

Symantec™ Managed PKI®

Integration Guide for Juniper® SA VPN

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Integrating Managed PKI Certificates with Juniper® VPN

The enterprise workplace has moved beyond the walls of the organization into a global, mobile environment. To maintain productivity, your end users need to access company resources using a mobile platform. However, you need to be able to trust the end users accessing your systems, and the mobile device they use, no matter if you have provided their devices or if they are using their own mobile devices.

Symantec Managed PKI's digital certificates can provide that trust without the burden of user names, passwords, or additional hardware tokens. Managed PKI is scalable from a few to thousands of devices, and its in-the-cloud solution provides quick deployment and easy management while also offering Symantec's industry leading security that is unmatched by in-house PKI solutions.

Symantec's Managed PKI issues certificates that can be used to authenticate users for secure communications with company resources, such as VPNs and web sites.

This document describes how to integrate Managed PKI 8.7 or higher certificates with the Juniper® Secure Access (SA) VPN to authenticate users to protected resources, and to secure communications between them.

Partner Information

These procedures have been tested on the following platforms:

Table 1-1 Partner Information

Partner Name	Juniper® Networks
Product Name	Juniper® Secure Access (SA) Series VPN
Version and Platform	SA 2000 Junos OS Release 7.1 and Junos Pulse 4.2.1

How the Juniper VPN Works

The following diagram describes how the Managed PKI certificates integrate with Juniper SA Series VPN to provide secure authentication.

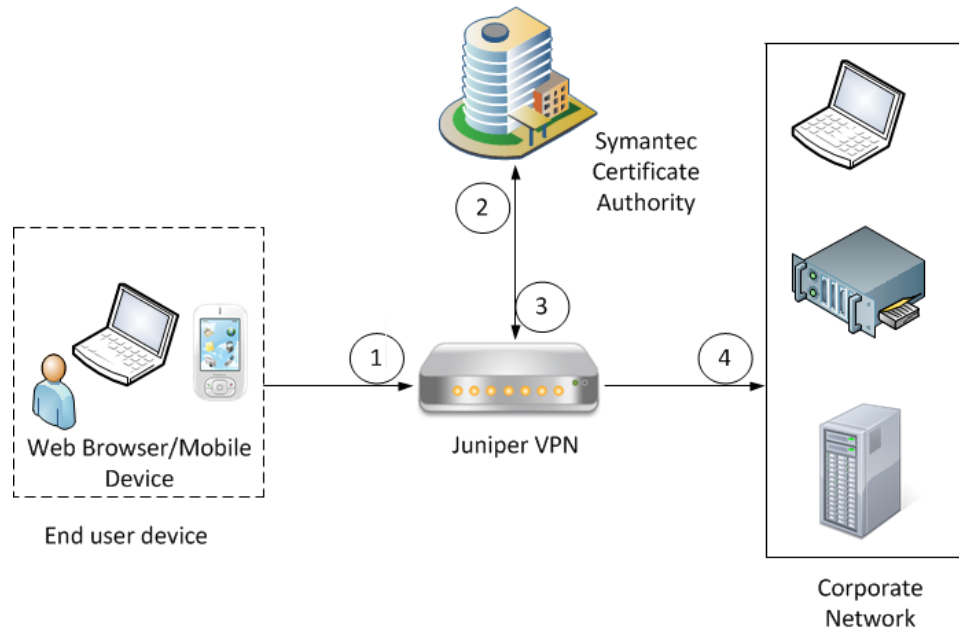


Figure 1-1 Authenticating Juniper VPN with a Managed PKI certificate

- 1 The end-user device accesses the corporate network through the Juniper VPN.
- 2 Depending upon how the VPN is configured, it attempts to obtain the status of the certificate:
 - If Online Certificate Status Protocol (OCSP) is configured, the VPN communicates to the Symantec CA to obtain the real-time status of the certificate.
 - If Certificate Revocation List (CRL) is configured, the VPN communicates to the Symantec CA to obtain the status of the certificate based on the most recent certificate revocation list. CRLs are updated on a regular basis.
- 3 When the Juniper VPN receives the certificate status, it authenticates the end-user's certificate based on the CAs it has been configured to trust.
- 4 Based on this authentication, the end user device is allowed access to the corporate network, and the Juniper VPN secures communication with the corporate network.

Integration Workflow

The following diagram describes the general steps required to set up the Symantec Managed PKI account and integrate Managed PKI certificates with Juniper VPN.

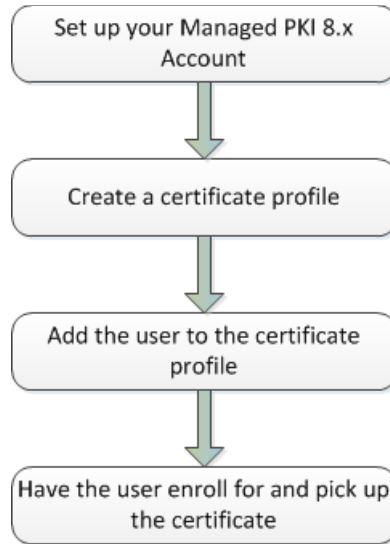


Figure 1-2 Managed PKI Integration Workflow

Task 1. Set up your Managed PKI 8.x account

Contact your Symantec Sales representative to set up your Managed PKI account. Your representative will provide you with the necessary information to begin defining your account and certificate profile.

You will need to complete and return the following documents. As needed, your Symantec representative will assist you with obtaining and completing these forms.

- Master Service Agreement
- Issuing Authority Naming Application (also known as the CA Naming Document)
- Symantec Services Order Form
- Purchase Order, credit card, or reference number

You will need to obtain your initial Managed PKI administrator ID, which is your credential to access your Managed PKI account. Your Symantec representative will assist you with obtaining your Managed PKI administrator ID. You will use your Managed PKI administrator ID to log into PKI Manager, configure your Managed PKI account, and obtain your RA certificate. For more information on configuring Managed PKI, refer to PKI Manager and its online help.

Task 2. Create a certificate profile

To obtain a certificate for the router, you first create the certificate profile that will define the certificates you will issue to your end users. Complete the following steps to create your Managed PKI Client Authentication certificate profile:

- 1 Log into Managed PKI's PKI Manager using your administrator certificate. You will be prompted for your PKI Client PIN.
- 2 On PKI Manager, click **Manage certificate profiles** or select **Manage certificate profiles** from the Tasks menu on the bottom navigation bar.

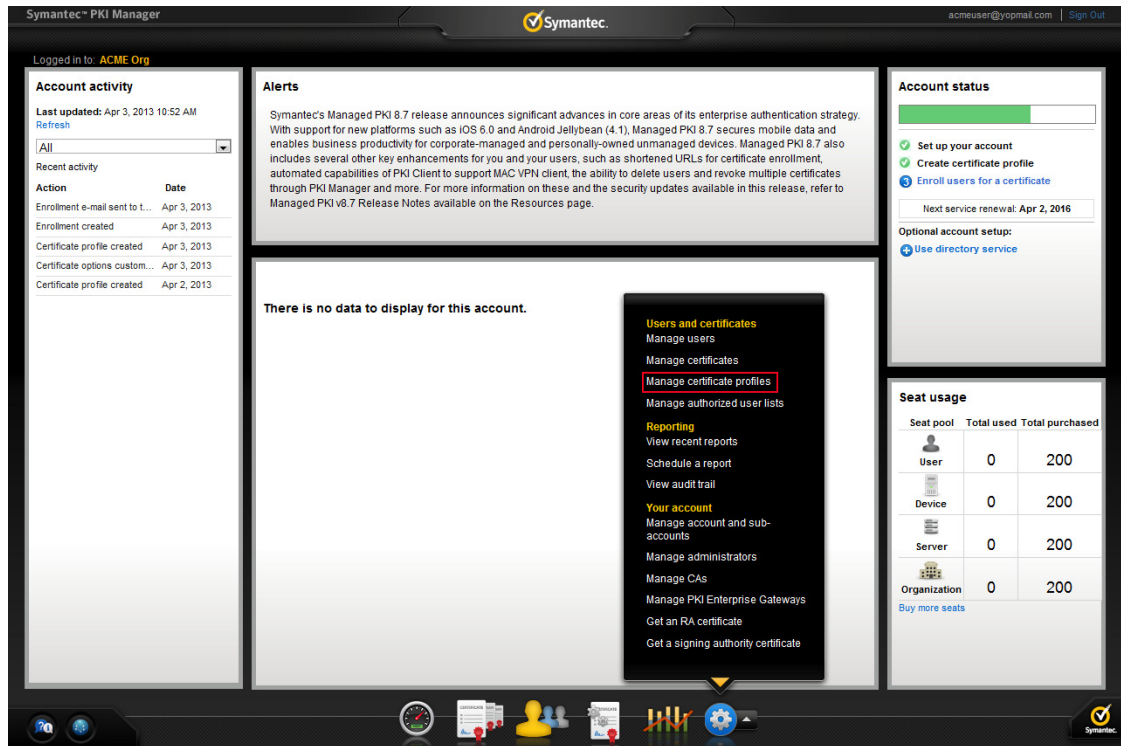


Figure 1-3 Manage Certificate Profile

- 3 Click **Add Certificate profiles** from the top of the resulting Manage certificate profiles page. The Create profile page appears.
- 4 Select whether these certificates will be issued in Test mode or Production Mode, and click **Continue**. The Create profile page appears.
- 5 Select **Client Authentication** as the certificate template and click **Continue**. The Customize certificate options page appears.
- 6 Set the certificate options that suits your needs, but the following configurations are required:
 - Enter a profile name.

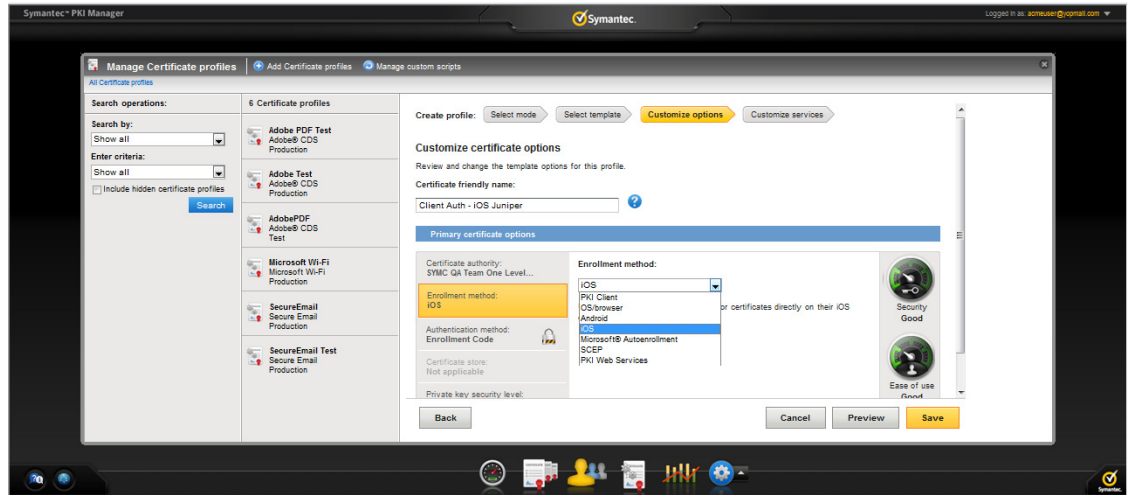


Figure 1-4 Client Authentication Certificate options

- Select the appropriate Enrollment method from the following:
 - Select **iOS** if your user will enroll for certificates using iOS devices.
 - Select **OS/browser** if your user will enroll for certificates using desktop or laptop.
 - Select **PKI Client** if your user will enroll for certificates using PKI Client.

Click **Advanced options** to view certificate options and define any additional attributes you may need.

7 Click **Save**.

On the confirmation page, you can view the attribute used for the seat ID, a mandatory attribute that authenticates the user for third party configurations or during the enrollment process. This is typically the user's email address.

You can also customize the profile further, such as adding custom scripts, and customizing languages or email notifications on this page.

8 For certificate profiles using the iOS Enrollment method only, click **Edit** from **Provide certificate instructions** under Manage this profile. Table 1-2 describes the values that you can enter to configure VPN settings for this profile:

Table 1-2 VPN Settings for iOS Enrollment Method

Field Name	Value
Connection Type	Juniper (VPN)
Connection name	Enter a unique name as a connection name.
Server Host/IP	The Fully Qualified Domain Name of the VPN. For example, https://vpn.<company>.com
Account	Enter a valid server name that hosts the Juniper VPN.
Realm	This value must match the realm name you will use for user authentication on the VPN. Refer to "Creating User Realm for User Authentication" on page 10 for details.
Role	This value must match the role name you will use for user authentication on the VPN. Refer to "Configuring User Roles on the VPN device" on page 11 for details.
Enable VPN On Demand	Select this option for networks that use certificate-based authentication.

Task 3. Add the user to the certificate profile

You must add the user to the certificate profile in PKI Manager before the user can enroll for and pick up a certificate.

- 1 In PKI Manager, click **Manage users**, or select **Manage users** from the Tasks menu on the bottom navigation bar.
- 2 Click **Add Users** from the top of the resulting Manage users page.
- 3 Enter the seat ID (typically the end user’s email address) and click **Continue**.
 - Enroll for a single user by entering end user’s email address.
 - Enroll for multiple users at one time by uploading a comma-separated value (csv) file with your user data. You can skip step 4 if you are enrolling multiple users using a .csv file.
- 4 Enter the First Name, Last Name, and select the **I want to enroll this user for a certificate** check box and click **Continue**.
- 5 Select the certificate profile you created in Task 2, **“Create a certificate profile”** on page 3 and click **Continue**.
- 6 Enter the **Other Name (UPN)**, **Email**, and select the **Have the system send the enrollment email to the user** check box (optional) and click **Continue**.

The enrollment link is displayed to the administrator along with the enrollment code required for authentication. Symantec recommends that you send the enrollment code separately from the enrollment link, and that you do not send the enrollment code by email.

Note: The enrollment link will not be displayed if you have selected **Have the system send the enrollment email to the user** in step 6.

Task 4. Have the user enroll for and pick up the certificate

Once added to the certificate profile, the user must enroll for and pick up the certificate. The following are the steps for picking up certificates for different enrollment methods.

Table 1-3 Steps for picking up certificates

Enrollment Method	How Certificates are Picked Up
iOS	<ol style="list-style-type: none"> 1 Download the Junos Pulse application from the App StoreSM. 2 Open a browser on the iOS device. 3 Paste the enrollment link from the enrollment email into the browser. 4 Enter the User Id and enrollment code (provided by the administrator) and tap Continue. The Identity Confirmed page appears. 5 Tap Continue. The Install Profile page appears. 6 Tap Install, then tap Install Now from the pop-up window. 7 Enter your device passcode and click Done. 8 To verify the configuration settings, click Configuration.

Table 1-3 Steps for picking up certificates

Enrollment Method	How Certificates are Picked Up
OS/browser	<p>Supported Browsers:</p> <ul style="list-style-type: none"> ■ For Windows XP or Windows 7 - Internet Explorer or Firefox ■ For Apple OS X - Safari or Firefox <p>Refer the Managed PKI documentation for the exact version numbers.</p> <ol style="list-style-type: none"> 1 Click the enrollment link in the email or paste it into your browser. 2 Enter the email address used for enrollment and click Continue. 3 Enter the enrollment code provided by the administrator or received in an email and click Continue. <p>This step authenticates the end user to ensure the correct user is picking the certificate.</p> <ol style="list-style-type: none"> 4 Click Continue. 5 Click Install certificate to install the certificate.
PKI Client	<p>If PKI Client is not already installed on the user's machine, the user will be prompted to install it during enrollment.</p> <ol style="list-style-type: none"> 1 Click the enrollment link in the email or paste it into your browser. 2 Enter the email address used for enrollment and click Continue. 3 Enter the enrollment code provided by the administrator or received in an email and click Continue. <p>This step authenticates the end user to ensure the correct user is picking the certificate.</p> <ol style="list-style-type: none"> 4 Click Continue. 5 Click Install Certificate. 6 Enter the PIN for the certificate store (PKI Client) when prompted and click OK.

Renewing Certificates

You must renew the certificate before it expires (typically a year after initially enrolling for it). The following are the steps for renewing certificates for different enrollment methods.

Table 1-4 Steps for renewing certificates

Enrollment Method	How Certificates are Renewed
iOS	If renewal notifications are enabled, the user receives an email containing a renewal link at some period before the certificate expires. Clicking the link prompts the user to select a credential to authenticate the renewal. The user is then taken to the PKI Certificate Services page and the renewed certificate is installed.
OS/browser	If renewal notifications are enabled, the user receives an email containing a renewal link at some period before the certificate expires. Clicking the link takes the user to the PKI Certificate Services page for certificate renewal, where the user follows a renewal process similar to the enrollment process.
PKI Client	PKI Client prompts the user to renew for certificates that are PIN-protected. For certificates that are not PIN-protected, PKI Client performs the renewal and installs the new certificate transparently.

Configuring Juniper SA VPN

This chapter discusses how to configure the Juniper SA VPN to use Managed PKI certificates for authentication. For more information, refer to the Juniper SA VPN documentation for details.

You must complete the following procedures to complete the configuration of Juniper VPN:

- [“Accessing Juniper VPN”](#) on page 9
- [“Configuring the Authentication Server”](#) on page 9
- [“Creating User Realm for User Authentication”](#) on page 10
- [“Configuring User Roles on the VPN device”](#) on page 11
- [“Configure the User Realm for User Authentication”](#) on page 11
- [“Configuring Sign-In Page for the Network Connect Client”](#) on page 12
- [“Configure Sign-In Policies for the Network Connect Client”](#) on page 13

Accessing Juniper VPN

- 1 Click the Juniper VPN admin URL.
- 2 Enter the user name and password.
- 3 Click **Submit**. The Junos Pulse Secure Access Service page is displayed.

Task 1. Configuring the Authentication Server

- 1 Click **Authentication** → **Auth Servers**. The Authentication Servers page appears.
- 2 In the **New** drop-down list, set the server type to **Certificate Server**, and click **New Server**. The New Certificate Server page appears.

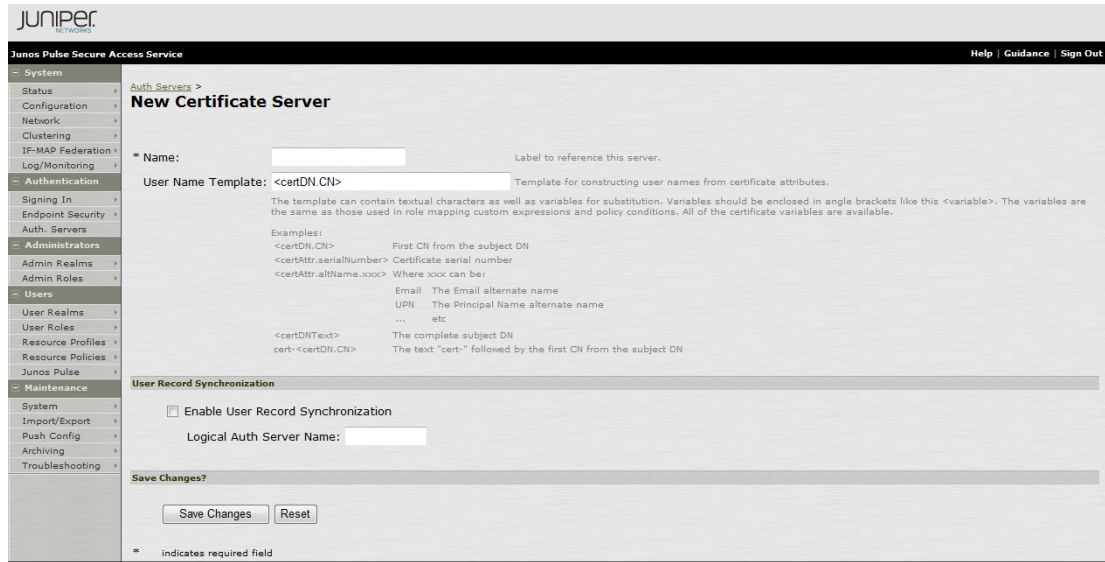


Figure 2-1 New Certificate Server page

- 3 Enter a unique name in the **Name** field.
- 4 Enter `certDN.CN` in the **User Name Template** field.
- 5 Click **Save Changes**.

Task 2. Creating User Realm for User Authentication

- 1 Click **Users** → **User Realms** → **New User Realm**. The New Authentication Realm page appears.

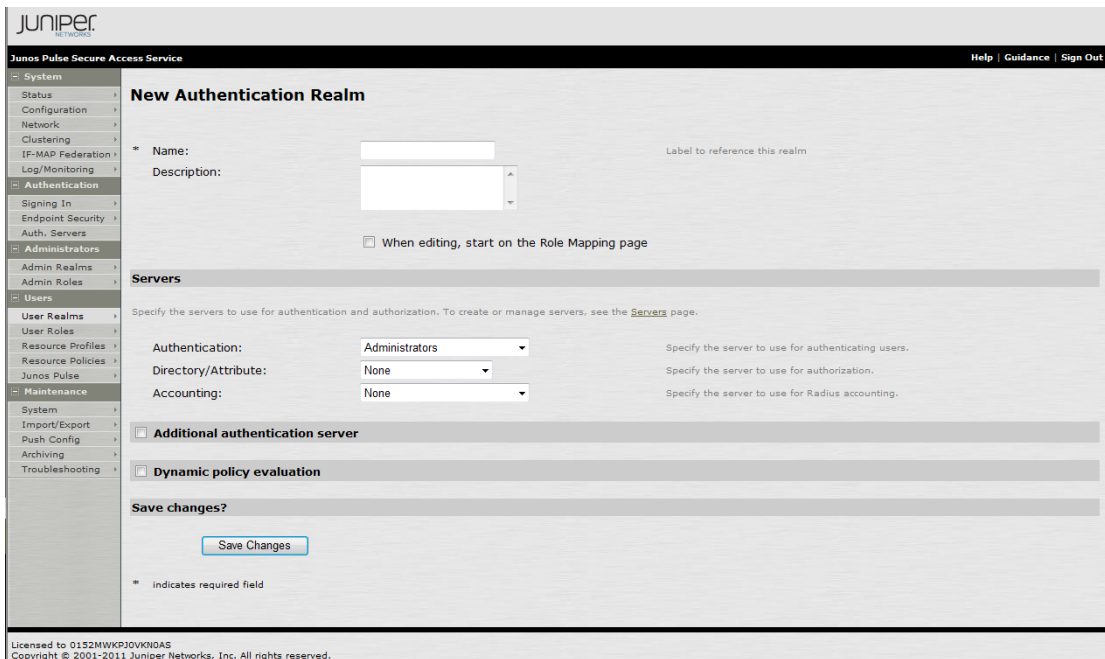


Figure 2-2 New Authentication Realm page

- 2 Enter a unique value in the **Name** field.
- 3 Enter a description for the name in the **Description** field.
- 4 In the **Authentication** drop-down list, select the server you created in “[Configuring the Authentication Server](#)” on page 9.
 Use the default configuration settings for other fields.
- 5 Click **Save Changes**.

Task 3. Configuring User Roles on the VPN device

- 1 Click **Users → User Roles → New User Role**. The New Role page appears.

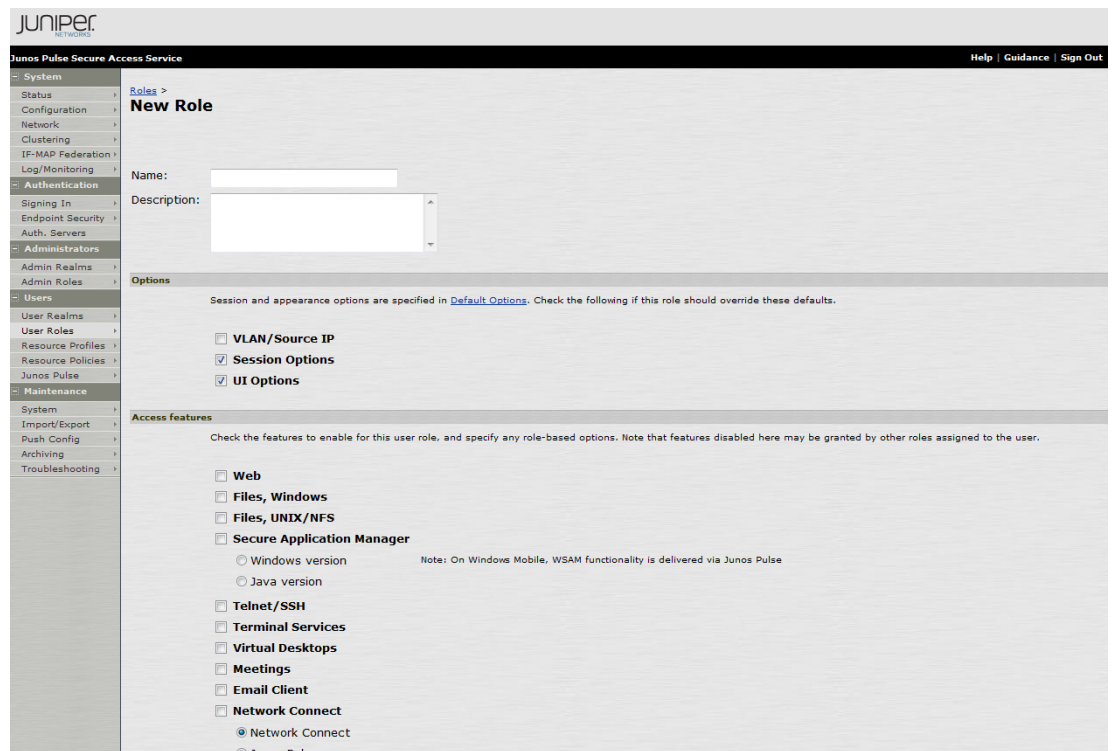


Figure 2-3 New Role page

- 2 Enter a unique name in the **Name** field.
- 3 Enter a description for the name in the **Description** field.
- 4 Select the appropriate options and access features for the role you are creating. You must select at least one access feature for a role. Refer to the Juniper SA VPN documentation for details.
- 5 Click **Save Changes**.

Task 4. Configure the User Realm for User Authentication

- 1 Click **Users → User Realms → New User Realm**. The New Authentication Realm page appears. You can select an existing user realm or create a new user realm. For information on creating user realm, see “[Creating User Realm for User Authentication](#)” on page 10.
- 2 Click the **Authentication Policy** tab.
 - a Click the **Certificate** link.

- b Click the **Only allow users with a client-side certificate signed by Trusted Client CAs to sign in** option.
- c Click the **Trusted Client CA** link. The Configuration page appears.
- d Click **Import CA Certificate** on the Configuration page.

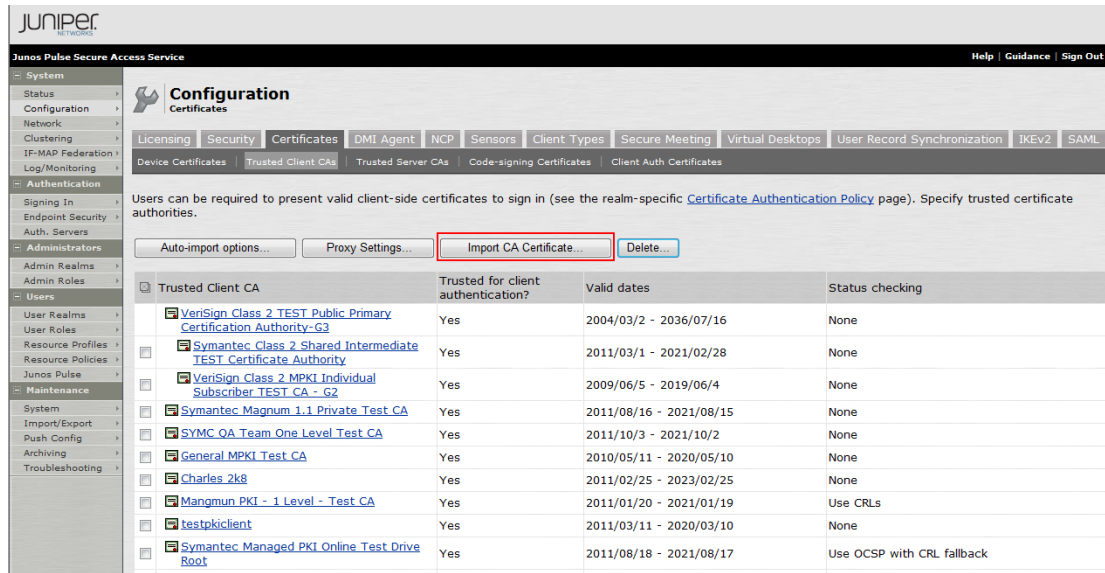


Figure 2-4 Import CA Certificate

- e Click **Browse** to import the root and the intermediate CA certificates of the end user certificates downloaded from PKI Manager. These certificates must be installed on the VPN machine so that VPN can trust the users' certificate.
 - f Click **Import Certificate**.
 - g Choose **Client certificate status checking**.
 - h Click **Save Changes**.
- 3 Click the **Role Mapping** tab to allow end user to sign-in to VPN and get the required access.
 - a Click **New Rule**.
 - b Select a rule based on the user name.
 - c Enter the rule name in the **Name** field.
 - d Provide a rule for the user name.
 - e Assign the role created in [“Configuring User Roles on the VPN device”](#) on page 11.
 - f Click **Save Changes**.

Task 5. Configuring Sign-In Page for the Network Connect Client

- 1 Click **Authentication** → **Signing In** → **Sign-In Pages**. The Signing In page appears.
- 2 Click **New Page**. The New Sign-In Page appears.

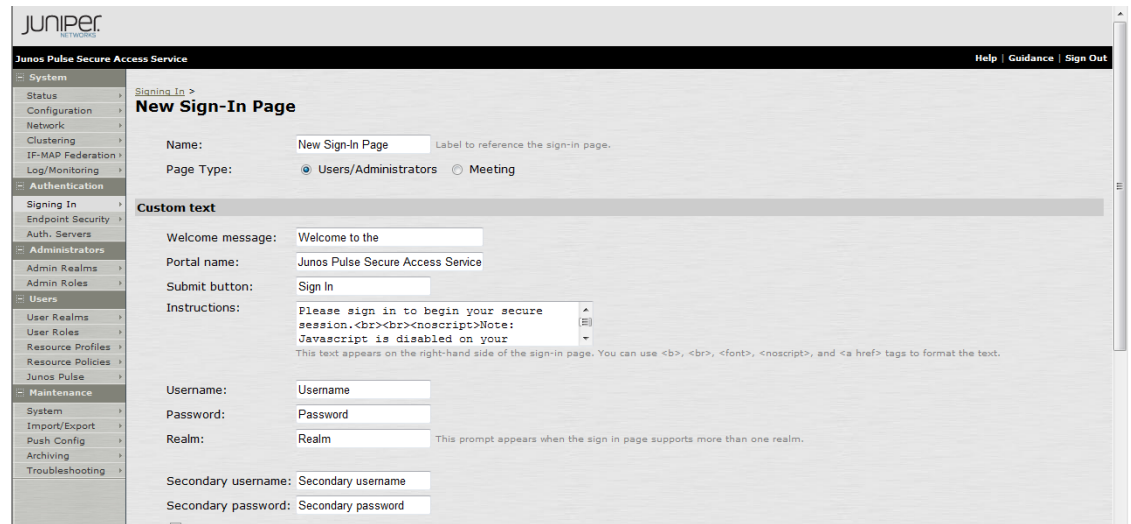


Figure 2-5 New Sign-in page

- 3 Enter a name in the **Name** field and update the relevant fields.
- 4 Click **Save Changes**.

Task 6. Configure Sign-In Policies for the Network Connect Client

This is standard configuration step in VPN to map between Realm and Sign-in policies. This mandatory configuration is required for successful sign-in.

- 1 Click **Authentication** → **Signing In** → **Sign-In Policies**. The Signing In page appears.
- 2 Select the user URLs created in “[Configure the User Realm for User Authentication](#)” on page 11, where you want to add the Realm and configure it as needed.

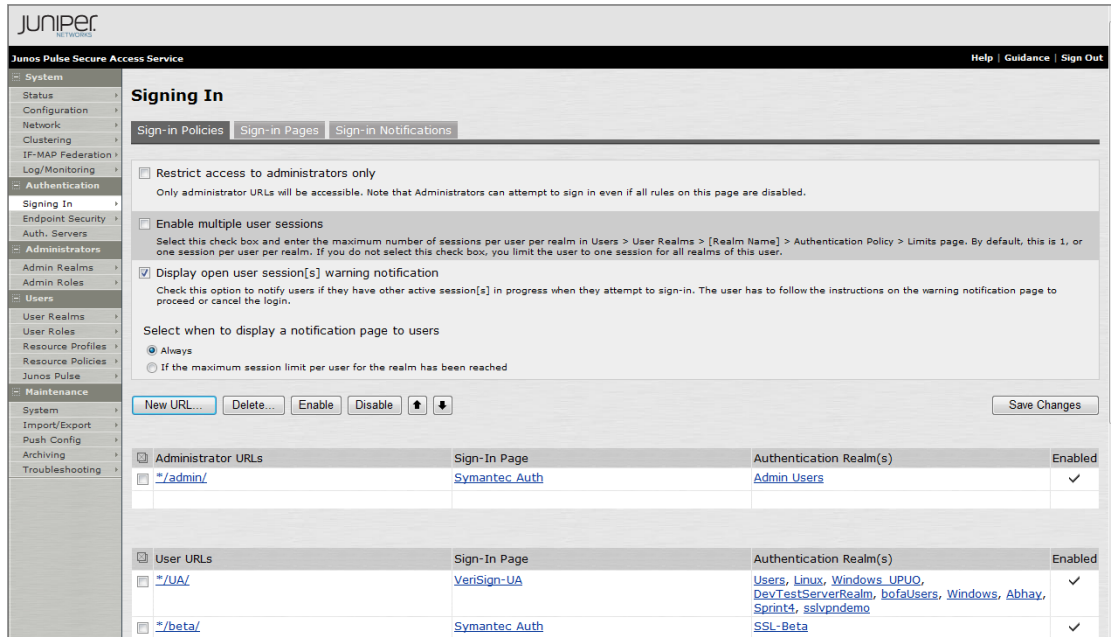


Figure 2-6 Signing In Policy page

- 3 Set the page created in the previous step as the Sign-in page from the **Sign-in page** drop-down list.
- 4 To create a new Sign-in Policy, click **New URL**. The New Sign-In Policy page appears.

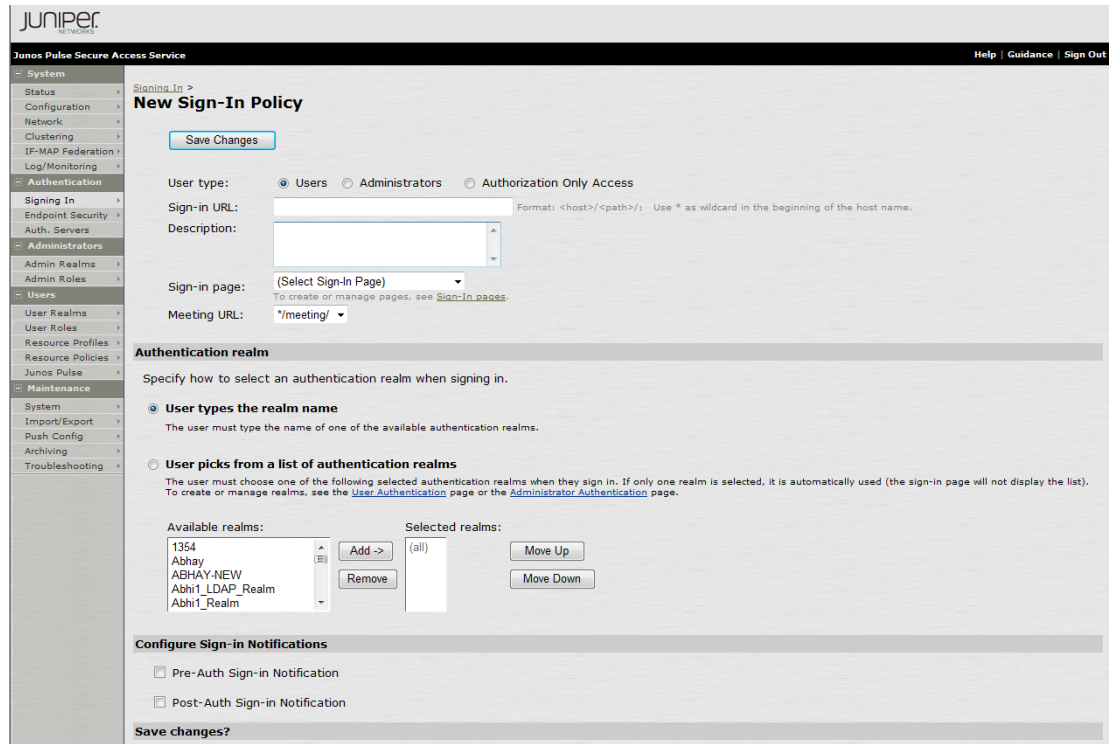


Figure 2-7 New Sign-In Policy page

- 5 Enter the Sign-in URL.
- 6 Select the **Sign-in page** that you created in the previous step and select the appropriate **Authentication realm** options.
- 7 Click **Save Changes**.

Specify CDP Options

You can enable and periodically download Certificate Revocation Lists (CRLs) from the CRL Distribution Points (CDPs) to verify the ongoing validity of client-side certificates. For instructions to verify client-side certificates, refer to Juniper documentation available at https://www.juniper.net/techpubs/en_US/sa/topics/task/operational/secure-access-certificates-distribution-points-specifying.html.

Connecting to VPN

The following are various scenarios through which an end user can connect their devices to the Juniper VPN to securely access company resources.

Connecting an iOS device to VPN

- 1 Open the **Junos Pulse Application** on the iOS device.
- 2 Tap **Connect**. The status is displayed as connected and VPN is **On**.



Figure 2-8 Junos Pulse Application

Connecting Desktop/Laptop to VPN

- 1 Open the browser where the certificate is installed.
- 2 Access the VPN URL.
- 3 Select the certificate and click **OK**.
- 4 Select the Client Application Session and click **Start**.

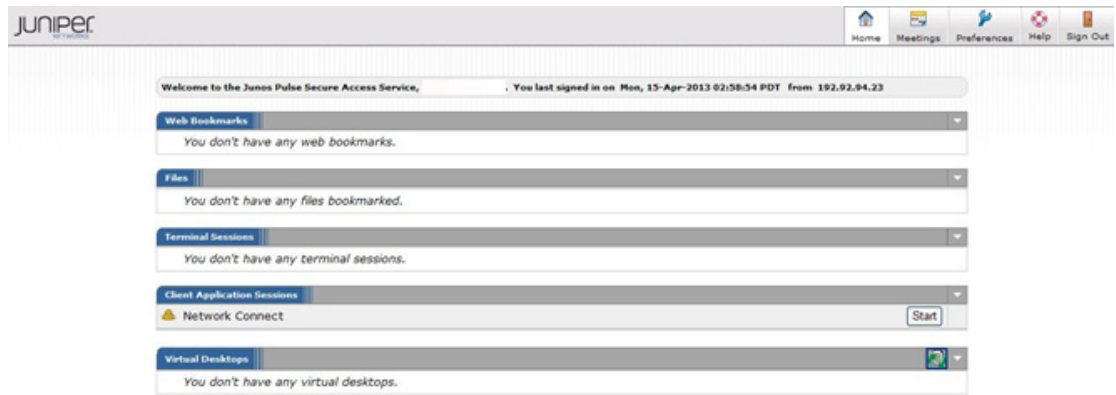


Figure 2-9 Junos Pulse Secure Access Service for Desktop/Laptop

Connecting Desktop/Laptop to VPN (PKI Client)

- 1 Open the browser where the certificate is installed.
- 2 Access the VPN URL.
- 3 Select the certificate and click **OK**.
- 4 Enter the PIN for PKI Client when prompted, and click **OK**.
- 5 Select the Client Application Session and click **Start**.

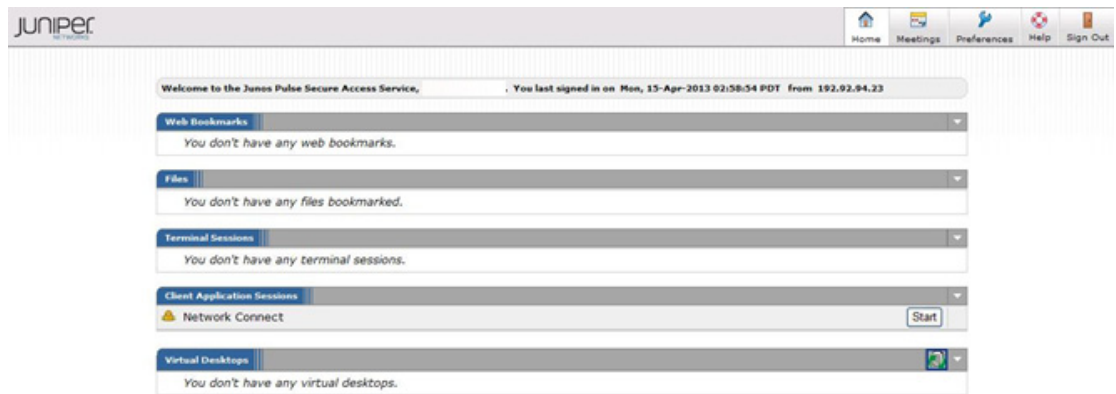


Figure 2-10 Junos Pulse Secure Access Service for PKI Client