HP SmartCard NIPRNet Solution for US Government using non-FutureSmart firmware version

Administrator's Configuration Guide
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The HP SmartCard NIPRNet Solution for US Government is 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 configure settings on supported HP products with a non-FutureSmart firmware version using the HP SmartCard NIPRNet Solution for US Government.
2 Getting started with HP SmartCard NIPRNet Solution for US Government

Get started by installing the HP SmartCard NIPRNet Solution for US Government on supported printers and updating the printer firmware, if required. This chapter provides information on the following topics:

- Supported Products
- Hardware installation
- Obtain the tools for HP SmartCard NIPRNet Solution

Supported Products

For a list of HP printers compatible with the HP SmartCard NIPRNet Solution for US Government, see Supported products. (c04896573)

Hardware installation

To configure the HP SmartCard NIPRNet Solution, purchase the “HP SmartCard US Govt NIPRNet Solution: CC543B #201”.

For the HP Smartcard NIPRNet Solution installation instructions, go to the: Installation Guide.

Obtain the tools for HP SmartCard NIPRNet Solution

The HPRC File Transfer Service (https://ftp.usa.hp.com/hprc) provides the firmware files, the Authentication Agent files, and the configuration information required to configure HP Multifunction Printers (MFPs). This site is periodically updated to identify the most current files required to install and configure the HP SmartCard NIPRNet Solution for US Government.

**NOTE:** Make sure to install the latest firmware and Authentication Agent files.

Follow these steps to download the tools required for the HP SmartCard NIPRNet Solution:

1. Go to HPRC File Transfer Service.
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 **LATEST Firmware** directory, and then click the Oz_olderdevice_firmware directory.

5. Download the following files and then save them in one folder:
   - Latest firmware file for your printer model
     OR
   - Go to [HP Support](https://www.hp.com), and then select **Software and Drivers**.
     For instructions to download or update the firmware, go to [Update the firmware using a USB flash drive or the Embedded Web Server (EWS)](https://www.hp.com/support).
   - Auth_agent file (usgovt_auth_agent_cac_v2.11.pjl or newer)
   - remove_cac_agent file (remove_cacagent.pjl)
   - FW update vbscript (FW_Update_14.2_FTP.vbs or the latest FW_Update file)

   When using File Transfer Protocol (FTP), the firmware update wizards automate the process of rebooting the firmware, authagent, and removing the cac agent.

   **NOTE:** If you cannot use FTP to upload the files to the HP printer, use Port Number “9100” to upload the files.

   Select the **FWUpdate_Port_9100** directory and save the following files in the same folder — the firmware file, auth agent, remove agent, hpnpf, and the fw update vbscript.

   You can also use HP Web Jet Admin to update the firmware and upload the auth agent .pjl file.

6. Click the **Tools** directory.

7. Select one of the following files, and then click **Run** or **Save** to view the configuration information.
   - KerbosInfoCert2.exe
     OR
   - KerbosInfoCert2.vbs

   **NOTE:** Make sure to print this page to verify the Kerberos Client settings information when configuring the device.

8. Select the “CertificateChainBuilder.exe” file to export certificates, if desired.

   If downloading the “CertificateChainBuilder” executable file, follow these steps on the **Certificate Chain builder** user interface:
   a. On the **Server** section, select one of the following options:
      - Logon Server Chain
      - Host Chain

      Type your full FQDN in the **Host Chain** text box.
b. Click Build.

**Figure 2-1** Certificate Chain Builder

![Certificate Chain Builder](image-url)
3 Configure the printer using the Embedded Web Server (EWS)

Preview the following requirements of the HP Smartcard NIPRNET Solution for configuring the HP printer:

- HP Smartcard reader is properly installed
- Connected to Auth Agent version 2.11 or newer
- Upgraded to firmware version 14.2 or newer.

This chapter provides instructions on the below topics:

- Access the HP Embedded Web Server (EWS)
- Set the date and time on the HP device
- Verify the network settings
- Configure the HP product for Kerberos Authentication
- Configure validation of the certificates
- Configure authentication using the HP Smartcard reader
- Configure E-mail settings

Access the HP Embedded Web Server (EWS)

Follow these steps to open the EWS:

1. 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.

2. 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 on the HP device

**NOTE:** 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, all HP Smartcard authentication attempts will fail.

1. Open the HP EWS.
   
   For instructions, see [Access the HP Embedded Web Server (EWS) on page 5](#).

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

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

4. Type the **Current Date** and **Current Time**.
   
   To set the time zone or daylight savings time, click **Advanced**, select the **Time Zone** and **Daylight Savings Time**, and then click **OK**.

**Figure 3-1** Date & Time Settings

5. **Click Apply** to save the changes.
Verify the network settings

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

1. Open a Web browser.
   For instructions, see Access the HP Embedded Web Server (EWS) on page 5

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

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

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** at the bottom of the page to save any changes.
Configure the HP product for Kerberos Authentication

**NOTE:** Make sure to configure and test the Kerberos settings when the HP Smartcard reader is installed for the first time.

1. Open a Web browser.
   For instructions, see Access the HP Embedded Web Server (EWS) on page 5

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

3. On the left navigation pane, select the **Kerberos Authentication** tab.

4. On the **Kerberos Authentication** page, click **Add**, and then complete the following steps to set parameters and credentials used to access the LDAP server:
   a. In the **Accessing the Kerberos Authentication Server** section, type the Kerberos domain name, OR click **Advanced** to access **Alternate Domain Configuration**.

   **NOTE:** Most US Government agencies disable the reverse DNS lookups option.

   - **Kerberos Realm:** Type the Kerberos domain in upper case.
   - **Kerberos Server Hostname:** Type the fully qualified domain name of the Kerberos realm.

   **NOTE:** The Kerberos Server Hostname might be the same as the Kerberos Realm if a Domain Name Service (DNS) is available and configured correctly. If a DNS is not available, use the IP address of the Kerberos Server.

   - **Kerberos Server Port:** The default port is 88.
NOTE: The default port might be different in different network environments. Contact your IT administrator to determine the appropriate port.

b. In the Accessing the LDAP Server section, complete the following information to access the LDAP server.
   i. Select Kerberos or Kerberos over SSL from the LDAP Server Bind Method drop-down box.
   ii. In the Credentials section, make sure that the Use Device User’s Credentials option is selected.
   iii. In the LDAP Server text box, type the server hostname.
       The LDAP Server is usually the same as the Kerberos Server in the Windows Active Directory Environment.
   iv. In the Port text box, type the port used by the LDAP protocol to communicate with the LDAP server.
       The port number is usually 389 or 636 or 3268 or 3269.

c. In the Searching the LDAP Database section, type the Search Root.
   The Search Root is the distinguished name of the entry in the LDAP directory to search for addresses.

d. Click PKINIT Settings.

Figure 3-3 Kerberos Authentication setting

5. On the PKINIT Settings page, install the required certificates.

   a. In the Using PKINIT Authentication (Smart Card Authentication Only) section, click Edit.
b. On the **Certificates** page, click **Browse**, locate the certificate, click **Import**, and then click **Back**. Click **Apply** on the **PKINIT Settings** page.
Configure validation of the certificates

**NOTE:** Before configuring the certificate, make sure that your site uses Kerberos over SSL to install the Root CA Certificate.

Follow these steps to install certificates on the Certificates page of the HP Embedded Web Server (EWS).

1. Open a Web browser.
   
   For instructions, see Access the HP Embedded Web Server (EWS) on page 5.

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

3. On the left navigation pane, select Authorization.

4. Select the Certificates tab, and then in the CA Certificate section click Configure.

5. In the Certificate Options page, make sure that the Install CA Certificate option is enabled, and then click Next.

6. In the Install CA certificates page, complete the following steps to install the certificate:
   
   a. Click Browse
b. Select the Base-64 encoded certificate file, and then click **Finish**.

**NOTE:** This certificate is used for Kerberos Root CA

c. Make sure that the certificate is installed.

If the certificate is not correctly installed, an error message displays indicating the required missing certificate.

**Figure 3-6** Authentication Failed

![Authentication Failed error message](image)
Configure authentication using the HP Smartcard reader

Follow these steps to configure the settings for the HP Smartcard reader:

1. Open a Web browser.
   For instructions, see *Access the HP Embedded Web Server (EWS) on page 5*

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

3. On the left navigation pane, select **Authentication Manager**.

4. On the **Device Functions** section, select “US Govt Smartcard v2.11” or newer in the **Sign In Method** column.

5. Click **Apply**.

**Figure 3-7 Authentication Manager**

![Authentication Manager](image-url)
Configure E-mail settings

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

- E-mail settings
- Address Book settings
- Configure Send to Folder settings

E-mail settings

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

1. Open a Web browser.
   For instructions, see Access the HP Embedded Web Server (EWS) on page 5.
2. On the top navigation tabs, select the Digital Sending tab.
3. On the left navigation pane, select E-mail Settings.
4. In the SMTP Gateway Settings section, type the SMTP gateway in the Device's SMTP Gateway.
5. In the Default “From” Address, make sure that an email address of the authenticated user displays in the E-mail address text box.
6. Click Advanced.

Figure 3-8 E-mail Settings: SMTP Gateway Settings
7. On the Advanced E-mail Settings page, follow these steps to configure the S/MIME Settings (Signed/Encrypted E-mail):
   a. In the Digital Signature drop-down list, select Sign Message.
   b. In the Hashing Algorithm drop-down list, select SHA-1.
   c. In the Encryption drop-down list, make sure that the Do Not Encrypt Message is selected.
   d. In the Encryption Algorithm drop-down list, select the appropriate algorithm for your environment.
   e. Click OK.

**Figure 3-9 Advanced E-mail Settings**

**Address Book settings**

Use the following steps to configure the Address Book settings.

1. Open a Web browser.
   For instructions, see Access the HP Embedded Web Server (EWS) on page 5
2. On the top navigation tabs, select the Digital Sending tab.
3. On the left navigation pane, select LDAP Settings.
4. Select the Allow Device to directly access an LDAP Address Book check box.
5. In the Accessing the LDAP Server, complete the following steps:
   a. In the LDAP Server Bind Method drop-down list, select Kerberos over SSL.
   b. In the Credentials section, make sure that the Use Device’s User’s Credentials is selected.
   c. In the LDAP Server text box, type the Kerberos server used in the Windows Active Directory Environment.
d. In the **Port** text box, type the Port number.

![Figure 3-10 Address Settings: Accessing LDAP server](image)

6. In the **Searching the Database** section, type the search root in the **Search Root** text box.

   **NOTE:** If required, type specific attributes, or use the default attributes displayed on the page.

7. Click **Apply**.

**Configure Send to Folder settings**

Use the following steps to configure the **Send to Folder Settings**.

- **Set up the Send to Folder settings**
- **Create a Home Directory**
- **Create Shared folders**

**Set up the Send to Folder settings**

Use the following steps to set up **Send to Folder Settings** in the EWS.

1. Open a Web browser.

   For instructions, see [Access the HP Embedded Web Server (EWS) on page 5](#).

2. On the top navigation tabs, select the **Digital Sending** tab.

3. On the left navigation pane, select **Send to Folder Settings**.
4. Select the **Enable Send to Folder** check box.

5. In the **Send to Folder Network Settings** section complete the following steps:
   a. In the **Authentication Setting** drop-down list, select **Kerberos**.
   b. Click **Apply**.

---

**Create a Home Directory**

Follow these steps to create a Home Directory

1. Open a Web browser.
   For instructions, see [Access the HP Embedded Web Server (EWS) on page 5](#)

2. On the top navigation tabs, select the **Digital Sending** tab.

3. On the left navigation pane, select **Send to Folder Settings**.

4. Select the **Enable Send to Folder** check box.

5. In the **Quick Sets** section, click **Add**.

6. On the **Add Quick Set** page, in **Step 1: Specify Quick Set settings**, select the **Create a personal Quick Access folder** check box.

**NOTE:** Step 2 will display the **Home Directory** attribute.
7. Click OK.

**Figure 3-11 Add Quick Set**

Create Shared folders

Follow these steps to create shared folders:

1. Open a Web browser.
   
   For instructions, see Access the HP Embedded Web Server (EWS) on page 5

2. On the top navigation tabs, select the Digital Sending tab.

3. On the left navigation pane, select Send to Folder Settings.

4. Select the following check boxes:
   
   - Enable Send to Folder
   
   - Enable Scan setup Wizard

5. In the Send to Folder Network Settings section, select Kerberos from the Authentication Setting drop-down list.

6. In the Quick Sets section, click Add.

7. In the Add Quick Set page, complete the following steps:
   
   a. In Step 1: Specify Quick Set settings, type the alias name.
b. In **Step 2: Add or remove entry from Quick Set**, click **Add Folder**.

![Add Folder](image1)

**Figure 3-12 Add Folder**

- **Step 2: Add or remove entry from Quick Set.**

  - Click **Add Folder**.

  - On the **Add Shared Folder** page, complete the following steps:
    
    1. Select the **Shared Folder** option.
    
    2. In the **Step 3: Specify the access credentials** section, select **Use Device User’s Credentials** from the **Access Credentials** drop-down list.

8. Click **OK**

![Shared Folder settings](image2)

**Figure 3-13 Shared Folder settings**
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- OpenSC
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<thead>
<tr>
<th>HP Product</th>
<th>Duration of Limited Warranty</th>
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<tbody>
<tr>
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<td>1 Year</td>
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