JUNIPER NETWORKS | Engineering Simplicity

Quick Start

Secure ZTP

IN THIS GUIDE

- Step 1: Begin | 1
- Step 2: Up and Running | 2
- Step 3: Keep Going | 5

Step 1: Begin

IN THIS SECTION

- Meet Secure ZTP | 1

In this guide, we provide a simple, three-step path to onboard your Juniper devices with Secure ZTP. Since Secure ZTP is highly automated, all you need to do is generate a voucher certificate and then activate it through the Juniper Agile Licensing (JAL) Portal. We'll show you how to do that here.

Meet Secure ZTP

Secure ZTP makes it super easy to set up and configure new Juniper Networks devices in your network with little manual work. It takes care of updating the Junos OS device software and setting it up, so you don't have to worry about connecting to a console. With Secure ZTP, you can conveniently and securely bring your Juniper networking devices

that are in the factory-default state into your network from one central location, keeping unauthorized entities from taking control of them.

To see which platforms support Secure ZTP, go to Feature Explorer. In the **Explore Features** section of the Feature Explorer page, select **All Features**. In the **Features Grouped by Feature Family** box, select Secure ZTP. You can also type the name of the feature in the **Search for Features** edit box. See the Release History Table at the end of this topic for more details of how Secure ZTP support has expanded.

Step 2: Up and Running

IN THIS SECTION

- Generate a Voucher Certificate | 2
- Generate a Voucher Certificate for One Device | 2
- Generate Voucher Certificates for Multiple Devices | 3
- Workflow for Onboarding Devices with Secure ZTP | 4

Generate a Voucher Certificate

To onboard your device, you'll need to generate a voucher certificate through the Juniper Agile Licensing (JAL) portal. This voucher certificate validates that a device with a serial number belongs to the correct owner. You can generate a voucher certificate for one device or for multiple devices.

Generate a Voucher Certificate for One Device

Here's how to generate a voucher certificate for your network device using the JAL Portal.

1. Open a Web browser and log in to JAL Portal.
2. Click My Entitlements, find the S-ALL-S-DV-P SKU, and click Activate.
3. On the Product Activation page, fill in the following details:
   a. Select the Software Version.
   b. Enter the Device Serial Number. This is a software serial number on the fulfillment document that was emailed to you after you purchased your Juniper software license. To find the device serial number, see Locating my Product Serial Number or Software Support Reference Number (SSRN).
   c. Select the Voucher Certificate expiration date.

d. Enter the email address that will receive the confirmation email.

e. Upload the Pinned Domain Certificate or select the previously uploaded Pinned Domain. To find the pinned domain certificate, see Generate a Root CA Certificate with CLI

f. Read the agreement and select I Agree with Terms and Conditions.

g. Click **Activate**.

4. On the Activation Complete page, download or email the activation code using the Download and E-Mail options. Click **I'm Done** to activate the SKU.

   That's it! You have successfully onboarded your device. You can see the activated SKU in the My Activations section.

Generate Voucher Certificates for Multiple Devices

Here's how to generate voucher certificates for multiple network devices using the JAL Portal.

1. Open a Web browser and log in to JAL Portal.
2. Click **Bulk Tool**, and then do the following:
   a. Click **Bulk License Activation Tool** in the upper right corner.

   b. Click **Download Excel File** on the Bulk Voucher Certificate Entitlement Activation page to download the voucher certificate template file.
3. Open the voucher certificate template file and enter the activation code, serial number, software version, and expiration date.
   a. To find the activation code, navigate to My Entitlements and find the S-ALL-S-DV-P SKU.

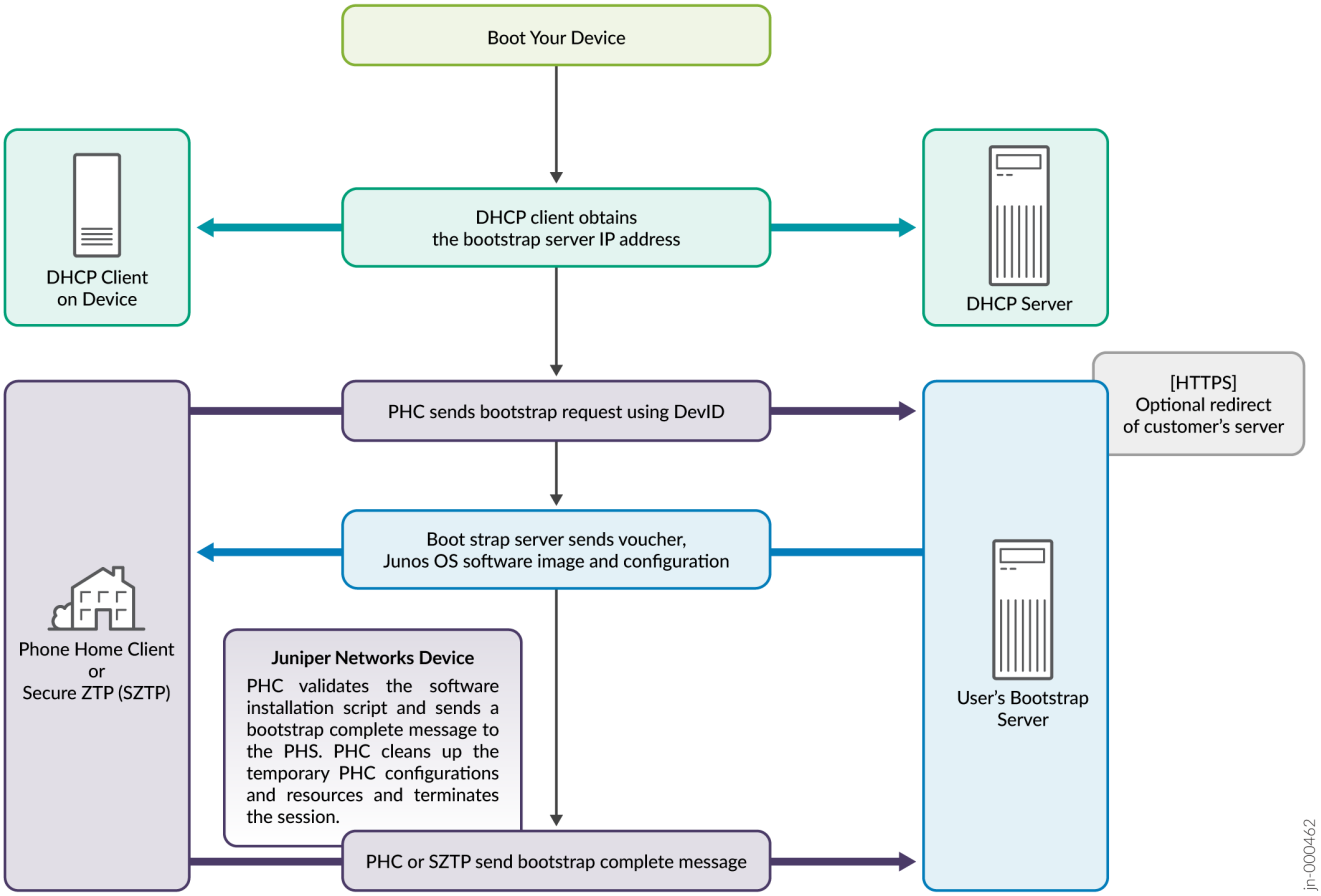
   b. Enter the Device Serial Number. This is a software serial number that was emailed to you when you purchased your Juniper software license. To find the device serial number, see Locating my Product Serial Number or Software Support Reference Number (SSRN)

   c. Choose a Date up to when you want the Secure ZTP to be active.
4. Save the voucher certificate template.
5. Upload the saved voucher certificate template file.
6. Upload the Pinned Domain Certificate or select the previously uploaded Pinned Domain. To find the pinned domain certificate, see Generate a Root CA Certificate with CLI .
7. Enter the email address you want to receive the confirmation email.
8. Read the agreement and select **I Agree with Terms and Conditions** .
9. Click **Upload File**.
10. After the voucher certificate template file is uploaded, you'll receive two email messages:
    - The first email notifies you that the SKUs have been submitted for activation.

    - The second email confirms that the SKUs are activated. The activation code is included in the attached file.
11. Your SKUs are now activated and are listed in the My Activations section.

Workflow for Onboarding Devices with Secure ZTP

Here's an overview of the steps for onboarding a factory-default device with Secure ZTP



1. Boot the device in a factory-default state.
2. Deploy your DHCP and DNS servers. Configure DCHP option 143 on your DHCP server so it can advertise the names of your redirect and bootstap servers.
3. Deploy your redirect and bootstrap servers.
4. Generate redirect and bootstrap information for each network device.
5. Use the redirect and bootstrap information that the redirect and bootstrap servers provide to provision your network devices
6. Acquire DevID trust anchors from Juniper Networks.
7. **Connect to DHCP:**
   - The DHCP client sends a request to the DHCP server to obtain the bootstrap server information.
   - The DHCP server sends the bootstrap server IP address and requested information.

8. **Connect to PHC:**

   - The phone-home client (PHC) on your device sends a bootstrap request to either the bootstrap server or DNS to obtain the IP address of the phone-home server. The PHC also requests the device's serial number and activation code of the server.
   - The bootstrap server responds and sends the IP address of the phone-home server as well as its owner certificate to the PHC.
   - If needed, the PHC requests for the Junos OS software image. The bootstrap server responds and sends the image and configuration to the PHC.

9. **Software Installation:**

   - Your network device reboots after the software image installation completes.
   - The PHC runs pre-configuration scripts, commits the configuration, runs post-configuration scripts, sends a bootstrap complete message to the bootstrap server, cleans up the PHC related configurations and resources, and terminates the session.

Step 3: Keep Going

IN THIS SECTION

- What's Next | 5
- General Information | 6
- Learn With Videos | 6

Congratulations! Now that you've successfully onboarded your network devices, here are some things you can do next:

What's Next

If you want to	Then
Download, activate, and manage your software licenses to unlock additional features for your Juniper Networks devices	See Activate Junos OS Licenses in the Juniper Licensing Guide

(Continued)

If you want to	Then
Configure essential user access and authentication features for your system	User Access and Authentication Administration Guide for Junos OS
Install and upgrade Junos OS and related software	Junos OS Software Installation and Upgrade Guide
See, automate, and protect your network with Juniper Security	Visit the Security Design Center

General Information

If you want to	Then
View documentation for the SZTP	See Secure Zero Touch Provisioning (SZTP)
Find more information about generating voucher certificates	See the Generate Voucher Certificate
See all documentation available for Junos OS	Visit Junos OS Documentation
Stay up-to-date on new and changed features; known and resolved issues	See Junos OS Release Notes
Reach out to us	Visit the Juniper Networks Support page

Learn With Videos

Our video library continues to grow! We've created many, many videos that demonstrate how to do everything from install your hardware to configure advanced Junos OS network features. Here are some great video and training resources that will help you expand your knowledge of Junos OS.

If you want to	Then
Get short and concise tips and instructions that provide quick answers, clarity, and insight into specific features and functions of Juniper technologies	See Learning with Juniper on Juniper Networks main YouTube page
View a list of the many free technical trainings we offer at Juniper	Visit the Getting Started page on the Juniper Learning Portal

Juniper Networks, the Juniper Networks logo, Juniper, and Junos are registered trademarks of Juniper Networks, Inc. in the United States and other countries. All other trademarks, service marks, registered marks, or registered service marks are the property of their respective owners. Juniper Networks assumes no responsibility for any inaccuracies in this document. Juniper Networks reserves the right to change, modify, transfer, or otherwise revise this publication without notice. Copyright © 2023 Juniper Networks, Inc. All rights reserved.