HP SmartCard SIPRNet and NIPRNet Solutions for US Government using HP FutureSmart firmware

Administrator's Guide

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1 Introduction

The HP SmartCard NIPRNet Solution for US Government and the HP SmartCard SIPRNet Solution for US Government are designed to optimize security in imaging and printing environments for various Department of Defense (DoD) agencies and military branches of the US government.

This guide is intended for administrators responsible for managing security in their network environment, and provides instructions on how to install and configure settings on HP products with FutureSmart firmware version using the HP SmartCard SIPRNet or NIPRNet Solution for US Government.

2 Getting started with HP SmartCard SIPRNet or NIPRNet Solution

Get started by installing the HP SmartCard SIPRNet or NIPRNet Solution on HP products with HP FutureSmart firmware version. This chapter provides instructions on the following topics:

- Supported Products
- Install the HP SmartCard NIPRNet or SIPRNet Solution
- Obtain tools for configuring the printer
- Update the firmware

Supported Products

For a list of HP products compatible with the HP SmartCard SIPRNet Solution for US Government, go to Supported products for SIPRNet Solution (c04896003), and for products that are compatible with the NIPRNet Solution, go to Supported products for NIPRNet Solution (c04896573).

Install the HP SmartCard NIPRNet or SIPRNet Solution

Purchase one of the following Smart Cards, and then install it on the printer.

- HP SmartCard US Govt NIPRNet Solution: CC543B #201
- HP SmartCard US Govt SIPRNet Solution: F8B30A #201

For installation instructions of the HP SmartCard NIPRNet Solution for US Government or the HP SmartCard SIPRNet Solution for US Government, go to: Installation Guide. (c04797700)

Figure 2-1 HP SmartCard NIPRNet Solution

Figure 2-2 HP SmartCard SIPRNet Solution

Obtain tools for configuring the printer

The **Tools** directory in the HP CAC website provides the files required for configuring a printer with the HP SmartCard SIPRNet or NIPRNet Solutions.

Obtain the following files in the Tools directory:

- KerbosInfoCert2.exe OR KerbosInfoCert2.vbs: To view the configuration information.
- FutureSmartBackupRestore 2.0.0.3.exe: To obtain the FutureSmart Restore tool

Follow these steps to obtain the files in the **Tools** directory:

1. Go to https://ftp.usa.hp.com/hprc.
2. Read the **HPRC Terms of Use & Service**, and then click **Accept**.
3. Type in your Account name and password, and then click **Login**.

NOTE: Passwords must be changed annually to the next consecutive number.

4. Click the **Tools** directory.
5. Select the following files, and then click **Save**.
   - KerbosInfoCert2.exe OR KerbosInfoCert2.vbs

     Make sure to print this page to verify the Kerberos Client settings information when configuring the device.
   - FutureSmartBackupRestore 2.0.0.3.exe

Update the firmware

To download the latest firmware, go to HP Support, and then select **Software and Drivers**.

For instructions to download and update the firmware, go to Update the firmware using a USB flash drive or the Embedded Web Server (EWS).

NOTE: After downloading the firmware, make sure to note the following information in the **Configuration Page**:

Product Name, Model number, Device Serial Number, and the Firmware Level.

3 Configure the printer settings using the Embedded Web Server

After installing the HP SmartCard NIPRNet or SIPRNet Solution on the printer, open the HP Embedded Web Server (EWS) to configure the printer settings. The following topics provides instructions for configuring the printer settings using the EWS.

- Access the Embedded Web Server (EWS)
- Set the date and time
- Verify the network settings
- Configure the sign-in method to enable SmartCard authentication
- Configure certificate management
- Configure the Scan/Digital Send settings

Access the Embedded Web Server (EWS)

Follow these steps to open the EWS:

1. From the Home screen on the printer control panel, touch the Network button to display the IP address or host name.
2. Open a Web browser, and in the address line, type the IP address of the printer exactly as it displays on the printer's control panel. Press the Enter key.

NOTE: If the Web browser displays a message indicating that accessing the website might not be safe, select the option to continue to the website. Accessing this website will not harm the computer.

NOTE: To prevent unauthorized changes in the printer configuration settings, IT administrators might set a password in the EWS.

3. Depending on how the HP EWS is configured, it might be necessary to log in using the administrator's password to access and configure printer settings.

NOTE: If passwords are set in the EWS, only the **Information tab** will be available to the users.

Set the date and time

The device date and time must be synchronized to within five minutes of the date and time on the Kerberos server. If the time difference is greater than five minutes, the HP Smart Card authentication attempts will fail.

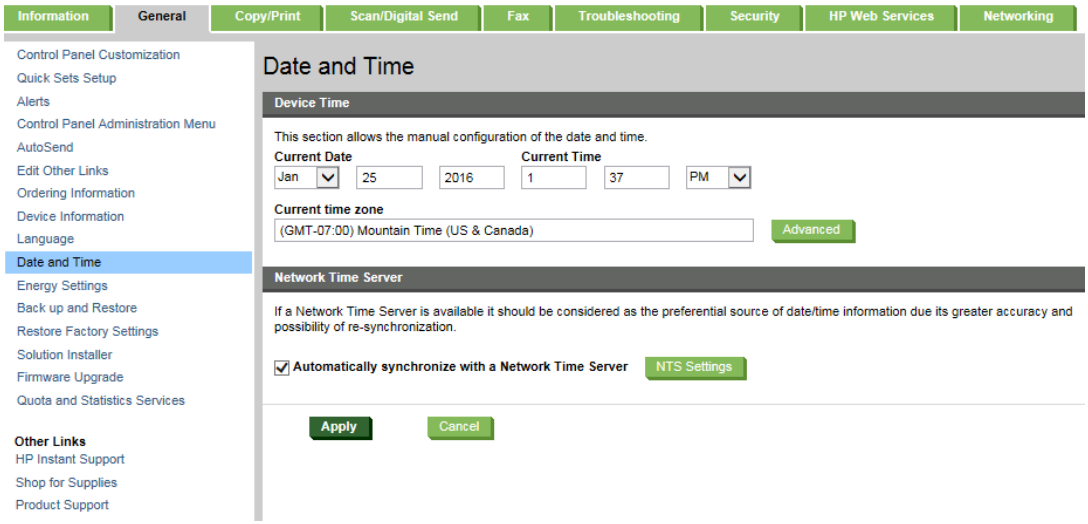
1. Open the EWS.

   For instructions, see Access the Embedded Web Server (EWS) on page 4

2. On the top navigation tabs, select the **General** tab.

3. In the left navigation pane, select **Date and Time**.

Figure 3-1 Date and Time



4. Set the date and time in the **Device Time** or in the **Network Time Server** section.

   Follow these steps to set the date and time in the **Device Time** section:

   a. Type the day and year for the **Current Date** and the time for the **Current Time**.

   b. Click **Advanced**, select the correct **Time zone** from the drop-down list, select the desired options in the **Daylight Savings Time Settings** section, and then click **OK**.

   Follow these steps to set the date and time in the **Network Time Server** section:

   a. Select the **Automatically synchronize with a Network Time Server** check box.

   b. Click **NTS Settings**, and then provide the server information, and then click **OK**.

5. Click **Apply** to save the changes.

Verify the network settings

Use the following information to verify the HP printer's TCP/IP network information.

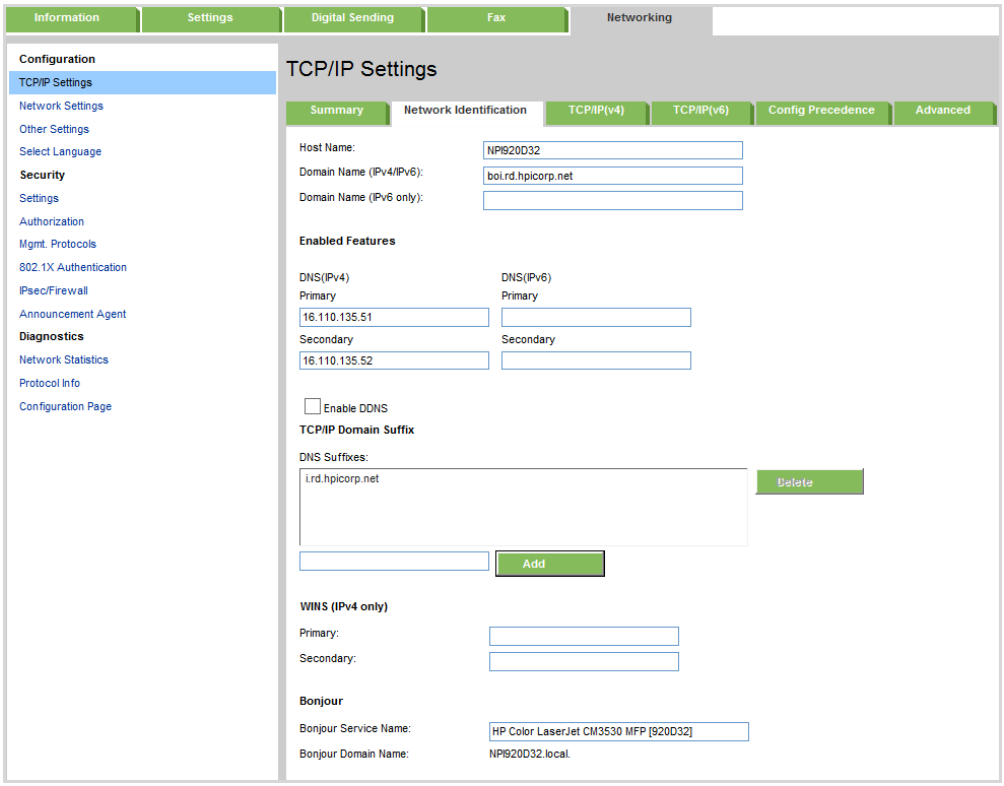
1. Open the EWS.

   For instructions, see Access the Embedded Web Server (EWS) on page 4

2. On the top navigation tabs, select the **Networking** tab.

3. On the left navigation pane, select the **TCP/IP Settings**, and then select the **Network Identification** tab.

Figure 3-2 TCP/IP Settings



4. Verify that the **Host Name** and **Domain Name (IPv4/IPv6)** are properly set.

5. Verify that the **DNS Primary** and **DNS Secondary** are correctly set.

6. If required, type additional DNS suffixes in the **DNS Suffixes** text box of the **TCP/IP Domain Suffix** section.

7. If applicable, type the WINS **Primary** and **Secondary** addresses in the **WINS (IPv4 only)** section.

8. Click **Apply** to save the changes.

Configure the sign-in method to enable SmartCard authentication

Use the **Access Control** page of the EWS to set up the **Smart Card** or the **SIPRNet Smart Card** in the sign-in method and domain information, to access functions at the device, and for E-mail settings.

NOTE: Verify that the printer is on and the HP SmartCard reader (NIPRNet or SIPRNet Solutions) is connected to the printer before beginning.

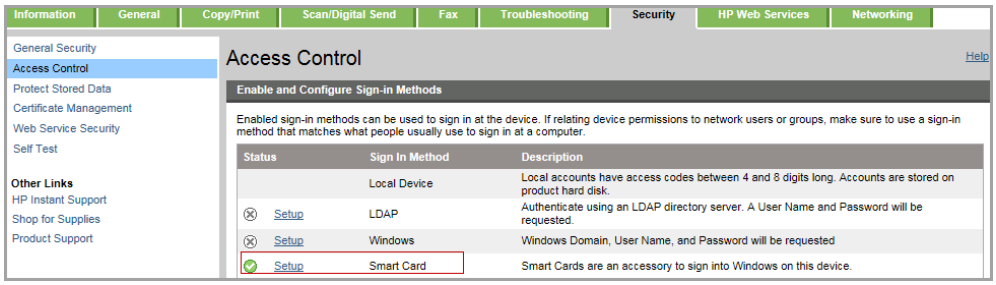
1. Open the EWS.

   For instructions, see Access the Embedded Web Server (EWS) on page 4

2. On the top navigation tabs, select the **Security** tab.

3. In the left navigation pane, click **Access Control**.

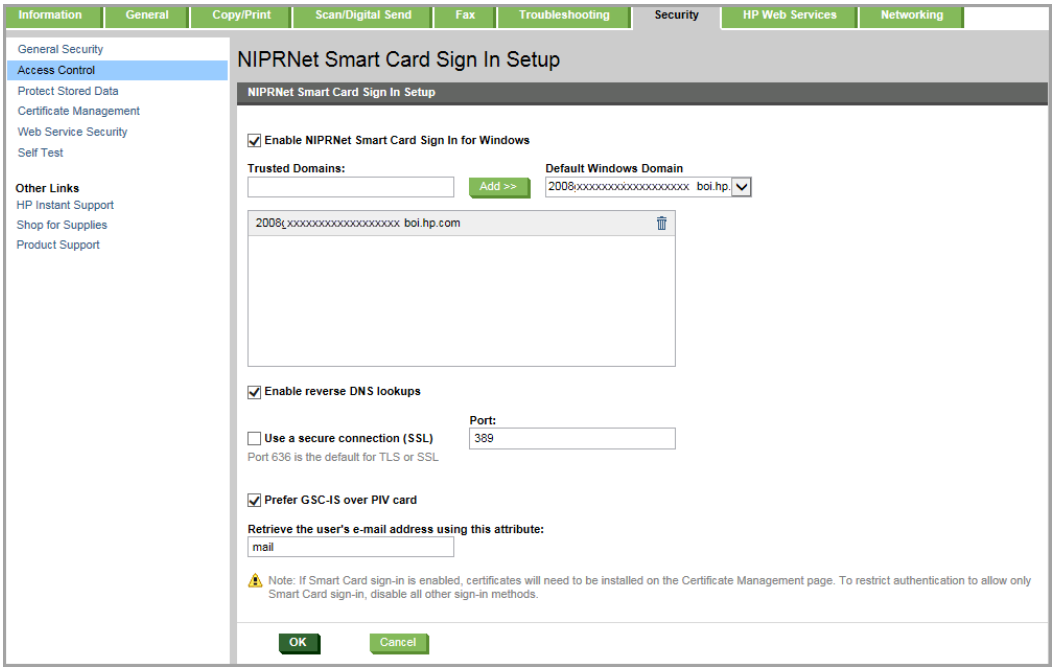
Figure 3-3 Access Control



4. Verify that the **Smart Card** (for HP SmartCard NIPRNet Solution) or the **SIPRNet Smart Card** (for HP SmartCard SIPRNet Solution) is listed in the **Sign In Method** column.

5. In the **Enable and Configure Sign-in-Methods** section, select **Setup** in the **Status** column where the Sign in method column is either the **Smart Card** entry to set up the HP SmartCard NIPRNet Solution for US Government, OR the **SIPRNet Smart Card** entry to set up the HP SmartCard SIPRNet Solution for US Government.

Figure 3-4 Smart Card Sign in Setup



6. On the **NIPRNet Smart Card Sign In Setup** or **SIPRNet Smart Card Sign In Setup** page, perform the following tasks to enable the SmartCard as a sign-in method:

   a. Select the **Enable NIPRNet Smart Card Sign In for Windows**, or **Enable SIPRNet Smart Card Sign In for Windows** check box.

   b. Type the fully qualified domain name (FQDN) of the domain controller in the **Trusted Domains** text box, and then click **Add**.

   c. If your environment has reverse DNS disabled, clear the **Enable reverse DNS lookups** check box.

   d. Depending on your HP MFP Authentication Reader, select the proper environment setting.

   - HP CAC: Select **Prefer GSC-IS over PIV card** check box.
   - PIV cards: Select to clear the **Prefer GSC-IS over PIV card** check box.

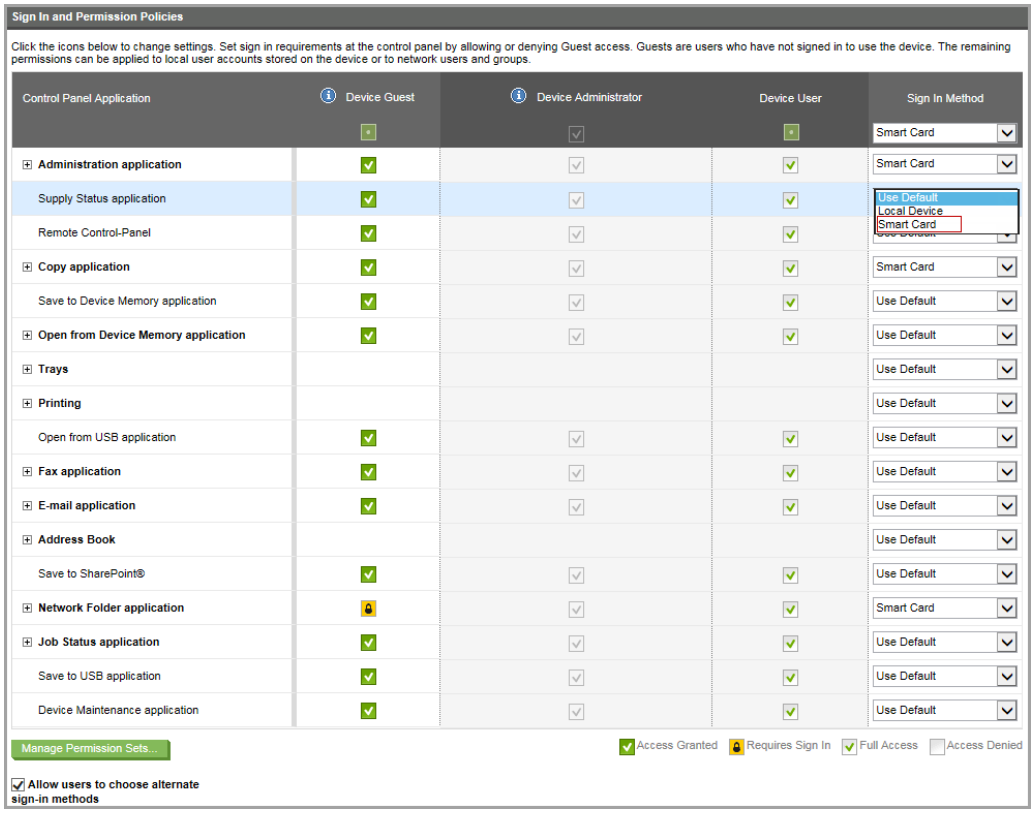
   e. Verify that the correct LDAP e-mail attribute is specified in the **Retrieve the device user's e-mail address using this attribute** (LDAP E-mail attribute) text box.

   f. Click **OK** to save the settings, or click **Cancel** to discard the changes.

7. After the page refreshes, review the **Enable and Configure Sign In Methods** section of the **Access Control** panel to verify that the **Status** for the **Smart Card** or **SIPRNet Smart Card** entry contains a green check mark. If not, perform the tasks in Step 6.

NOTE: If the **Smart Card** or **SIPRNet Smart Card** is not displayed on any of the drop-down lists as a **Sign In Method** in the **Sign In and Permission Policies** section, then the HP SmartCard (NIPRNet or SIPRNet) Solution for US Government might not be properly installed.

Figure 3-5 Sign in and Permission Policies



8. To restrict the **Sign In Method** to only the **Smart Card** or **SIPRNet Smart Card** , perform the following tasks on the **Enable and Configure Sign In Methods** section

   a. Select **Setup** in the **Status** column for the **Sign In Method** for entries that should be restricted (e.g. LDAP entry).

   b. On the Sign In Setup page (e.g. LDAP Sign In Setup), clear the **Enable** Sign In Method entry check box (e.g. Enable LDAP Sign In), and then select **OK**.

   NOTE: When the **Smart Card** or **SIPRNet Smart Card** option is selected from the **Sign in Method** drop-down list, all other functions are also restricted to the SmartCard authentication option.

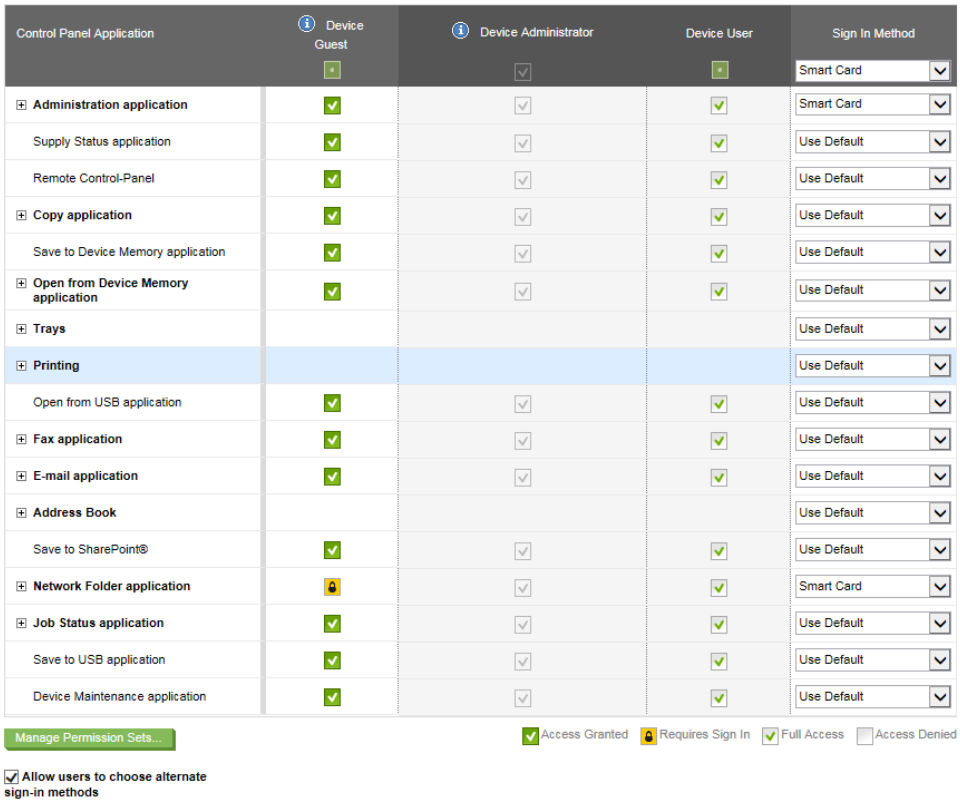
9. On the **Sign In and Permission Policies** section, perform the following tasks for each **Control Panel Application** that requires the HP SmartCard (NIPRNet or SIPRNet) Solution for the US Government:

   a. Select the **Smart Card** or **SIPRNet Smart Card** option from the **Sign In Method** drop-down list.

   b. In the **Device Guest** column, click the **Access Granted** icon ( ) and change it to the **Requires Sign In** icon ( ).

10. Click **Apply** to save the changes.

Figure 3-6 Smart Card option in the Sign In and Permission Policies



Configure certificate management

Set up security certificates on the **Certificate Management** page of the EWS:

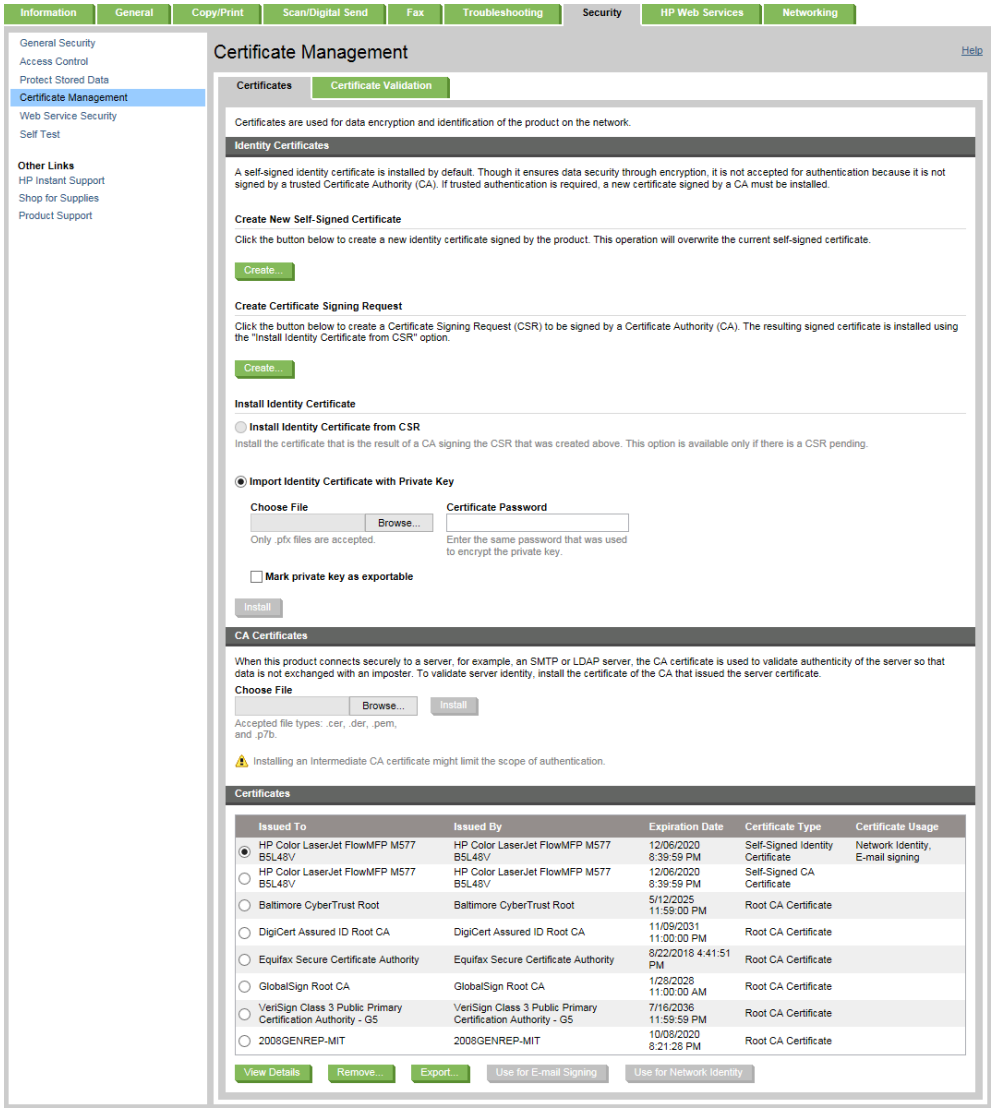
1. Open the EWS.

   For instructions, see Access the Embedded Web Server (EWS) on page 4

2. On the top navigation tabs, select the **Security** tab.

3. In the left navigation pane, click **Certificate Management**.

Figure 3-7 Certificate Management



4. Click the **Certificates** tab.

5. Install the root CA certificate, intermediate CA certificate, and the subordinate CA certificate of the Windows Active Directory domain controller.

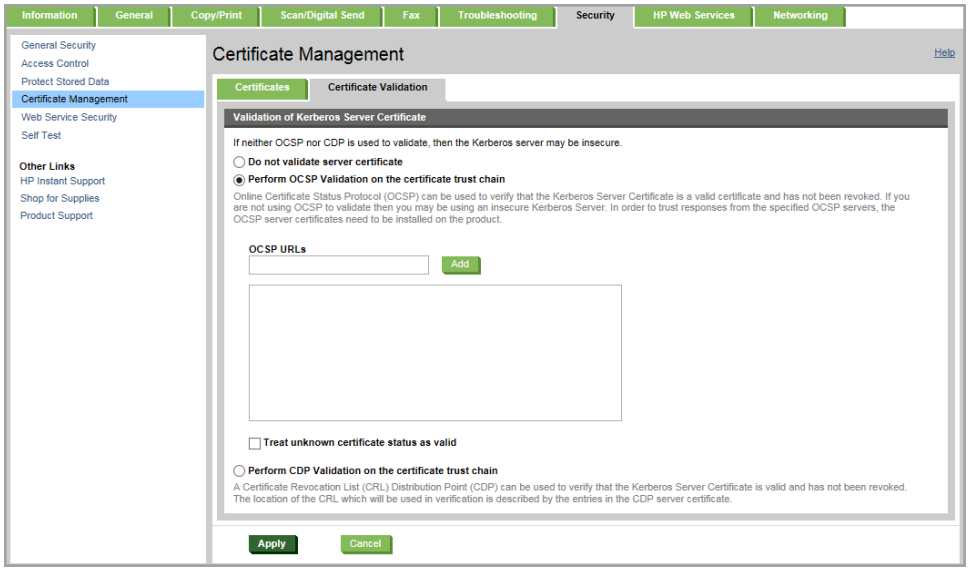
6. If OCSP is used for certificate-revocation checking, also install the root CA certificate, intermediate CA certificate, and the subordinate CA certificate of the OCSP server.

7. If OCSP is used for certificate revocation checking, complete the following steps:

   a. Click the **Certificate Validation** tab.

   b. Select the **Perform OCSP Validation on the certificate trust chain** check box to enable OCSP validation.

Figure 3-8 Certificate Validation

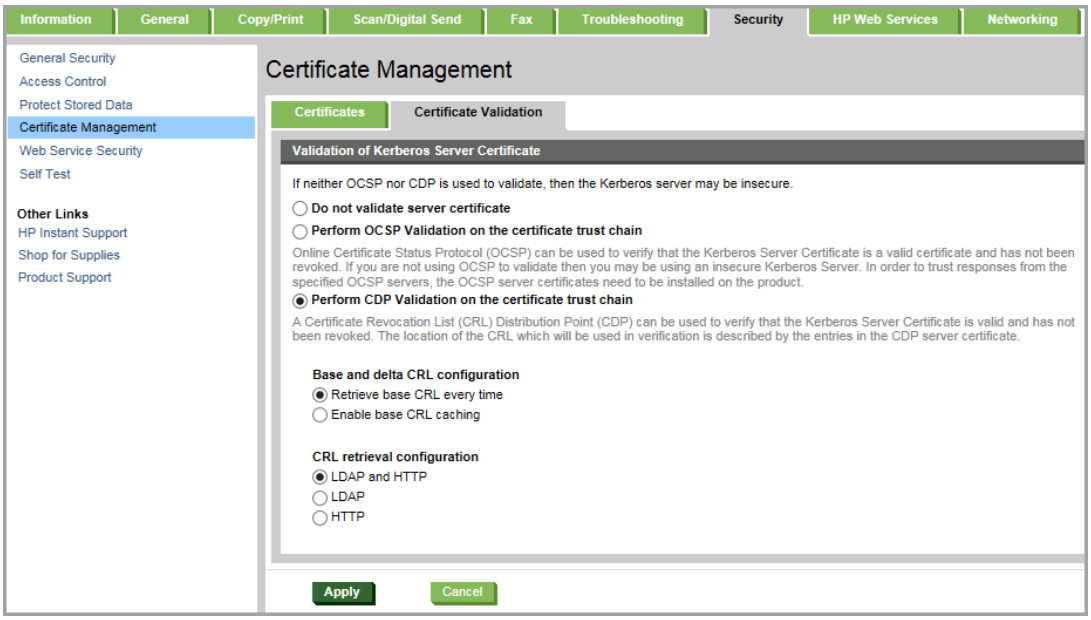


   c. Enter the URL(s) of the OCSP server(s) in the **OCSP URLs** field.

8. Click **Apply** at the bottom of the **Certificate Validation** section to save the changes.

9. If CDP is used for verification of the kerberos server certificate using a certificate revocation list, select the **Perform CDP Validation on the certificate trust chain** check box and complete the following.

Figure 3-9 Validation of Kerberos Server Certificate



NOTE: The retrieval options indicate which methods to use to retrieve the certificate revocation list (CRL).

a. Select the **Retrieve base CRL every time** check box (the default) to retrieve the list every time.

   -or-

   Select the **Enable base CRL caching** check box to allow selection of **Enable delta CRL support** and **Treat unknown CRL status as valid**.

b. Select one of the **CRL retrieval configuration** options to use. (**LDAP and HTTP** is the default.)

10. Click **Apply** at the bottom of the **Certificate Validation** section to save the changes.

Configure the Scan/Digital Send settings

Use the **Scan/Digital Send** tab of the EWS to configure the address book, e-mail, and network folder settings.

- Address Book settings
- E-mail settings
- Save to Network Folder settings

Address Book settings

Use the following steps to configure the **Address Book** settings.

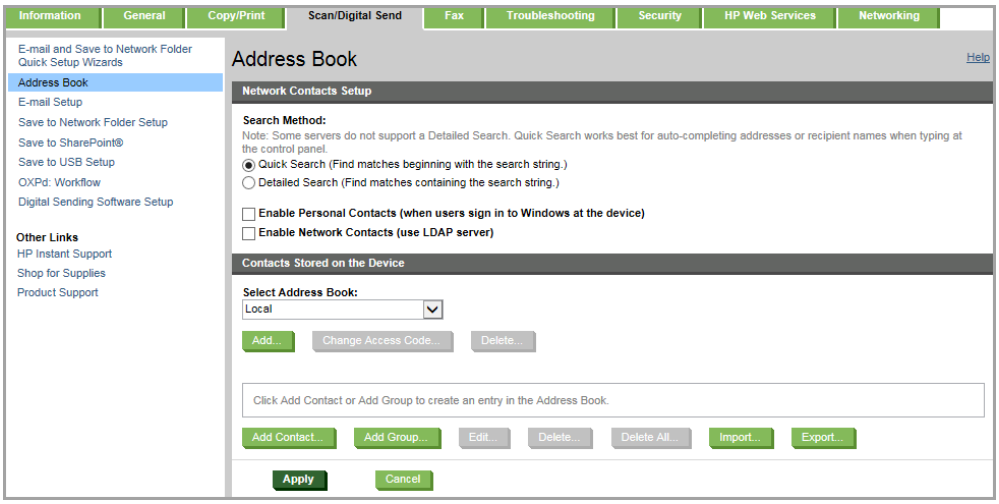
1. Open the EWS.

   For instructions, see Access the Embedded Web Server (EWS) on page 4

2. On the top navigation tabs, select the **Scan/Digital Send** tab.

3. In the left navigation pane, click **Address Book**.

Figure 3-10 Address Book



4. Select the **Enable Network Contacts (use LDAP server)** check box, and then click the **Add** button to start the wizard. The **Network Contacts Setup** page displays.

5. On the **Network Contacts Setup**, complete the following tasks to set up the network:

   a. In the **LDAP Server Address** field, type the FQDN of the domain controller.

   NOTE: This must be the same FQDN that was typed in the **Trusted Domains** field of the **NIPRNet Smart Card Sign In Setup** or the **SIPRNet Smart Card Sign In Setup** page.

   b. If applicable, in the **Port** field type the correct SSL or Global port number.

   - SSL Port: 636 or 3269
   - Global Catalog Port: 3268

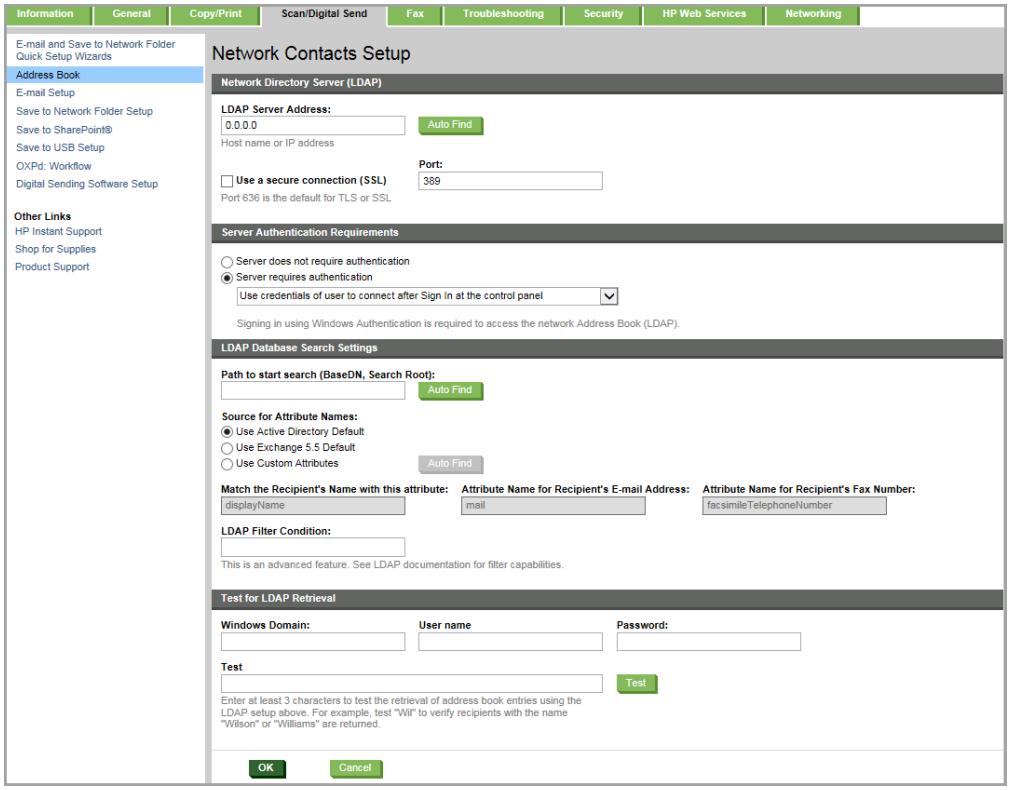
c. In the **Server Authentication Requirements** section, select the **Server requires authentication** radio button, and then select **Use credentials of user to connect after Sign In at the control panel** from the drop-down list.

d. In the **LDAP Data base Search Settings**, type the LDAP database search root in the **Path to start search (BaseDN, Search Root)** (OU=Installations,DC=SMARTCARDHQ,DC=DOD,DC=MIL, for example) field.

e. In the **Source for Attribute Names**, make sure that the **Use Active Directory Default** button is selected, unless the search attributes are different.

   For example, some sites require user principal name (userPrincipalName) instead of mail for the e-mail attribute.

Figure 3-11 Network Contacts Setup



6. Click **OK** to save any changes.

E-mail settings

Use the following steps to configure the **E-mail Setup**.

1. Open the EWS.

   For instructions, see Access the Embedded Web Server (EWS) on page 4

2. On the top navigation tabs, select the **Scan/Digital Send** tab.

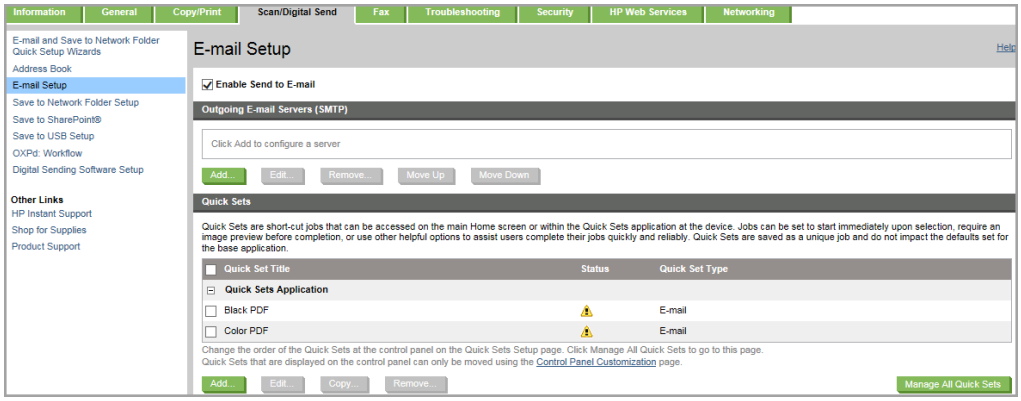
3. In the left navigation pane, click **E-mail Setup**.

4. On the **E-mail Setup** page, perform the following tasks to set up the email:

a. Select the **Enable Send to E-mail** check box.

b. In the **Outgoing E-mail Servers (SMTP)** section, click **Add** to start the wizard.

Figure 3-12 E-mail Setup



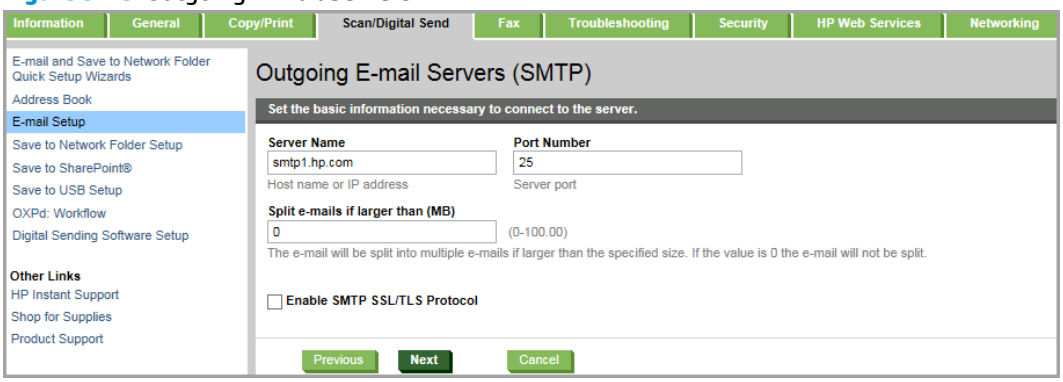
c. On the **Outgoing E-mail Servers (SMTP)** page, complete the following tasks:

i. Select **I know my SMTP server address or host name:** check box.

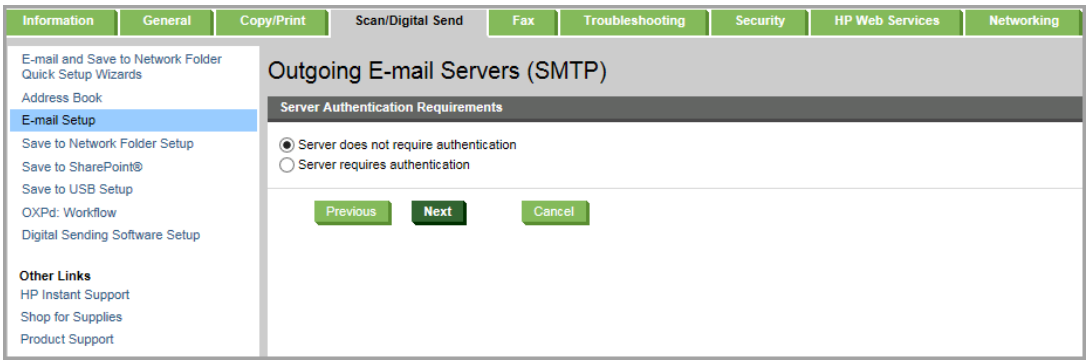
ii. Type the SMTP **Server Name** and the **Port Number**. To split large e-mails, type a value in megabytes in the **Split e-mails if larger than (MB)** field.

iii. Click **Next** to continue.

Figure 3-13 Outgoing E-mail Servers



iv. On the **Server Authentication Requirements** section, select **Server does not require authentication** radio button, and then click **Next**.



d. On the **Server Usage** section, select which functions the server is used for, and then click **Next**.

e. Review the **Summary and Test** page.To test the settings, enter an e-mail address and then click **Test**.

f. Click **Finish** to complete the configuration and return to the **E-mail Setup** page.

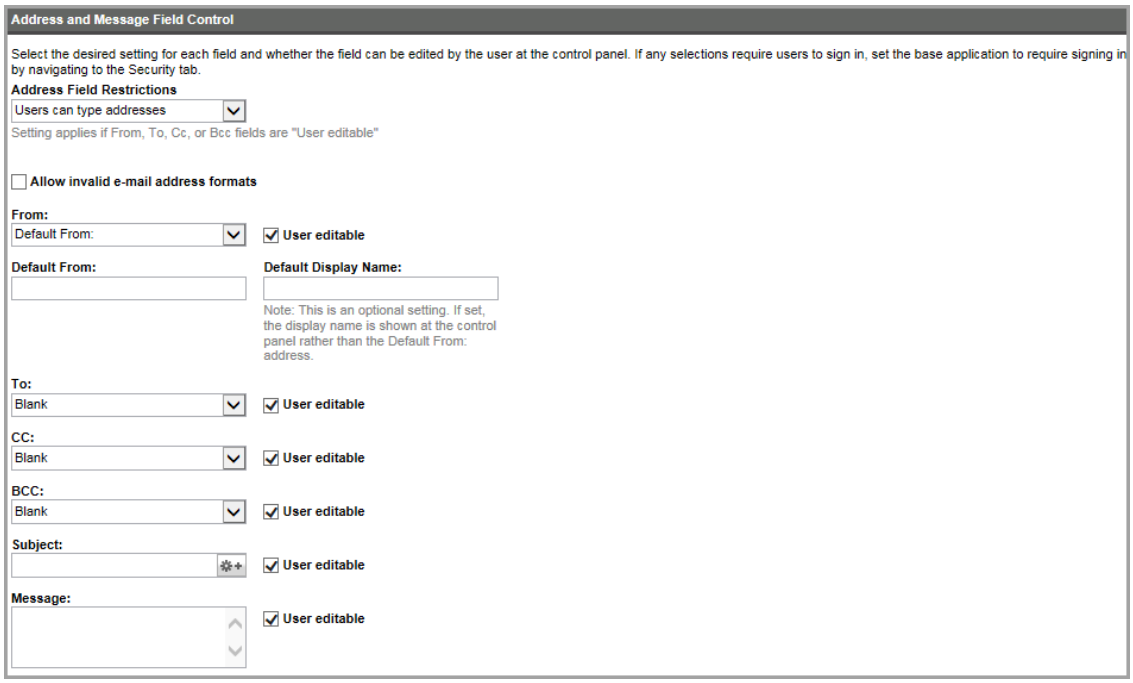
5. On the **Address and Message Field Control** section, complete the following steps to set up the address section:

a. In the **From** field, select **User's address (sign-in required)** from the drop-down list.

> **NOTE:** To prevent users from changing the **From** setting at the control panel, clear the **User editable** check box

b. Select the settings from the drop-down list for the following fields: **To**, **CC**, and **BCC**.

Figure 3-14 Address and Message Field Control



c.

6. On the **Signing and Encryption** section, complete the following steps:

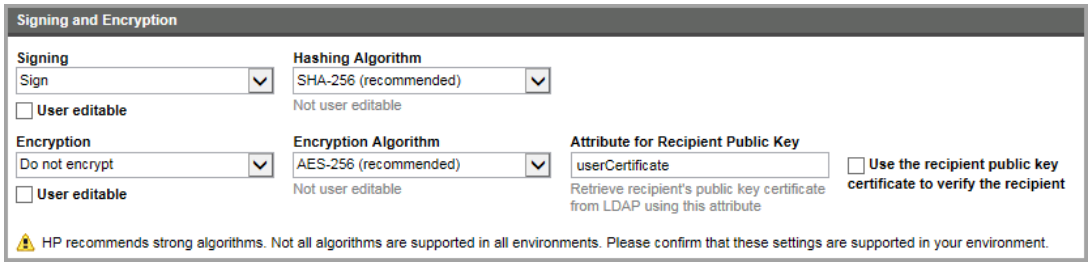
a. In the **Signing** field, select **Sign** from the drop-down list, and then clear the **User editable** check box.

b. In the **Hashing Algorithm**, select SHA-1 or SHA-256.

c. For the **Encryption** field, select **Do not encrypt** from the drop-down list, and then clear the **User editable** check box.

d. Select to clear the **Use the recipient public key certificate to verify the recipient** check box.

Figure 3-15 Signing and Encryption



7. Click the **Apply** button at the bottom of the **E-mail Setup** page to save any changes.

Save to Network Folder settings

Use the following steps to configure the **Save to Network Folder Setup**.

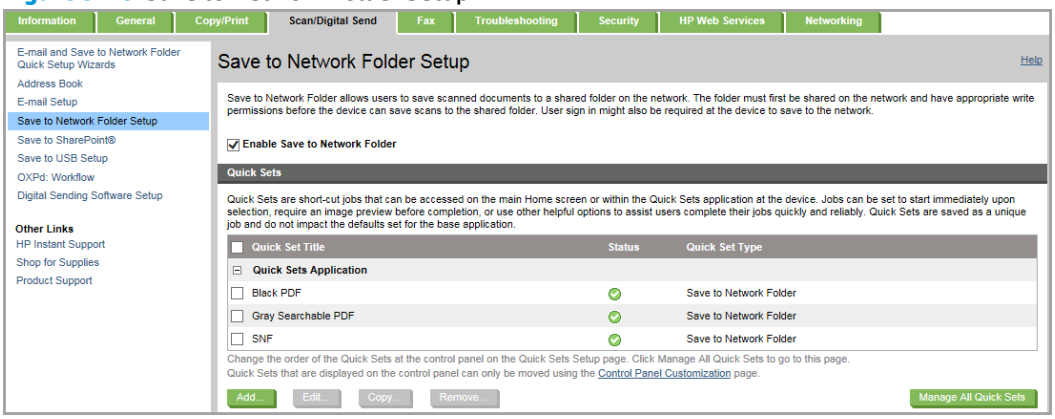
1. Open the EWS.

   For instructions, see Access the Embedded Web Server (EWS) on page 4

2. On the top navigation tabs, select the **Scan/Digital Send** tab.

3. In the left navigation pane, click **Save to Network Folder Setup**.

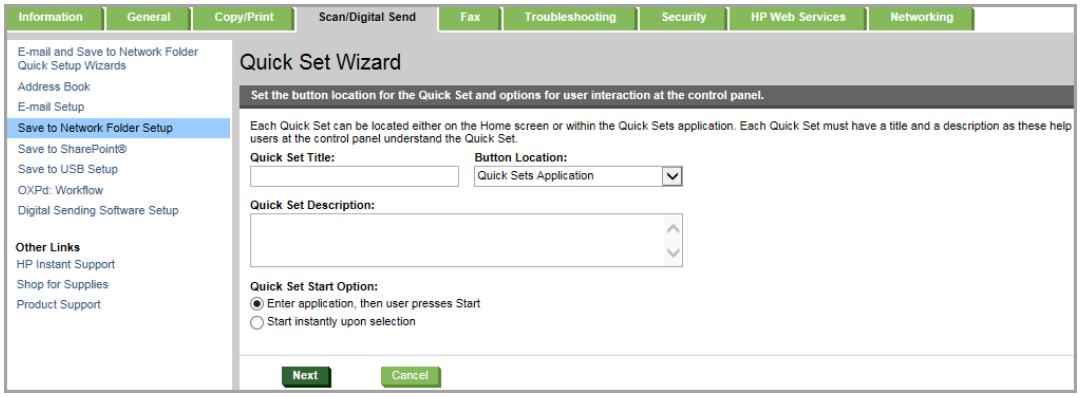
Figure 3-16 Save to Network Folder Setup



4. Select the **Enable Save to Network Folder** check box, and then click the **Add** button to start the wizard.

5. In the **Quick Sets** section, click **Add** to start the wizard.

Figure 3-17 Quick Set Wizard



6. In the **Quick Set Wizard**, complete the following tasks to define the control panel quick set options:

   a. Type a title in the **Quick Set Title** field

   b. Select the **Button Location** from the drop-down list.

   c. Type a description in the **Quick Set Description** field, if desired.

   d. Click **Next**.

   e. In the **Folder Settings** section, select one of the following options to set the folder destination:

      Option one : **Save to shared folders or FTP folders**

      i. Select the **Save to shared folders or FTP folders** radio button, and then click **Add**.

      ii. In the **UNC Folder Path:**, type the entire FQDN in the UNC folder path.

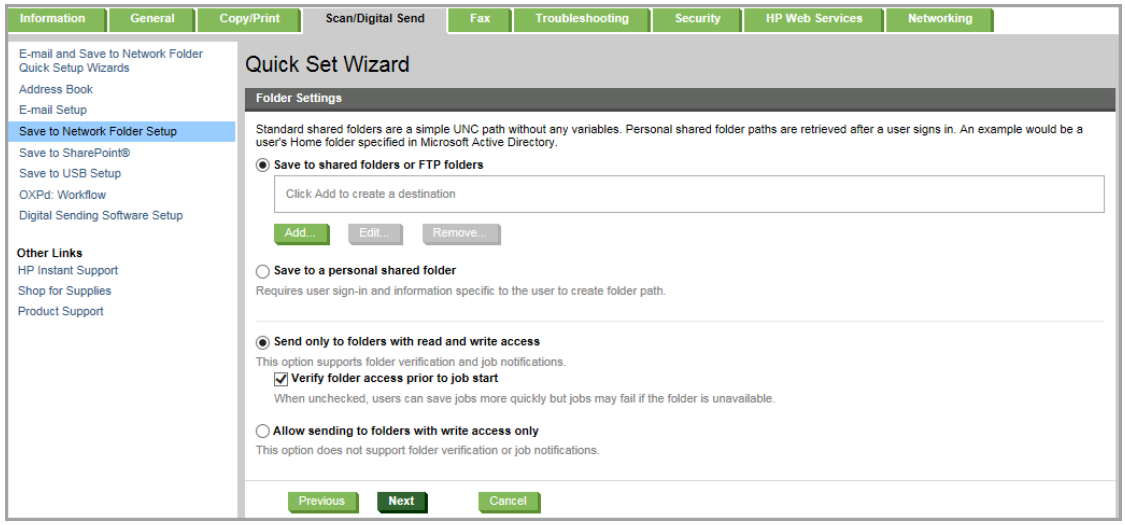
      iii. In the **Authentication Settings:**, select **Use credentials of user to connect after Sign in at the control panel**, and then select **OK**.

      Option two: **Save to a personal shared folder**

      i. Select the **Save to a personal shared folder** radio button.

ii. In the **Retrieve the device user's home folder using this attribute** field, type **homeDirectory**, and then click **Next**.

Figure 3-18 Folder settings in the Quick Set Wizard



iii. Complete the remaining settings as needed, and then click **Finish** to save the settings.

4 Device Resets

This chapter provides instructions to restore the HP printer to factory defaults.

- Restore Factory defaults
- Preboot Menu

Restore Factory defaults

NOTE: When the HP printer resets all settings to default, the **Authentication Agent** is also set to default.

Follow these steps to restore the HP printer to factory defaults:

1. On the printer's control panel, select Administration and then select the following menus:
   - General Settings
   - Restore Factory Settings

Figure 4-1 Administration menu

Figure 4-2 General Settings

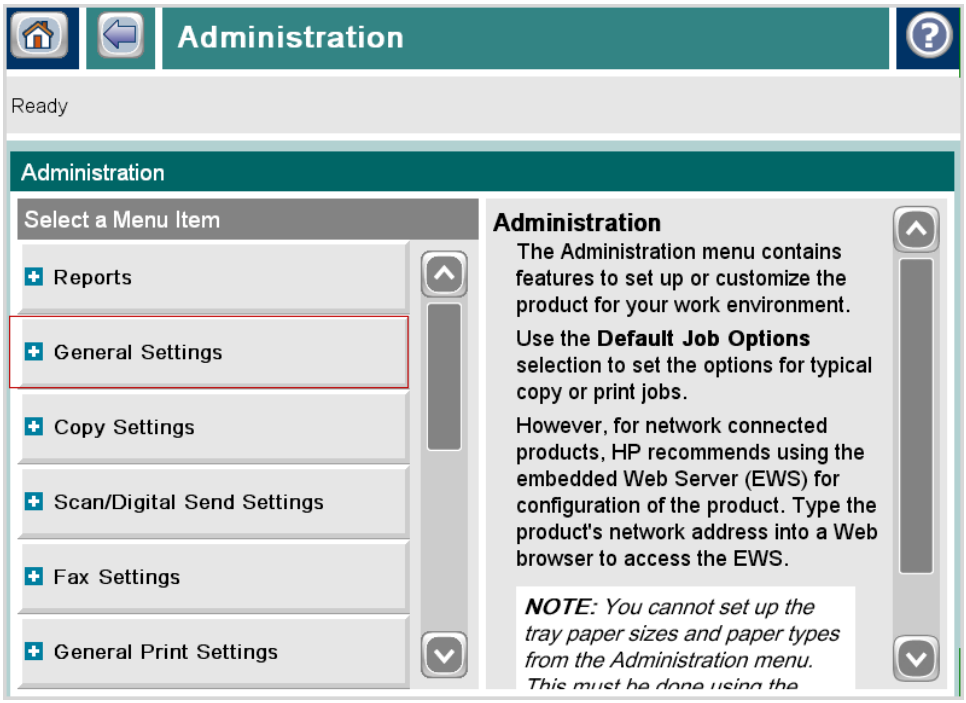
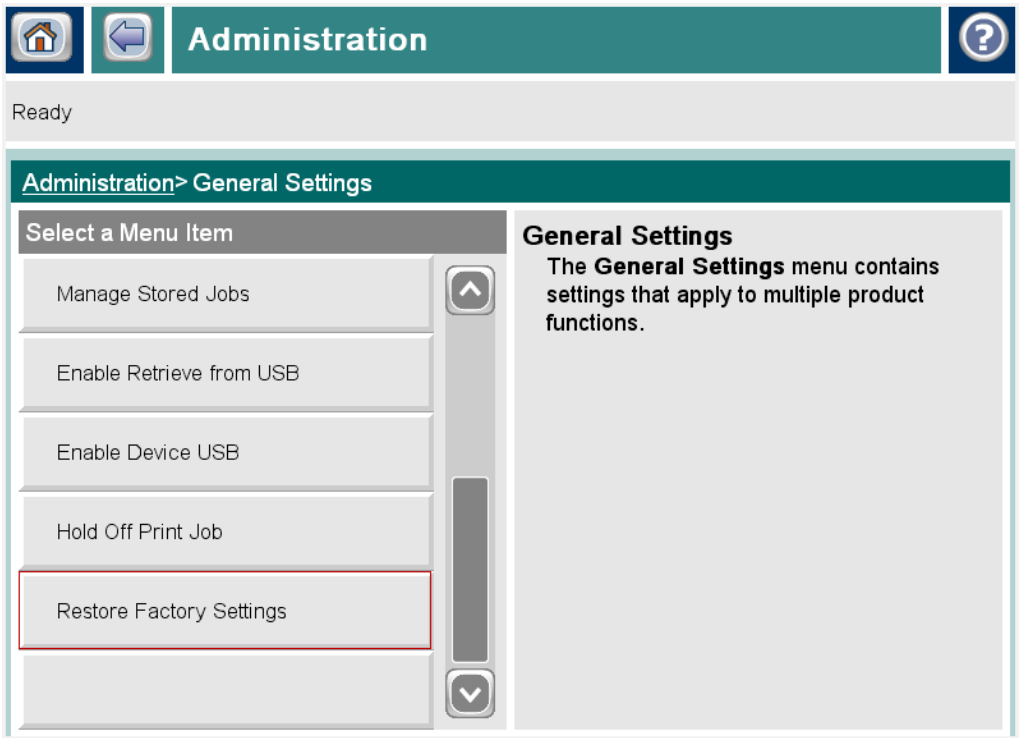


Figure 4-3 Restore Factory Settings



2. In Restore Factory Settings, select Restore or Cancel .

NOTE: Access code might be required to select this option.

3. Make sure to check and set the following settings before using the printer

- Date and Time (Time Zone)
- Network Settings (IP, DNS)
- Certificates
- Control Panel Customization

  Drag icons off the homescreen that are not used and place them in the lower section.

Preboot Menu

This section provides instructions on how to perform a Partial Clean using the printer's control panel when an error message displays on the control panel screen while rebooting.

The Partial Clean option removes all data except the firmware from the repository location where a backup copy of the master firmware bundle is downloaded and saved. When selecting this option, it allows a disk to be reformatted by removing the firmware image from the active directory without having to download new firmware code and the printer is bootable.

Partial Clean is similar Disk Initialization and Partial NVRAM in legacy firmware.

WARNING! Do not select Format Disk. This option performs a disk initialization for the entire disk, cleans all disk partitions, and removes all data. All custom settings, third-party solutions, firmware files, and the operating system are completely lost. A delete confirmation prompt is not provided. The system is not bootable after this action—a firmware download via an approved portable HDD must be performed to return the system to a bootable state

Follow these steps to perform a Partial Clean on the printer's control panel:

NOTE: Before performing a Partial Clean, make sure to back up the printer's configuration data.

To restore the customer-defined settings, select the Backup/Restore option in the Device Maintenance menu.

1. Turn the printer Off and then On.

   Wait for the Ready and Attention LEDs to illuminate and then dim out.

2. On the printer's control panel screen, touch the HP logo when 1/8 displays below the logo to open the Preboot menu.

   -or-

   Turn the printer Off and then On, and when the HP logo displays on the control panel and all three Ready, Data, and Attention LEDs illuminate solid, press ⊗

   -or-

   For M4555 and CM4540, press the Stop button ⊗ when the LED lights are illuminated.

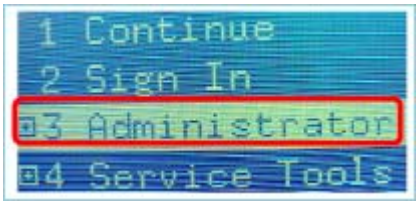
3. Depending on your printer (Touchscreen or LCD control panel), perform one of the following tasks:

   - Use the touch screen scrollbar or touch the down arrow ▼ to select Administrator, and then touch OK.

     OR

   - Press 3 (up) or 9 (down) keys to highlight the Administrator menu, and then press 6 to open the selected menu.

Figure 4-4 Preboot menu



4. Depending on your printer, perform one of the following tasks:

   Use the touch screen scrollbar or touch the down arrow ▼ to select Partial Clean, touch OK, and then touch OK again.

   OR

   Press 3 (up) or 9 (down) keys to highlight the Partial Clean menu, and then press 6 to open the selected option.

   Figure 4-5 Partial Clean option

5. Depending on your printer, perform one of the following tasks:

   Touch the Back button ⮌, touch Continue, and then touch OK.

   OR

   Press 5 or the Back button to return to the first menu and then press 6 to select Continue.

   The printer should continue to boot up.

NOTE: A reboot will automatically restore the firmware files from the repository, but does not restore any customer-defined settings.

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