

Release Notes: Jloader Software for EX2300 and EX3400 Switches

jloader-ex2300-ex3400
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Introduction

These release notes describe new and changed features, limitations, and known and resolved problems in the hardware and software for the Jloader Software for EX2300 and EX3400 Switches. Jloader software contains a boot loader (Uboot), which brings up EX Series switches and loads Junos OS software from the flash memory of these switches.

New and Changed Features

This section describes the new features and enhancements to existing features in the Jloader software for EX2300 and EX3400 switches.

- **Support for Satellite device mode as part of Junos Fusion Enterprise (EX2300 and EX3400)**--- The latest versions of the Jloader software containing the Uboot firmware, 1.3.2 for EX2300 and 1.3.0 for EX3400, enable support for the EX2300 and EX3400 switches to migrate to Satellite device mode as part of Junos Fusion Enterprise. The conversion from Junos OS to Satellite software is initiated from the controller (EX9200). For more information on Junos Fusion Enterprise, see [Junos Fusion Enterprise Overview](#)

Changes in Behavior and Syntax

This section lists the changes in behavior of Firmware features and changes in the Jloader software for EX2300 and EX3400 switches.

There are no changes in default behavior and syntax in the Jloader software for EX2300 and EX3400 switches.

Known Behavior

This section contains system maximums, known limitations and known behaviors in the Jloader software for EX2300 and EX3400 switches.

There are no system maximums, known limitations and known behaviors in the Jloader software for EX2300 and EX3400 switches.

Known Issues

This section lists the known issues in hardware and software in the Jloader software for EX2300 and EX3400 switches.

There are no known issues in the Jloader software for EX2300 and EX3400 switches.

Resolved Issues

This section lists the issues fixed in the Jloader software for EX2300 and EX3400 switches.

- [Resolved Issues for EX2300](#)

Resolved Issues for EX2300

While rebooting or power cycling the Junos OS device, the EX2300 might fail to load the Junos OS and the Uboot firmware crashes with error "data abort". This issue is fixed in the Uboot firmware version 1.3.2.

Migration, Upgrade, and Downgrade Instructions

- [Overview for Jloader Software for EX2300 and EX3400 switches on page 3](#)
- [Upgrading Junos OS for EX2300 and EX3400 Switches on page 4](#)
- [Upgrading Jloader Software on EX2300 and EX3400 Switches on page 5](#)

Overview for Jloader Software for EX2300 and EX3400 switches

The Jloader software package contains an updated version of the boot firmware (uboot) which is used to bootstrap the EX2300 and EX3400 switches. The updated version of the firmware extends support for Junos Fusion and resolves the issues listed in the Resolved Issues section.

Before you begin to upgrade the Jloader package containing the Uboot firmware, determine whether the Uboot firmware that is installed on the switch needs to be upgraded. We recommend that uboot version on the switch should be 1.3.0 (for EX3400) and 1.3.2 (for EX2300). If you do not have the recommended Uboot version, upgrade the Uboot firmware using the latest Jloader software. You can find the Uboot version number by using the **show chassis firmware** command in the CLI. For more information, see [“Upgrading Jloader Software on EX2300 and EX3400 Switches” on page 5](#).



NOTE: The Uboot firmware using the Jloader package involves rebooting the switch. Hence, it is recommended to perform the upgrade during a scheduled maintenance window.



NOTE: You should upgrade to Junos OS 15.1X53-D55 before upgrading the Jloader package. To upgrade the Junos OS, see [“Upgrading Junos OS for EX2300 and EX3400 Switches” on page 4](#). If you already have the recommended Junos OS software, see [“Upgrading Jloader Software on EX2300 and EX3400 Switches” on page 5](#).

Juniper recommends using a console connection for the software upgrade. If you perform the software upgrade via ssh/telnet, your session will be disconnected when the switch reboots.

Upgrading Junos OS for EX2300 and EX3400 Switches

To download the software package from the Juniper Networks Support website, go to <http://www.juniper.net/support/>.



NOTE: To access the download site, you must have a service contract with Juniper Networks and an access account. If you need help obtaining an account, complete the registration form at the Juniper Networks website <https://www.juniper.net/registration/Register.jsp>.

Before upgrading, back up the file system and the currently active Junos OS configuration so that you can recover to a known, stable environment in case the upgrade is unsuccessful.

To back up your current configuration files:

```
user@switch# save filename
```

Executing this command saves a copy of your configuration files to a remote location such as an external USB device.

This procedure shows you how to upgrade software on EX2300 and EX3400 switches:

1. Using a Web browser, navigate to <http://www.juniper.net/support/downloads/>.
2. On the right side of the Download Software page, select the release number (the number of the software version that you want to download) from the Release drop-down list to the right of the Download Software page. For example, 15.1X53-D55.
3. In the By Technology box,
For EX2300: select **Switching | EX Series | EX2300**
For EX3400: select **Switching | EX Series | EX3400**
4. Select the **Software** tab and select the install package from the Install Package box.
5. In the Install Package section of the **Software** tab, select the **Software** package for the release.
6. Log in to the Juniper Networks authentication system using the username (generally your e-mail address) and password supplied by Juniper Networks representatives.
7. Read the End User License Agreement, click the **I agree** radio button, and then click **Proceed**.
8. Save the **.tgz** file on your computer. For example, junos-arm-32-15.1X53-D55.5.tgz

9. Open or save the installation package either to the local system in the **var/tmp** directory or to a remote location. If you are saving the installation package to a remote system, make sure that you can access it using HTTP, TFTP, FTP, or scp.
10. If the installation package resides locally on the switch, execute the **request system software add <pathname><source> reboot** command.



NOTE: We recommend that you upgrade all software packages out of band using the console because in-band connections are lost during the upgrade process.

For example:

```
user@switch> request system software add /var/tmp/junos-arm-32-15.1X53-D55.5.tgz
reboot
```

If the Install Package resides remotely from the switch, execute the **request system software add <pathname><source> reboot** command.

For example:

```
user@switch> request system software add
ftp://ftpserver/directory/junos-arm-32-15.1X53-D55.5.tgz reboot
```

After the reboot has finished, verify that the new version of software has been properly installed by executing the **show version** command.

```
user@switch> show version
```

After the reboot has finished, verify that the new version of software has been properly installed by executing the **show version** command.

```
user@switch> show version
```

Upgrading Jloader Software on EX2300 and EX3400 Switches

This procedure shows you how to upgrade Jloader software on EX2300 and EX3400 switches:

1. Log in to the EX Series switch and enter the shell. We recommend that you use a console connection.
2. Determine the version of the Jloader software installed on the switch:

```
user@switch> show chassis firmware
```

Part	Type	Version
FPC 0 -0700) 1.2.0	U-Boot	U-Boot 2016.01-rc1 (May 23 2016 - 08:46:34
	Jloader PICO	FreeBSD/armv6 U-Boot Jloader 1.2 CPLD0 6



NOTE: The Uboot firmware version number is displayed immediately after the date string in the CLI output for `show chassis firmware` command. We recommend that uboot version on the box should be 1.3.0 (for EX3400) and 1.3.2 (for EX2300). If you do not have the recommended Uboot version, upgrade the Uboot firmware using the latest Jloader software.

3. Determine the Junos OS release that is currently running on the EX Series switches:

```
user@switch> show version
```

```
fpc0:
```

```
-----  
Model: ex2300-c-12p  
Junos: 15.1X53-D55.5  
JUNOS OS Kernel 32-bit [20161226.342161_builder_head] JUNOS OS libs  
[20161226.342161_builder_head] JUNOS OS runtime [20161226.342161_builder_head]  
JUNOS OS time zone information [20161226.342161_builder_head] JUNOS py  
extensions [20161230.114620_builder_junos_151_x53_d55]  
JUNOS py base [20161230.114620_builder_junos_151_x53_d55]  
JUNOS OS crypto [20161226.342161_builder_head] JUNOS network stack and utilities  
[20161230.114620_builder_junos_151_x53_d55]  
JUNOS libs [20161230.114620_builder_junos_151_x53_d55]  
JUNOS runtime [20161230.114620_builder_junos_151_x53_d55]  
JUNOS Web Management Platform Package  
[20161230.114620_builder_junos_151_x53_d55]  
JUNOS ex libs [20161230.114620_builder_junos_151_x53_d55]  
JUNOS ex runtime [20161230.114620_builder_junos_151_x53_d55]  
JUNOS ex platform support [20161230.114620_builder_junos_151_x53_d55]  
JUNOS modules [20161230.114620_builder_junos_151_x53_d55]  
JUNOS ex modules [20161230.114620_builder_junos_151_x53_d55]  
JUNOS Data Plane Crypto Support [20161230.114620_builder_junos_151_x53_d55]  
JUNOS mtx Data Plane Crypto Support [20161230.114620_builder_junos_151_x53_d55]  
JUNOS daemons [20161230.114620_builder_junos_151_x53_d55]  
JUNOS Packet Forwarding Engine Support (EX34XX)  
[20161230.114620_builder_junos_151_x53_d55]  
JUNOS jdocs ex [20161230.114620_builder_junos_151_x53_d55]  
JUNOS jail runtime [20161226.342161_builder_head] JUNOS FIPS mode utilities  
[20161230.114620_builder_junos_151_x53_d55]
```

It is a prerequisite to have Junos OS 15.1X53-D55 to upgrade to the latest Uboot firmware. If the Junos OS running on your device is earlier than Junos OS 15.1X53-D55, you must upgrade to Junos OS 15.1X53-D55 before upgrading the Jloader package containing the Uboot firmware. To upgrade the Junos OS, see [“Upgrading Junos OS for EX2300 and EX3400 Switches” on page 4](#)

4. In a browser, go to <http://www.juniper.net/support/downloads/junos.html>.

The Junos Platforms - Download Software page appears

5. In the EX Series section of the Junos Platforms - Download Software page, select the switch for which you want to download Junos OS.

6. Select the number of the software version that you want to download in Version to the right of the tabs on the Download Software page.
7. Select the **Software** tab and then select the switch for which you want to download in the Install Package column.
8. Depending upon the switch you choose, you can either click the link **Continue to Download** in the Alert box or you will be directed to the licence agreement page directly.
9. When prompted, enter your name and password and press **Enter**.
10. Read the End User License Agreement, click **I agree**, and then click **Proceed**.
11. Place the software package on an internal software distribution site or in a local directory on the switch. We recommend that you use `/var/tmp` as the local directory on the switch
12. Enter the CLI and upgrade the Jloader package:



NOTE: The switch will reboot itself after the Jloader software is successfully upgraded.

```
user@switch> request system software add package
```

Replace *package* with one of the following paths:

- For a Jloader software package in the `/var/tmp` directory on the switch—`/var/tmp/package.tgz`
- For a Jloader software package on a remote server:
 - `ftp://hostname/pathname/package.tgz`
 - `http://hostname/pathname/package.tgz`

where *package.tgz* is, for example, `jloader-ex2300-15.1X53-D55-uboot1.3.2.tgz` and `jloader-ex3400-15.1X53-D55-uboot1.3.0.tgz`.



NOTE: The `request system software add package` command can also be used on EX Series Virtual Chassis. This will upgrade the firmware on all members in the EX Series Virtual Chassis.

```
This package is going to upgradethe firmware(ie uboot and ubldr) and reboot the system. [yes,no] (no) yes
```

```
Verified jloader-ex-2300 signed by PackageProductionEc_2017 method
```

```
ECDSA256+SHA256 Verified jloader-ex-2300-arm-32-20170103 signed by
PackageProductionEc_2017 method ECDSA256+SHA256 Current bank is 1, Switching
to bank 1 Switched to bank 1
```

```
Jloader upgrade success
```

```
Jloader backup upgrade success
```

```
u-boot upgrade success
```

```
u-boot loader hush script upgrade success
/packages/db/jloader-ex-2300-arm-32-20170103.064952_builder_junos_151_x53_d55
shutdown: [pid 3985]
Shutdown NOW!
```

```
*** FINAL System shutdown message from root@ ***
```

```
System going down IMMEDIATELY
```

13. Log in to the shell and verify that the Jloader software has been upgraded:

```
user@switch> show chassis firmware
```

Part	Type	Version
FPC 0	U-Boot	U-Boot 2016.01-rc1 (Nov 11 2016 -
14:26:00 -0800) 1.3.2		
	Jloader	FreeBSD/armv6 U-Boot Jloader 1.2
	PICO	CPLD0 6

```
{master:0}
```

The U-Boot version that follows the date information must be 1.3.0 (for EX3400) and 1.3.2 (for EX2300).

Product Compatibility

- [Hardware Compatibility on page 8](#)

Hardware Compatibility

To obtain information about the components that are supported on the devices, and special compatibility guidelines with the release, see the Hardware Guide and the Interface Module Reference for the product.

To determine the features supported on EX2300 and EX3400 switches in this release, use the Juniper Networks Feature Explorer, a Web-based application that helps you to explore and compare Junos OS feature information to find the right software release and hardware platform for your network. Find Feature Explorer at:

<http://pathfinder.juniper.net/feature-explorer/>.

Hardware Compatibility Tool

For a hardware compatibility matrix for optical interfaces and transceivers supported across all platforms, see the [Hardware Compatibility tool](#).

Third-Party Components

This product includes third-party components. To obtain a complete list of third-party components, see [Copyright and Trademark Information](#).

Compliance Advisor

For regulatory compliance information about Common Criteria, FIPS, Homologation, ROHS2, and USGv6 for Juniper Networks products, see the [Compliance Advisor](#) web application.

Finding More Information

For the latest, most complete information about known and resolved issues with the Junos OS, see the Juniper Networks Problem Report Search application at <http://prsearch.juniper.net>.

For regulatory compliance information about [Common Criteria](#), [FIPS](#), [Homologation](#), [RoHS2](#), and [USGv6](#) for Juniper Networks products, see the [Juniper Networks Compliance Advisor](#).

Juniper Networks Feature Explorer is a Web-based application that helps you to explore and compare Junos OS feature information to find the correct software release and hardware platform for your network. Find Feature Explorer at <http://pathfinder.juniper.net/feature-explorer/>.

Juniper Networks Content Explorer is a Web-based application that helps you explore Juniper Networks technical documentation by product, task, and software release, and download documentation in PDF format. Find Content Explorer at <http://www.juniper.net/techpubs/content-applications/content-explorer/>.

Requesting Technical Support

Technical product support is available through the Juniper Networks Technical Assistance Center (JTAC). If you are a customer with an active J-Care or JNASC support contract, or are covered under warranty, and need postsales technical support, you can access our tools and resources online or open a case with JTAC.

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the JTAC User Guide located at <http://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf>.
- Product warranties—For product warranty information, visit <http://www.juniper.net/support/warranty/>.
- JTAC Hours of Operation —The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

Self-Help Online Tools and Resources

For quick and easy problem resolution, Juniper Networks has designed an online self-service portal called the Customer Support Center (CSC) that provides you with the following features:

- Find CSC offerings: <http://www.juniper.net/customers/support/>
- Search for known bugs: <http://www2.juniper.net/kb/>
- Find product documentation: <http://www.juniper.net/techpubs/>
- Find solutions and answer questions using our Knowledge Base: <http://kb.juniper.net/>
- Download the latest versions of software and review release notes: <http://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications: <http://kb.juniper.net/InfoCenter/>
- Join and participate in the Juniper Networks Community Forum: <http://www.juniper.net/company/communities/>
- Open a case online in the CSC Case Management tool: <http://www.juniper.net/cm/>

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) tool located at <https://tools.juniper.net/SerialNumberEntitlementSearch/>.

Opening a Case with JTAC

You can open a case with JTAC on the Web or by telephone.

- Use the Case Management tool in the CSC at <http://www.juniper.net/cm/>.
- Call 1-888-314-JTAC (1-888-314-5822 toll-free in the USA, Canada, and Mexico).

For international or direct-dial options in countries without toll-free numbers, visit us at <http://www.juniper.net/support/requesting-support.html>.

If you are reporting a hardware or software problem, issue the following command from the CLI before contacting support:

```
user@host> request support information | save filename
```

To provide a core file to Juniper Networks for analysis, compress the file with the **gzip** utility, rename the file to include your company name, and copy it to **ftp.juniper.net/pub/incoming**. Then send the filename, along with software version information (the output of the **show version** command) and the configuration, to **support@juniper.net**. For documentation issues, fill out the bug report form located at <https://www.juniper.net/cgi-bin/docbugreport/>.

Revision History

3 Mayl 2017—Revision 1, Jloader Software for EX2300 and EX3400 switches.

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