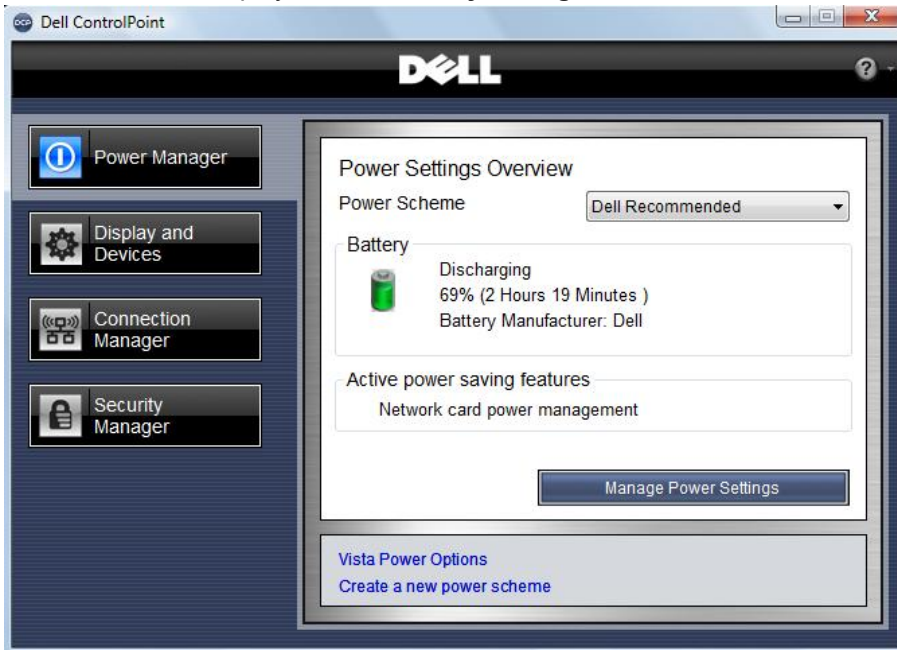
2. Dell ControlPoint displays. Click **Security Manager**.

Figure 2 Dell ControlPoint Screen

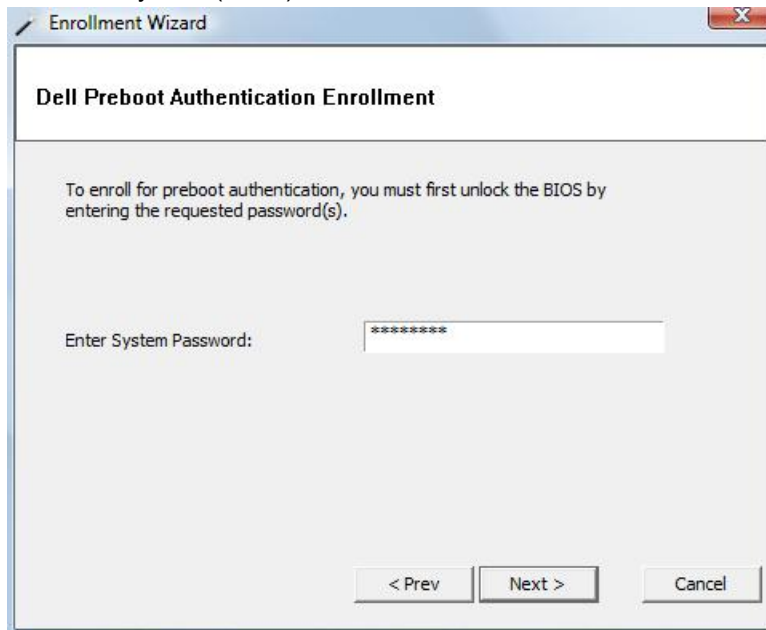3. From the Dell ControlPoint Security Manager, click Contactless Smart Card **Settings**.

Figure 3 Dell ControlPoint Security Manager

4. The **Smart Card Enrollment Wizard** launches and guides you through the rest of the enrollment. Click **Next**.
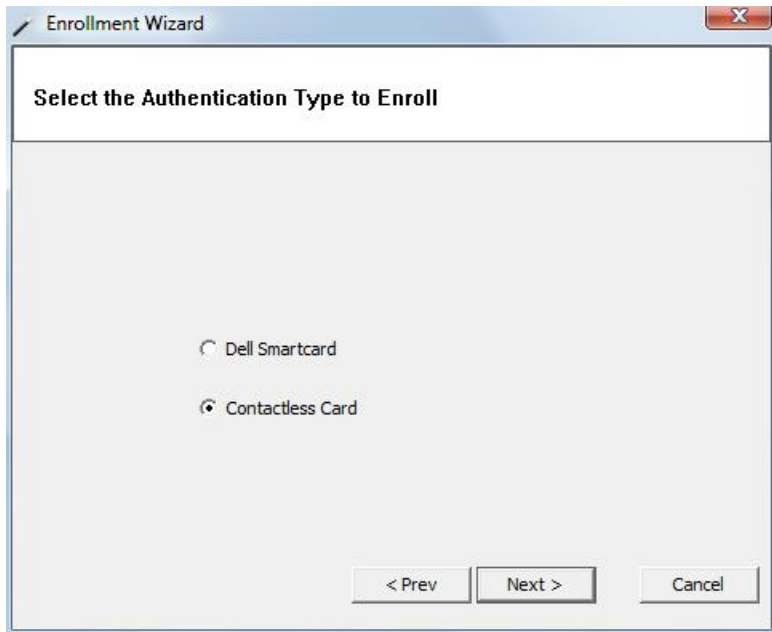

5. Enter the System (BIOS) Password and click **Next**.

6. Enter your Windows Password and click **Next**.

7. Click the **Contactless Card** radio button and click **Next**.

8. Enter a personal Card PIN and confirm by reentering the same PIN. You use this Card PIN for PBA. Click **Next**.

A dialog displays asking you to present your card to the reader.
(See Card Presentation, page 10)
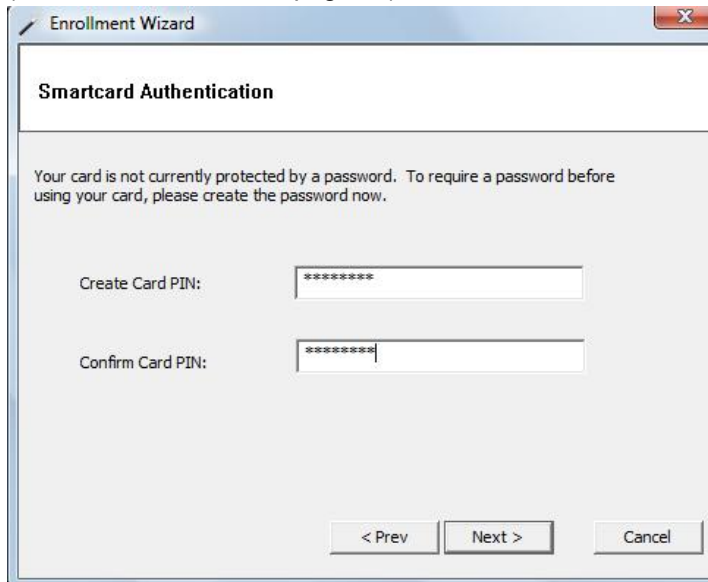
9. Enrollment is complete, click **Finish**. Reboot your laptop for the enrollment to take effect.

If an error occurs during card presentation, click **Enroll Again** and re-present your card.

5   Card Presentation

For both enrollment and during PBA authentication, present your card to the Dell contactless smart card reader.

The reader is located to the right of the touch mouse and is signified by a small card with arcs on each side.

Figure 4 Contactless Smart Card Reader Location

Hold your card above the symbol momentarily.

Figure 5 Presenting Card

6 Contactless PBA Usage Notes

After a successful enrollment, and rebooting the laptop, the BIOS will display a prompt to **Authenticate Using Smart Card**.

6.1 E6400 and E6500

Present your card to the reader (see Card Presentation, page 10) within 30 seconds.

If the card is not presented in this timeframe, the contactless PBA will timeout and a dialog displays requesting your BIOS password.

If your card is presented within 30 seconds, the dialog displays requesting for you to **Enter your Smart Card PIN**. (see Figure 7 Authenticate Using Smart Card , page 12)

CAUTION: There is no textbox for PIN entry, be careful when typing your PIN to ensure a wrong key is not pressed.

6.2 E4300

The **Authenticate Using Smart Card** screen remains active indefinitely (see Figure 6 Authenticate Using Smart Card Screen, page 11). If your card is not available, press **ESC** to cancel the smart card authentication and enter the BIOS password.
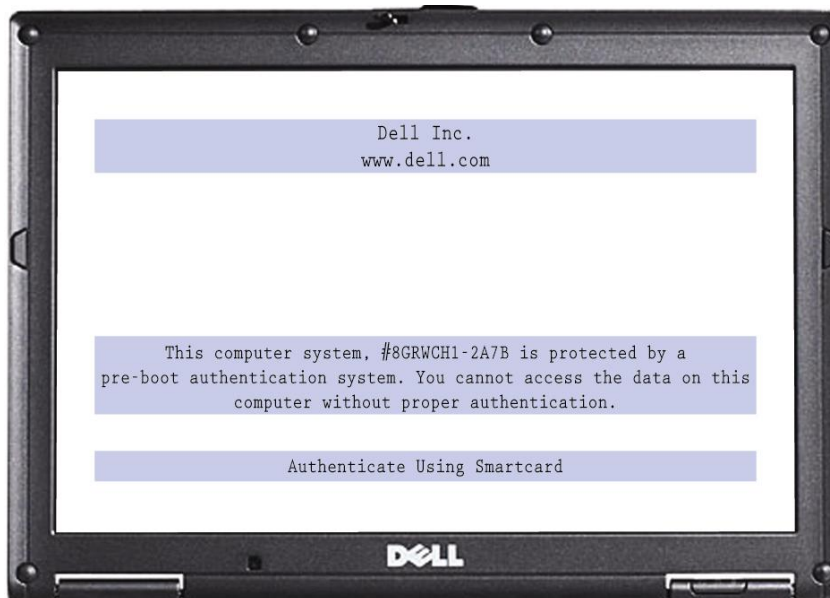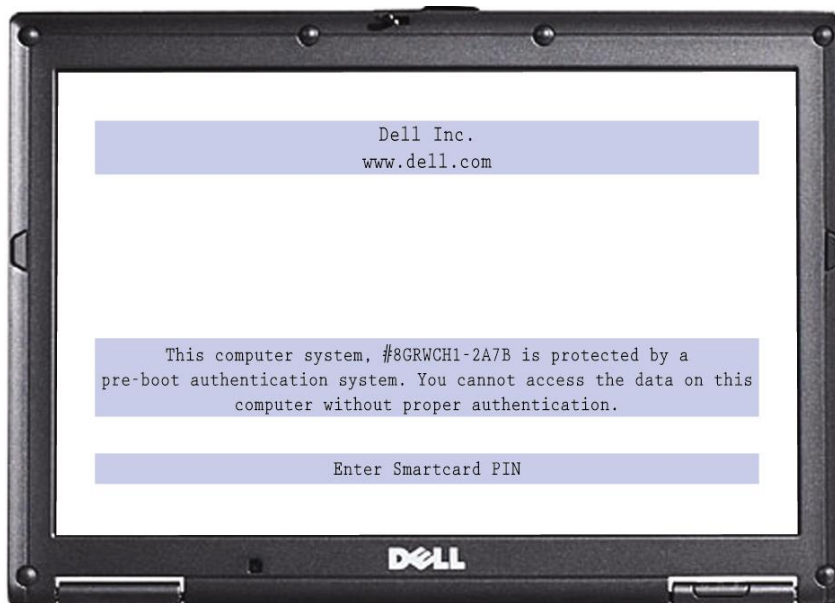

Figure 6 Authenticate Using Smart Card Screen

Figure 7 Authenticate Using Smart Card – Enter Smart Card PIN

For questions about the card technology or usage of contactless smart cards with Dell's Pre-Boot Authentication (PBA), contact HID Global at dellhotline@hidglobal.com.

Addendum

Dell Contactless PBA/Windows Login

The standard Windows CTRL-ALT-DEL and login screen appear and require that the user enter their password for an additional authentication before reaching the Desktop.

With a few configuration changes, successful PBA will allow the user authentication credentials to be cached and passed to the Windows login. This provides two-factor authentication (card and PIN) that goes directly from PBA to the Desktop. This addendum details steps to configure Contactless PBA/Windows login and describes limitations associated with this feature.

Configuration for Dell Contactless PBA/Windows Login

Enrollment of a contactless card for Dell PBA is done in accordance with this application note. **Before continuing, enrollment of the contactless card in the Dell PBA is required.**

To enable Contactless PBA/Windows login you must complete some additional settings within the Dell/Wave Embassy Security Center software.

1. Open the Dell/Wave Embassy Security Center:

    Go to C:\Program Files\Wave Systems Corp\EMBASSY Security Center and launch the EmbassySecurityCenter.exe

    or

    Access the software through Dell ControlPoint (DCP) by clicking the **Settings** button for **Require a fingerprint or password for Windows logon** within the Security Manager/Logins and Passwords.

Figure 8 Logins and Passwords

2. Once the Dell/Wave Embassy Security Center is open, there are two settings that must be changed.
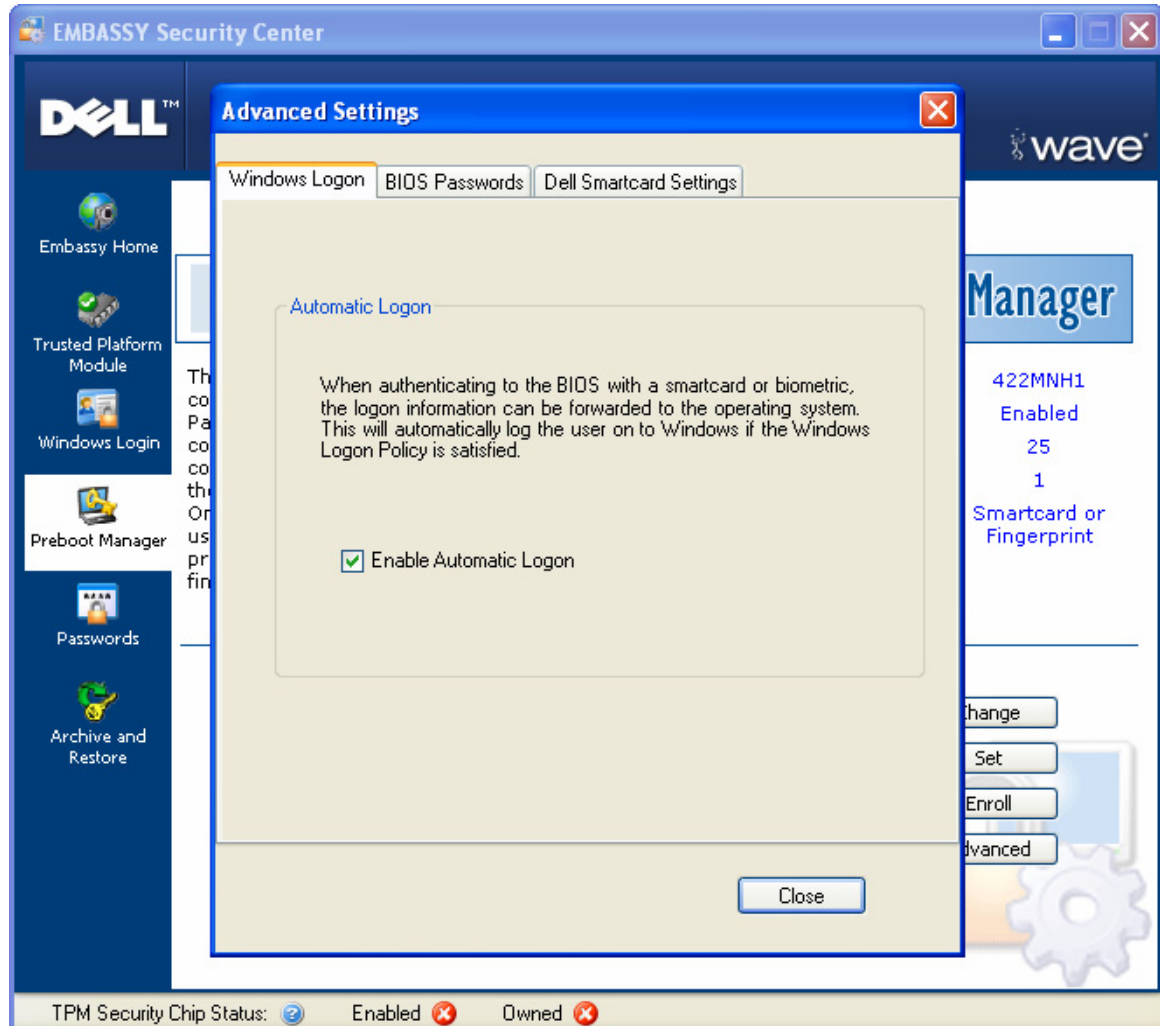
   Select the **Windows Login** tab on the left side of the screen, and click the **Enable Secure Windows Login** check box.

Figure 9 Secure Windows Login/Policies

3. Click **Apply** to save the change.

4. Select the **Preboot Manager** tab on the left side of the screen and click **Advanced**. Ensure that you are within the **Windows Login** tab. Select the **Enable Automatic Logon** check box.

Figure 10 Preboot Manager – Automatic Logon

After you have made these two changes and closed the Dell/Wave Embassy Security Center, reboot the laptop for the changes to take affect. On the first reboot, enter your Windows authentication credentials in order to store them within the Dell/Wave login manager. All subsequent reboots, contactless authentication at PBA will display the Desktop without you having to enter a username and password.

Dell Contactless PBA/Windows Login Limitations

Unlike other contact or contactless implementations of Windows login, there are a few limitations associated with the Dell Contactless PBA/Windows Login feature.

When logging back into Windows after you have locked or logged-off the system, the contactless card is unusable. A standard Windows authentication (username and password) must be provided to login from either of these states.

Pre-boot authentication blocks the use of the card when a invalid PIN is entered three consecutive times. This causes the pre-boot authentication to default back to the system password. Once the correct system password is entered, pre-boot authentication completes. However a standard Windows (username and password) authentication still is required to get into the Desktop.

Software Upgrades

Dell Latitude E-Family laptops are new, and as such many revisions to the related software components is expected. Take particular care to ensure that the following components latest revisions are in place:

- Dell Latitude System BIOS
- Dell ControlPoint Security Manager – Driver and Application
- Unified Security Hub – Broadcom Firmware

All necessary upgrades are available at: http://support.dell.com/support/downloads/

If you have specific questions regarding this procedure, or any general questions regarding the functionality of the Dell contactless embedded reader, please contact us at: dellhotline@hidglobal.com.

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