

Chapter 15

Upgrade Software Packages

Each JUNOS software release consists of five software packages:

jbase—Additions to the operating system

kernel—Operating system package

route—Software that runs on the Routing Engine

jfe—Software that runs on the router's Packet Forwarding Engine

docs—Documentation for the software

The packages are also grouped together in a bundle, which is called jbundle.

Normally, you use the bundle to upgrade all of the software packages at the same time. You also can upgrade them individually. When upgrading to a new release, you must install the bundle; do not upgrade the packages individually.

To determine which packages are running on the router and to get information about these packages, use the show version command at the top level of the CLI.

This chapter discusses the following topics:

Upgrade All Software Packages on page 177

Upgrade Individual Software Packages on page 178

Upgrade All Software Packages

To upgrade all four software packages, follow these steps:

1. Download the software packages you need from the Juniper Networks Support Web page, <http://www.juniper.net/support/>.

To download the software packages, you must have a service contract and an access account. If you need help obtaining an account, contact your Juniper Networks sales representative or send e-mail to logistics@juniper.net.

2. Back up the currently running and active file system so that you can recover to a known, stable environment in case something goes wrong with the upgrade:

```
user@host> request system snapshot
```

The root file system is backed up to /altroot, and /config is backed up to /altconfig. The root and /config file systems are on the router's flash drive and the /altroot and /altconfig file systems are on the router's hard drive.

**Note**

After you issue this command, you cannot return to the previous version of the software, because the running and backup copies of the software are identical

- Copy each software package to the router. We recommend that you copy them to the /var/tmp directory, which is on the rotating medium (hard disk) and is a large file system.

```
user@host> file copy ftp://username:prompt@ftp.hostname.net/
filename /var/tmp/filename
```

- Delete the existing software packages and add the new ones:

```
user@host> request system software add /var/tmp/jbundle-package-name
Installing package '/var/tmp/jbundle-package-name' ...
Auto-deleting old jroute...
Auto-deleting old jdocs...
Auto-deleting old jpfe...
Auto-deleting old jkernel...
Adding JUNOS base software release-number...
Adding jkernel...
Adding jpfe...
Adding jdocs...
Adding jroute...
NOTICE: uncommitted changes have been saved in /var/db/config/juniper.conf.pre-install
Saving package file in /var/sw/pkg/jbundle-package-name ...
```

package-name is the full URL to the file. *release-number* is the major software release number; for example, 4.2R1.

- Reboot the router to start the new software:

```
user@host> request system reboot
```

- Back up the currently running and active file system so that you can recover to a known, stable environment in case something goes wrong with the upgrade:

```
user@host> request system snapshot
```

The root file system is backed up to /altroot, and /config is backed up to /altconfig. The root and /config file systems are on the router's flash drive and the /altroot and /altconfig file systems are on the router's hard drive.

**Note**

After you issue this command, you cannot return to the previous version of the software, because the running and backup copies of the software are identical.

Upgrade Individual Software Packages

To upgrade an individual JUNOS software package, follow these steps:

1. Download the software packages you need from the Juniper Networks Support Web page, <http://www.juniper.net/support/>.

To download the software packages, you must have a service contract and an access account. If you need help obtaining an account, contact your Juniper Networks sales representative or send e-mail to logistics@juniper.net.

2. Back up the currently running and active file system so that you can recover to a known, stable environment in case something goes wrong with the upgrade:

```
user@host> request system snapshot
```

The root file system is backed up to /altroot, and /config is backed up to /altconfig. The root and /config file systems are on the router's flash drive and the /altroot and /altconfig file systems are on the router's hard drive.



Note

After you issue this command, you cannot return to the previous version of the software, because the running and backup copies of the software are identical.

3. Copy each software package to the router. You might want to copy them to the /var/tmp directory, which is on the rotating media (hard disk) and is a large file system.

```
user@host> file copy ftp://username:prompt@ftp.hostname.net/  
filename /var/tmp/filename
```

4. Delete the old package and add the new package:

```
user@host> request system software add /var/tmp/package-name  
Checking available free disk space...11200k available, 6076k suggested.
```

package-name is the full URL to the file.

The system might display the following message:

```
pkg_delete: couldn't entirely delete package
```

This message indicates that someone manually deleted or changed an item that was in a package. You do not need to take any action; the package is still properly deleted.

If you are upgrading more than one package at the same time, add jbase first and the routing software package jroute last. If you are using this procedure to upgrade all packages at once, add them in order:

```
user@host> request system software add /var/tmp/jbase  
user@host> request system software add /var/tmp/jkernel  
user@host> request system software add /var/tmp/jpfe  
user@host> request system software add /var/tmp/jdocs  
user@host> request system software add /var/tmp/jroute.
```

5. Reboot the router to start the new software:

user@host> **request system reboot**

6. Back up the currently running and active file system so that you can recover to a known, stable environment in case something goes wrong with the upgrade:

user@host> **request system snapshot**

The root file system is backed up to /altroot, and /config is backed up to /altconfig. The root and /config file systems are on the router's flash drive and the /altroot and /altconfig file systems are on the router's hard drive.



Note

After you issue this command, you cannot return to the previous version of the software, because the running and backup copies of the software are identical.