![Juniper Networks | Engineering Simplicity]

Quick Start

Onboard Cloud-Ready Devices with Paragon Automation (SaaS)

Begin

Meet Juniper Networks Cloud-Ready Devices

You can install and onboard Juniper Networks® Cloud-Ready devices using Paragon Automation. Paragon Automation supports devices from the ACX7000 line of routers, which are powered by the Junos OS Evolved cloud-optimized operating system. For more information about the devices that Paragon Automation supports, see Paragon Automation Supported Hardware.

Install the Device

Follow the instructions in the hardware documentation to unbox the device, mount it on a rack, and power on the device. For details about installing a device, see the device's Hardware Guide (on the **Routing** > **View More** section of the TechLibrary) or the Quick Start Guide.

Prerequisites

You must have the Installer role to use the field technician UI in Paragon Automation. Before you can onboard a device using the field technician UI in Paragon Automation, you'll need to ensure the following:

1. A Super User must:

    a. Create an account in Juniper Cloud and log in to Paragon Automation.

    b. Create an organization and a site to which the device needs to be onboarded.

    c. Add one or more users with the Network Admin role.

    d. Add users, who will onboard devices, with the Installer role.

    For more information, see Paragon Automation (SaaS) quick start guide.

2. A Super User or a Network Admin must:

    a. Create network resource pools, device and interface profiles, and a network implementation plan.

    b. Check if a firewall exists between Paragon Automation and the device. Configure the firewall to allow outbound access on TCP ports 443, 2200, 6800, and 32,767.

    c. Configure static routes on the device to reach the Internet:

    Run `user@device#set routing-options static route 0.0.0.0/0 next-hop` *Gateway-IP-address*

    d. Configure a DNS server on the device to resolve domain names or allow the device to access an external DNS server (for example, 8.8.8.8).

    e. Configure NTP server on the device

3. As a user with the Installer role, you'll need:

    a. A handheld device (for example, a smartphone) or a laptop with Internet connectivity, which you can use to access the field technician UI in Paragon Automation

    b. The link to access the field technician UI

    c. The credentials to log in to Juniper Cloud

    d. Name of the organization and the site where the device needs to be onboarded

Up and Running

Onboard a Device

Paragon Automation provides a field technician UI to view the list of devices and onboard them. You must be a user with the Installer role to onboard devices in Paragon Automation.

To onboard a device to your organization using Paragon Automation:

1. Power on the device.
2. Log in to Paragon Automation (https://manage.cloud.juniper.net) using your credentials from a handheld device or a laptop and access your organization.

   The Onboard a Device page appears.

   > **NOTE**: You can also onboard devices from the Device List page, which contains details of devices that are available for onboarding. To onboard a device from Device List page, click the device that you want to onboard and proceed to step 5.

3. Enter the serial number of the device and click **Next**.

   If the serial number is associated with the device in the network implementation plan, the page displays the device name, model, serial number, and the site where the device is to be installed.

   However, if the serial number of the device is not associated with the device in the network implementation plan, you can associate the serial number with the device and onboard it.

4. (Optional) Follow these steps if the serial number is not associated with the device that you want to onboard.

   a. Click **Select** to select the device that you want to associate with the serial number.

      The Device List page appears.

   b. From the **Onboard** section in Device List page, select the device that you want to associate with the serial number.

   c. (Optional) On the Device List page, verify that the serial number is displayed for the device you selected.

5. Click **Yes** to proceed with the onboarding.

   If a network implementation plan exists, the Add a Device page appears. The page provides information about the management interface of the device and any instructions (for example, displayed as re0:mgmt-0.0: Insert QSFP28)

for inserting pluggables and connecting cables to the management interface. If a network implementation plan does not exist for the device, you are prompted to adopt the device. See "Adopt a Device" on page 6.

6. Insert a pluggable and connect the cable to the management interface as instructed.

7. Click **Adopt device manually** to view and copy the outbound SSH configuration.

8. From the pop-up that appears, click **Copy**.

   The outbound SSH configuration is copied to your clipboard.

   a. Log in to the device using SSH and enter configuration mode.

   b. Paste the contents of the clipboard and commit the configuration.

   The device is now connected with Paragon Automation. Paragon Automation starts pushing the device configuration and performing tests configured in the network implementation plan. The **Management Connectivity** field on the UI turns green when Paragon Automation starts the tasks specified in the network implementation plan.

   Paragon Automation authenticates the device and verifies the validity of the software installed and displays the results.

9. Click **Next** to view the Install Ports page.

   On the Install Ports page, you can view the list of ports and the type of pluggables to be inserted in the ports. You can click the expand icon as shown in Figure 1 on page 4 to view more information about the onboarding tests.
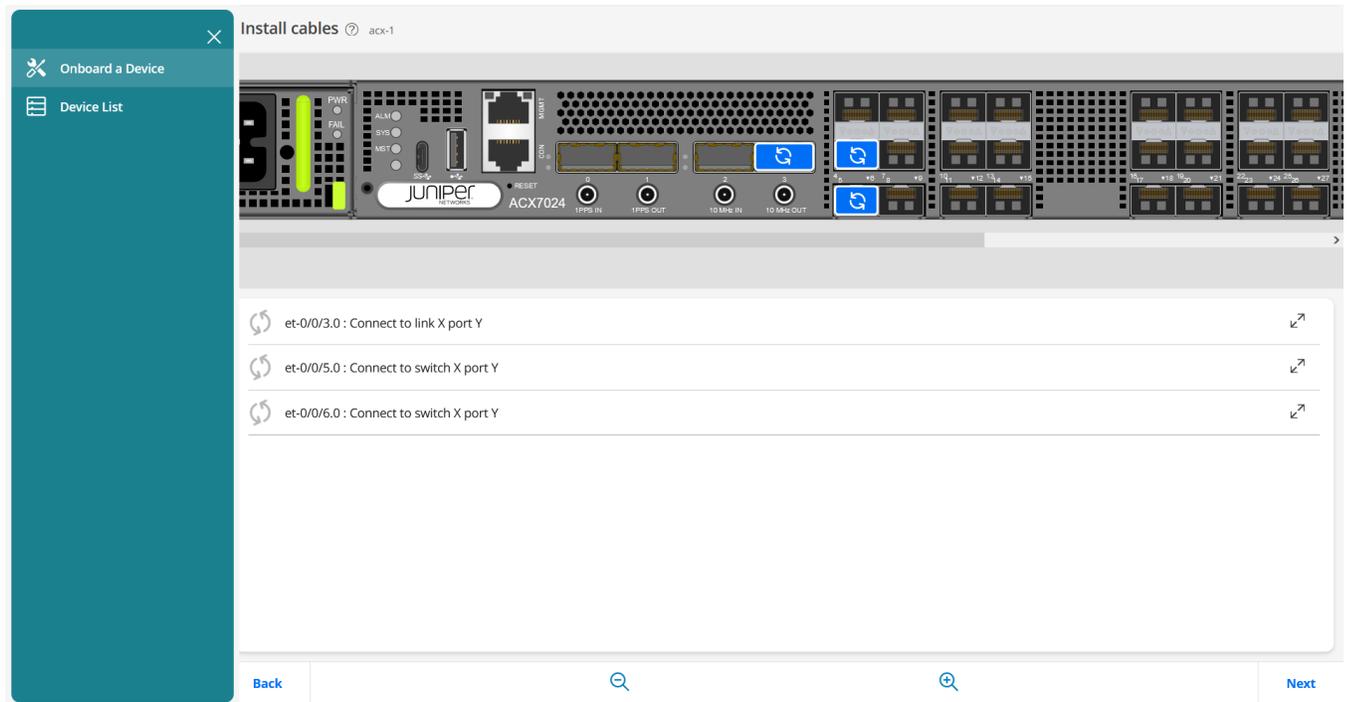
Figure 1: Install Ports
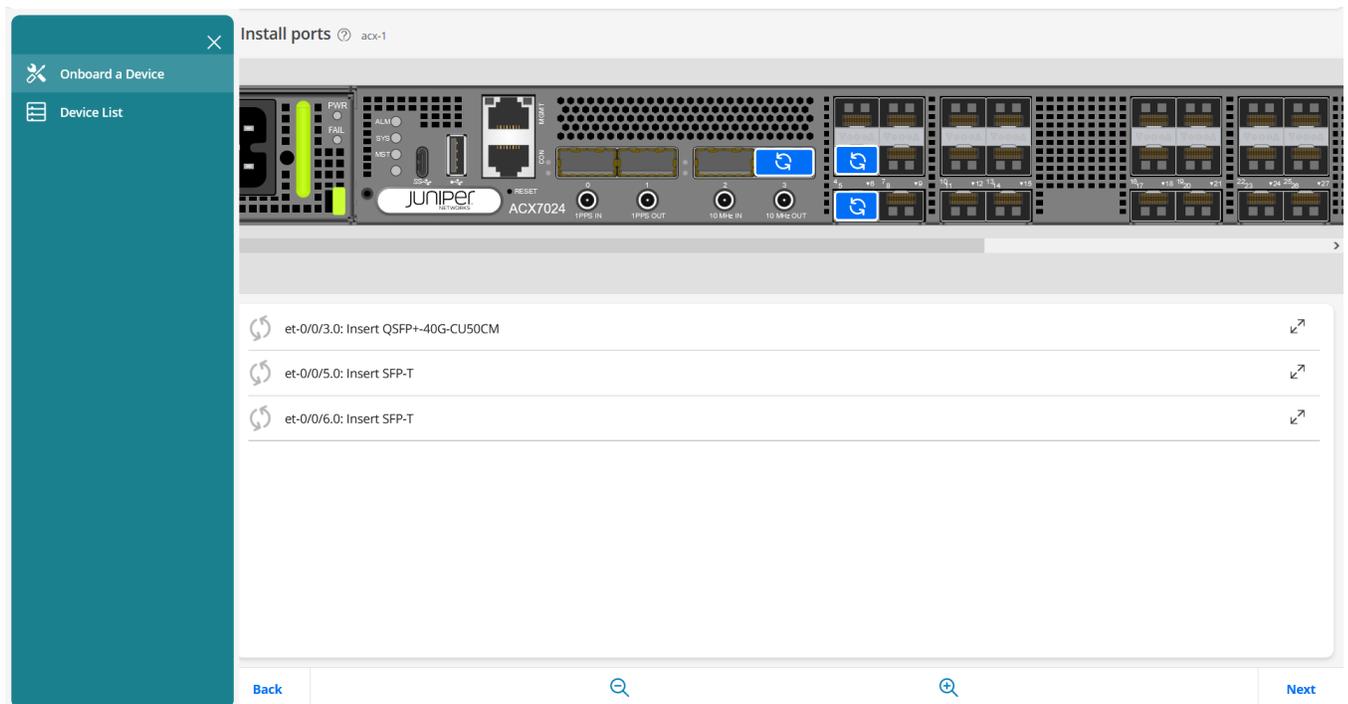
10. Insert pluggables as indicated and click **Next**.

11. On the Install Cables page, connect the cables as indicated.

   After you connect the cables, Paragon Automation initiates ping tests to the destinations defined in the network implementation plan.

Figure 2: Install Cables

12. Click **Next** to view the Testing page.

The Testing page shows the progress of all the tests being executed and their results.

Besides testing the interface health, Paragon Automation also checks the health of chassis components (fans, power supply modules (PSM), and line cards), and runs compliance scans to determine the authenticity, vulnerabilities, and trustworthiness of the device. At the end of the onboarding process, the GUI displays the results of all the tests and flags any issues that Paragon Automation has detected.

Figure 3: Testing Page
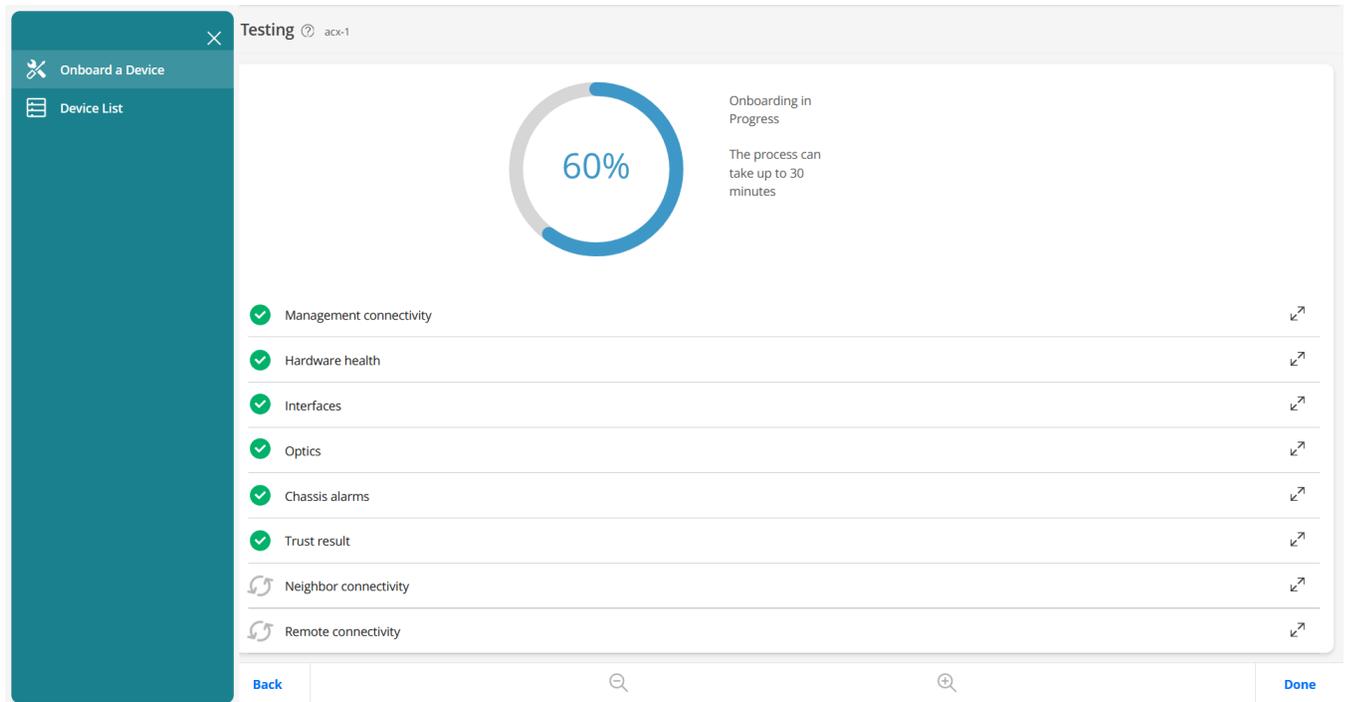
13. Resolve any issues by using the failure reason provided or contact the network operations center (NOC) engineer, if needed.

14. (Optional) Click **Resume Onboarding** to resume testing from where the onboarding process paused.

   NOTE: You use the resume onboarding option only if the onboarding process stops halfway due to errors.

15. After you resolve the issues, click **Done**.

   Paragon Automation resumes the onboarding tests until the issue is resolved and the device is onboarded successfully. You can view progress of the tests and the results by clicking the device from **Completed** section on the Device List page.

16. (Optional) Repeat steps 1 through 15 to onboard more devices.

   See Install and Onboard the Device (Day 0 Activities).

Adopt a Device

We recommend that you define and use a network implementation plan to onboard a device. However, if a network implementation plan is not available for a device, you can onboard the device by adopting it. To onboard devices that are not associated with a network implementation plan, Paragon Automation provides the outbound SSH configuration. You must commit the configuration on the device to enable it to connect with Juniper Cloud.

To adopt a device:

1. Log in to Juniper Cloud from a hand held device or a laptop and access the organization with which the device is to be associated.

2. On the Onboard a device page, enter the serial number of the device you want to onboard and click **Next**.

   You are prompted to adopt the device if Paragon Automation cannot find a network implementation plan for the device.

   Alternatively, you can click the **Device List** menu to view the list of devices available for onboarding and select the device that you want to onboard.

3. Click **Adopt**.

4. When prompted, select the site to which the device is to be associated and click **Adopt**.

   Paragon Automation displays the outbound SSH configuration that you must commit on the device to enable it to connect to Juniper Cloud.

5. Click **Copy** to copy the outbound SSH configuration.

6. Log in to the device using SSH and enter configuration mode.

7. Paste the contents of the clipboard and commit the configuration.

8. (Optional) Click the **Device List** menu to verify that the onboarded device is listed in the **Completed** section.

Keep Going

IN THIS SECTION

What's Next

Now that you've onboarded the device, here are some things you might want to do next.

If you want to	Then
Manage your Juniper Cloud Account	See Manage Your Juniper Cloud Account

General Information

If you want to	Then
Find out more about the device life cycle management use case	See Device Life Cycle Management Overview
Find out more about the observability use case	See Observability Overview
Find out more about the trust and compliance use case	See Trust and Compliance: Overview
Learn about user roles in Paragon Automation	See Predefined User Roles Overview

Learn With Videos

Our video library continues to grow! Here are some great video and training resources that will help you expand your knowledge of Juniper Network Products.

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.