



Upgrading Field-Programmable Devices

In general terms, field-programmable devices (FPDs) are hardware devices implemented on router cards that support separate software upgrades. A field-programmable gate array (FPGA) is a type of programmable memory device that exists on most hardware components of the router. The term FPD has been introduced to collectively and generically describe any type of programmable hardware device on SIPs and shared port adapters (SPAs), including FPGAs. Cisco IOS XR software provides the Cisco FPD upgrade feature to manage the upgrade of FPD images on SIPs and SPAs.

This chapter describes the information that you must know to verify image versions and to perform an upgrade for SPA or SIP FPD images when incompatibilities arise.

Table 1: Feature History for Upgrading FPD

Release	Modification
Release 6.1.x	This Feature was Introduced.

- [Prerequisites for FPD Image Upgrades, on page 1](#)
- [Overview of FPD Image Upgrade Support, on page 1](#)
- [How to Upgrade FPD Images, on page 3](#)
- [Configuration Examples for FPD Image Upgrade, on page 6](#)

Prerequisites for FPD Image Upgrades

Before upgrading the FPD on your router you must install and activate the `fpd.pie fpd.rpm` package.

This is for the manual upgrade using the **`upgrade hw-module FPD`** command.

Overview of FPD Image Upgrade Support

An FPD image is used to upgrade the software on an FPD.

Whenever an image is released that supports SIPs and SPAs, a companion SIP and SPA FPD image is bundled. However Generally, the FPD image is not automatically upgraded. You must manually upgrade the FPD image running on the SPA or SIP when you upgrade the Cisco IOS XR software image.

FPD versions must be compatible with the Cisco IOS XR software that is running on the router; if an incompatibility exists between an FPD version and the Cisco IOS XR software, the device with the FPGA

may not operate properly until the incompatibility is resolved. An FPGA incompatibility on a SPA does not necessarily affect the running of the SPA interfaces; an FPD incompatibility on a SIP disables all interfaces for all SPAs in the SIP until the incompatibility is addressed.

Use the **show hw-module fpd** command to determine if an FPD upgrade is required. A value of 'Yes' in the Upg/Dng? (upgrade/downgrade) column indicates that an upgrade or downgrade is required.

Automatic FPD Upgrade

By default, the FPD image is not automatically upgraded. You must manually upgrade the FPD image running on the Field Replaceable Unit (FRU)SPA or SIP when you upgrade the Cisco IOS XR software image.

However, if you enable the **fpd auto-upgrade** command in administration configuration mode, FPD images are automatically updated in the following instances.

- Software upgrade is carried out.
- Field Replaceable Unit(FRU) such as Line cards, RSPs, SPAs Fan Trays or alarm cards are added to an existing router or reloaded.

For the automatic FPD upgrade to work on a system upgrade, the following conditions must be met:

- The FPD package installation envelope (PIE) must be installed on the router.
- The FPD PIE must be activated together with the new Cisco IOS XR image.
- The **fpd auto-upgrade** must be configured in the administration configuration mode.

For the automatic FPD upgrade to work on a FRU Insertion or reload , the following conditions must be met:

- The FPD package installation envelope (PIE) must be installed and activated on the router.
- The **fpd auto-upgrade** must be configured in the administration configuration mode.

For the automatic FPD upgrade to work, the following conditions must be met:

- The FPD package installation envelope (PIE) must already be installed on the router.
- The FPD PIE must be activated together with the new Cisco IOS XR image.
- The **fpd auto-upgrade** command must be enabled.



Note Although the FPD upgrade is performed during the install operation, there is no install commit performed. Therefore, once the FPD has been upgraded, if the image is rolled back to the original version, the FPD version is not downgraded to the previous version.

The automatic FPD upgrade is not performed in the following instances:

- Line cards or other cards such as , SPAs or alarm cards are added to an existing router.
- A line card chassis is added to an existing CRS multi-chassis router.
- A non-reload software maintenance upgrade (SMU) or PIE installation is performed, even where the FPD image version changes. Since a non-reload installation is, by definition, not supposed to reload the router, and an FPD upgrade requires a router reload, the automatic FPD upgrade is repressed.



Note In all cases where the automatic FPD upgrade is not performed, you must perform a manual FPD upgrade using the **upgrade hw-module fpd** command.

FPD auto-upgrade can be enabled and disabled. When auto FPD is enabled, it automatically updates FPDs when a SMU or image changes, including an updated firmware revision. Use the **fpd auto-upgrade** command to disable or enable auto-fpd.

How to Upgrade FPD Images

You must determine if an FPD image upgrade is needed using the **show hw-module fpd** command and perform the upgrade, if you migrate the software to a later Cisco IOS XR software release

In the event that there is an FPD incompatibility with your card, you may receive an error message. If you upgrade to a newer version of the Cisco IOS XR software and there is an FPD incompatibility, you receive the following message:

```
LC/0/1/CPU0:Dec 23 16:33:47.945 : spa_192_jacket_v2[203]: %PLATFORM-UPGRADE_FPD-4-DOWN_REV
: spa fpga2 instance 0 is down-rev (V0.6), upgrade to (V1.0). Use the "upgrade hw-module
fpd" CLI in admin mode.
```

If the FPD image on the card is newer than what is required by the currently running Cisco IOS XR software image on the router, you receive the following error message:

```
LC/0/1/CPU0:Dec 23 16:33:47.955 : spa_192_jacket_v2[203]: %PLATFORM-UPGRADE_FPD-4-UP_REV :
spa fpga instance 1 is severely up-rev (V2.1), downgrade to (V1.6). Use the "upgrade hw-module
fpd" CLI in admin mode.
```

You should perform the FPD upgrade procedure if you receive such messages. Cards may not function properly if FPD incompatibilities are not resolved.



Note An error message is displayed (as shown below) when version-34 of FPGA is upgraded to version-37. This is only for CRS-X linecards. However, when the user upgrades to version-37, from any other lower version (other than version-34), this failure message is not displayed. Even though we see this failure message ,FPD upgrade will complete successfully and after a power cycle/reload it will properly reflect the upgraded version. There is no functionality impact.

```
FAILED to upgrade fpga3 for 4-100GbE on location1/1/CPU0 from 34.00 to 37.00
LC/1/1/CPU0:Nov 12 15:28:40.057 : lc_fpd_upgrade[244]: %PLATFORM-UPGRADE_FPD-3-
OPERATION_FAILED : Failed to update FPD :FPD Programming action failed on this card.
```



Note The use of the **force** option when performing a FPD upgrade is not recommended except under explicit direction from Cisco engineering or TAC.

Before you begin

- Before upgrading the FPD, you must install and activate the -fpd.pie. For information about performing this task, see the *Upgrading and Managing Cisco IOS XR Software* module.

- The FPD upgrade procedure is performed while the card is online. At the end of the procedure the card must be reloaded before the FPD upgrade is complete. To automatically reload the card, you can use the **reload** keyword in the **upgrade hw-module fpd** command. Alternatively, you can use the **hw-module reload** command during your next maintenance window. The upgrade procedure is not complete until the card is reloaded.



Note Upgrading the FPD image on a SPA or SIP using the **reload** keyword temporarily places the card offline at the end of the upgrade procedure, and may interrupt traffic.

- During the FPD upgrade, you *must not* do the following:
 - Reload, perform an online insertion and removal (OIR) of a line card (LC), or power down the chassis. Doing so may cause the node to enter an unusable state.
 - Press **Ctrl-C** if the console appears to hang without any output. Doing so may abort the upgrade.
- If you are not sure whether a card requires an FPD upgrade, you can install the card and use the **show hw-module fpd** command to determine if the FPD image on the card is compatible with the currently running Cisco IOS XR software release.

SUMMARY STEPS

1. **show hw-module fpd location** {all | node-id}
2. **admin**
3. **showfpdpackage**
4. **upgrade hw-module fpd** {all | fpga-type} [force] location [all | node-id] [reload]
5. **exit**
6. **hw-module** {location node-id | subslot subslot-id} **reload**
7. **show platform**

DETAILED STEPS

	Command or Action	Purpose
Step 1	show hw-module fpd location {all node-id} Example: RP/0/RP0/CPU0:router# show hw-module fpd location all RP/0/RP0/CPU0:router# show hw-module fpd location 0/4/cpu0	Displays the current FPD image versions for the specified card or all cards installed in the router. Use this command to determine if you must upgrade the FPD image on your card.
Step 2	admin Example: RP/0/RP0/CPU0:router# admin	

	Command or Action	Purpose
Step 3	showfpdpackage Example: RP/0/RP0/CPU0:router#(admin) show fpd package	Displays which cards are supported with your current Cisco IOS XR software release, which FPD image you need for each card, and what the minimum hardware requirements are for the varioius modules. (A minimum hardware requirement version of 0.0 indicates that all hardware can support this FPD image version.) If there are multiple FPD images for your card, use this command to determine which FPD image to use if you want to upgrade only a specific FPD type.
Step 4	upgrade hw-module fpd {all <i>fpga-type</i>} [force] location [all <i>node-id</i>] [reload] Example: RP/0/RP0/CPU0:router(admin)# upgrade hw-module fpd all location 0/3/1 . . . Successfully upgraded 1 FPD for SPA-2XOC48POS/RPR on location 0/3/1 RP/0/RP0/CPU0:router(admin)# upgrade hw-module fpd fpga2 location 0/4/cpu0 . . . Starting the upgrade/download of following FPD: ===== Current Upg/Dng Location Type Subtype Upg/Dng Version Version ===== ===== 0/4/CPU0 lc fpga2 upg 0.04 2.12 ----- Successfully upgraded fpga2 for A9K-ISM-100 on location 0/4/CPU0 from 0.04 to 2.12	Upgrades all the current FPD images that must be upgraded on the specified card with new images. Before continuing to the next step, wait for confirmation that the FPD upgrade has successfully completed. Status messages, similar to these, are displayed to the screen until the FPD upgrade is completed: <pre> FPD upgrade started. FPD upgrade in progress.. FPD upgrade in progress.. FPD upgrade sent to location xxxx FPD upgrade sent to location yyyy FPD upgrade in progress.. FPD upgrade finished for location xxx FPD upgrade in progress.. FPD upgrade finished for location yyyy FPD upgrade completed. </pre> The “FPD upgrade in progress.” message is printed every minute. These logs are information logs, and as such, are displayed if the logging console informational command is configured. Note The reload keyword causes the SPA or SIP to be reloaded after the FPD image has been updated, which interrupts traffic transmission. If you do not use the reload keyword, you must manually reload the SPA or SIP as described in the FPD upgrade. If Ctrl-C is pressed while the FPD upgrade is in progress, the following warning message is displayed: <pre> FPD upgrade in progress on some hardware, aborting now is not recommended as it might cause HW programming failure and result in RMA of the hardware. Do you want to continue? [Confirm(y/n)] </pre> If you confirm that you want to abort the FPD upgrade procedure, this message is displayed:

	Command or Action	Purpose
		FPD upgrade process has been aborted, please check the status of the hardware and reissue the upgrade command if required. Note If your card supports multiple FPD images, you can use the show fpd package admin command to determine what specific image to upgrade in the upgrade hw-module fpd command.
Step 5	exit Example: RP/0/RP0/CPU0:router(admin)# exit	Exits administration EXEC mode and returns to EXEC mode.
Step 6	hw-module {location node-id subslot subslot-id} reload Example: RP/0/RP0/CPU0:router# hw-module subslot 0/3/1 reload or RP/0/RP0/CPU0:router# hw-module location 0/3/cpu0 reload	Use the hw-module subslot reload command to reload a SPA and the hw-module location reload command to reload a SIP or line card. Note Only use this command if you do not use the reload keyword in the upgrade hw-module fpd command.
Step 7	show platform Example: RP/0/RP0/CPU0:router# show platform	Verifies that the FPD image on the card has been successfully upgraded by displaying the status of all cards in the system.

Configuration Examples for FPD Image Upgrade

The following examples indicate the use of commands associated with the FPD image upgrade procedure.

show hw-module fpd Command Output: Example

Use the **show hw-module fpd** to display the current version of FPD images on the SPAs, SIPs and other cards installed on your router.

This command can be used to identify information about FPDs on any card. If you enter the location of a line card that is not a SPA, the output displays information about any programmable devices on that line card.

The following example shows how to display FPD compatibility for all modules in the router:

```
RP/0/RP0/CPU0:router# show hw-module fpd

FPD Versions
```

```

=====
Location Card type HWver FPD device ATR Status Running Programd
-----
0/RP0 NCS-5002 3.0 BIOS CURRENT 1.09 1.09
0/RP0 NCS-5002 3.0 IOFPGA CURRENT 0.17 0.17
0/RP0 NCS-5002 3.0 DB-MIFPGA CURRENT 0.16 0.16
0/RP0 NCS-5002 3.0 MB-MIFPGA CURRENT 0.16 0.16
RP/0/RP0/CPU0:Router#

```

If the cards in the system do not meet the minimum requirements, the output contains a “NOTES” section that states how to upgrade the FPD image.

Table 2: show hw-module fpd Field Descriptions

Field	Description
Card Type	Module part number.
HW Version	Hardware model version for the module.
Type	Hardware type. Can be one of the following types: • spa—Shared port adapter • lc—Line card
Subtype	FPD type. Can be one of the following types: • fabldr—Fabric downloader • fpga1—Field-programmable gate array • fpga2—Field-programmable gate array 2 • fpga3—Field-programmable gate array 3 • fpga4—Field-programmable gate array 4 • fpga5—Field-programmable gate array 5 • rommonA—Read-only memory monitor A • rommon—Read-only memory monitor B
Inst	FPD instance. The FPD instance uniquely identifies an FPD and is used by the FPD process to register an FPD.
Current SW Version	Currently running FPD image version.
Upg/Dng?	Specifies whether an FPD upgrade or downgrade is required. A downgrade is required in rare cases when the version of the FPD image has a higher major revision than the version of the FPD image in the current Cisco IOS XR software package.

show fpd package Command Output: Example

Use the **show fpd package** command in administration EXECsystem admin exec mode to find out which SPAs and SIPs are supported with your current Cisco IOS XR software release, which FPD image package you need for each SPA or SIP, and what the minimum hardware requirements are for each module. If multiple FPD images are available for your card, they are listed as Subtype fpga2, fpga3, and so on.

The following example shows sample output from the **show fpd package** command:

show fpd package Command Output: Example

```

sysadmin_vm:0_RP1 # show fpd package
PROTO-CXP-2XPITA  BAO-MB FPGA          NO      1.00      1.00      0.0
                   Slice-0 GN2411      YES      3.01      3.01      2.0
                   Slice-1 GN2411      YES      3.01      3.01      2.0
                   Slice-0 GN2411      YES      2.07      2.07      0.0
                   Slice-1 GN2411      YES      2.07      2.07      0.0
                   CCC FPGA             YES      1.14      1.14      0.0
                   CCC Power-On         YES      1.30      1.30      0.0
                   Ethernet Switch      YES      1.32      1.32      0.0
                   BIOS FPD             YES      9.10      9.10      0.0
                   SB Certificates      NO      1.00      1.00      0.0
-----
NC6-FANTRAY        Fantray FPGA          NO      2.01      2.01      0.0
-----
PWR-3KW-AC-V2      DT-PrimCU          NO      6.01      6.01      1.0
                   DT-Sec54vMCU         NO      6.01      6.01      1.0
                   DT-Sec5vMCU          NO      6.03      6.03      1.0
                   EM-Sec54vMCU         NO      3.08      3.08      0.21
                   EM-Sec5vMCU          NO      3.06      3.06      0.21
-----
PWR-2KW-DC-V2      DT-PrimCU          NO      6.02      6.02      0.12
                   DT-Sec54vMCU         NO      6.02      6.02      0.12
                   DT-Sec5vMCU          NO      6.02      6.02      0.12
                   EM-PrimCU            NO      3.06      3.06      0.21
                   EM-Sec54vMCU         NO      3.09      3.09      0.21
                   EM-Sec5vMCU          NO      3.07      3.07      0.21
-----
NC6-10X100G-L-K    BAO-MB FPGA          NO      1.00      1.00      0.0
                   BAO-DB FPGA          NO      1.00      1.00      0.0
                   S2 GN2411            YES      3.01      3.01      2.0
                   S3 GN2411            YES      3.01      3.01      2.0
                   S4 GN2411            YES      3.01      3.01      2.0
                   S2 GN2411            YES      2.07      2.07      0.0
                   S3 GN2411            YES      2.07      2.07      0.0
                   S4 GN2411            YES      2.07      2.07      0.0
                   CCC FPGA             YES      1.14      1.14      0.0
                   CCC Power-On         YES      1.30      1.30      0.0
                   Ethernet Switch      YES      1.32      1.32      0.0
                   BIOS FPD             YES      9.10      9.10      0.0
                   SB Certificates      NO      1.00      1.00      0.0
-----
NC6-10X100G-M-K    BAO-MB FPGA          NO      1.00      1.00      0.0
                   BAO-DB FPGA          NO      1.00      1.00      0.0
                   S2 GN2411            YES      3.01      3.01      2.0
                   S3 GN2411            YES      3.01      3.01      2.0
                   S4 GN2411            YES      3.01      3.01      2.0
                   S2 GN2411            YES      2.07      2.07      0.0
                   S3 GN2411            YES      2.07      2.07      0.0
                   S4 GN2411            YES      2.07      2.07      0.0
                   CPAK bay 0 FPD        YES      1.13      1.13      0.0
                   CPAK bay 1 FPD        YES      1.13      1.13      0.0
                   CPAK bay 2 FPD        YES      1.13      1.13      0.0
                   CPAK bay 3 FPD        YES      1.13      1.13      0.0
                   CPAK bay 4 FPD        YES      1.13      1.13      0.0
                   CPAK bay 5 FPD        YES      1.13      1.13      0.0
                   CPAK bay 6 FPD        YES      1.13      1.13      0.0
                   CPAK bay 7 FPD        YES      1.13      1.13      0.0
                   CPAK bay 8 FPD        YES      1.13      1.13      0.0
                   CPAK bay 9 FPD        YES      1.13      1.13      0.0
                   CCC FPGA             YES      1.14      1.14      0.0
                   CCC Power-On         YES      1.30      1.30      0.0
                   Ethernet Switch      YES      1.32      1.32      0.0
                   SB Certificates      NO      1.00      1.00      0.0
-----

```

```

NC6-10X100G-L-P  BAO-MB FPGA          NO      1.00      1.00      0.0
                  BAO-DB FPGA          NO      1.00      1.00      0.0
                  Slice-0 GN2411      YES     3.01      3.01      2.0
                  Slice-1 GN2411      YES     3.01      3.01      2.0
                  Slice-0 GN2411      YES     2.07      2.07      0.0
                  Slice-1 GN2411      YES     2.07      2.07      0.0
                  Slice-2 GN2411      YES     3.01      3.01      2.0
                  Slice-3 GN2411      YES     3.01      3.01      2.0
                  Slice-4 GN2411      YES     3.01      3.01      2.0
                  Slice-2 GN2411      YES     2.07      2.07      0.0
                  Slice-3 GN2411      YES     2.07      2.07      0.0
                  Slice-4 GN2411      YES     2.07      2.07      0.0
                  S2 GN2411            YES     3.01      3.01      2.0
                  S3 GN2411            YES     3.01      3.01      2.0
                  S4 GN2411            YES     3.01      3.01      2.0
                  S2 GN2411            YES     2.07      2.07      0.0
                  S3 GN2411            YES     2.07      2.07      0.0
                  S4 GN2411            YES     2.07      2.07      0.0
                  CCC FPGA             YES     1.14      1.14      0.0
                  CCC Power-On         YES     1.30      1.30      0.0
                  Ethernet Switch      YES     1.32      1.32      0.0
                  BIOS FPD             YES     9.10      9.10      0.0
                  SB Certificates       NO      1.00      1.00      0.0
-----
NC6-6-10X100G-L-K  BAO-MB FPGA          NO      1.00      1.00      0.0
                  BAO-DB FPGA          NO      1.00      1.00      0.0
                  Slice-0 GN2411      YES     2.07      2.07      0.0
                  Slice-1 GN2411      YES     2.07      2.07      0.0
                  Slice-2 GN2411      YES     2.07      2.07      0.0
                  Slice-3 GN2411      YES     2.07      2.07      0.0
                  Slice-4 GN2411      YES     2.07      2.07      0.0
                  S2 GN2411            YES     2.07      2.07      0.0
                  S3 GN2411            YES     2.07      2.07      0.0
                  S4 GN2411            YES     2.07      2.07      0.0
                  CCC FPGA             YES     1.14      1.14      0.0
                  CCC Power-On         YES     1.30      1.30      0.0

```

```

RP/0/RP0/CPU0:Router# admin
RP/0/RP0/CPU0:Router(admin)# show fpd package

```

Thu Jun 24 10:58:49.319 UTC

```

=====
                                Field Programmable Device Package
=====
Card Type          FPD Description          Type Subtype  SW      Min Req  Min Req
=====          =====          =====  =====  =====  =====
10C768-ITU/C       OPTICS FIRMWARE 104B4     1c  fpga2    104.04      0.0      0.0
-----
10C768-DWDM-L      OPTICS FIRMWARE 104B4     1c  fpga2    104.04      0.0      0.0
-----
10C768-DPSK/C      OPTICS FIRMWARE 101B3     1c  fpga2    101.03      0.0      0.0
-----

```

show fpd package Command Output: Example

1OC768-DPSK/C-O	OPTICS FIRMWARE 101B3	lc	fpga2	101.03	0.0	0.0
1OC768-DPSK/C-E	OPTICS FIRMWARE 101B3	lc	fpga2	101.03	0.0	0.0
CRS-ADVSVC-PLIM	FPGA mCPU0 0.557	lc	fpga2	0.557	0.0	0.0
	FPGA sCPU0 0.557	lc	fpga3	0.557	0.0	0.0
	FPGA mCPU1 0.557	lc	fpga4	0.557	0.0	0.0
	FPGA sCPU1 0.557	lc	fpga5	0.557	0.0	0.0
	FPGA PLIM_SVC 0.41013	lc	fpga1	0.41013	0.0	0.0
CRS1-SIP-800	JACKET FPGA swv6.0	lc	fpga1	6.00	5.0	0.0
	FPGA swv6.0 hww80	lc	fpga1	6.00	5.0	0.80
8-10GBE	FPGA swvA.0	lc	fpga1	10.00	0.0	0.0
OC48-POS-16-ED	FPGA PLIM_OC48 9.0	lc	fpga1	9.00	0.0	0.0
4-10GE	SQUIRREL FPGA 10.0	lc	fpga1	10.00	0.0	0.0
42-1GE	FPGA swv6.0	lc	fpga1	6.00	0.0	0.0
	FPGA swv6.0 hww0.80	lc	fpga1	6.00	0.0	0.80
20-1GE-FLEX	FPGA swv6.0	lc	fpga1	6.00	0.0	0.0
	FPGA swv6.0 hww0.80	lc	fpga1	6.00	0.0	0.80
2-10GE-WL-FLEX	FPGA swv6.0	lc	fpga1	6.00	0.0	0.0
	FPGA swv6.0 hww0.80	lc	fpga1	6.00	0.0	0.80
Route Processor	ROMMONA swv1.54 asmp	lc	rommonA	1.52	0.0	0.0
	ROMMONA swv1.54 dsmp	lc	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 asmp	lc	rommon	1.54	0.0	0.0
	ROMMONB swv1.54 dsmp	lc	rommon	1.54	0.0	0.0
SC	ROMMONA swv1.54 asmp	lc	rommonA	1.52	0.0	0.0
	ROMMONA swv1.54 dsmp	lc	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 asmp	lc	rommon	1.54	0.0	0.0
	ROMMONB swv1.54 dsmp	lc	rommon	1.54	0.0	0.0

RP	ROMMONA swv1.54 asmp	1c	rommonA	1.52	0.0	0.0
	ROMMONA swv1.54 dsmp	1c	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 asmp	1c	rommon	1.54	0.0	0.0
	ROMMONB swv1.54 dsmp	1c	rommon	1.54	0.0	0.0
Shelf Controller GE	ROMMONA swv1.54 asmp	1c	rommonA	1.52	0.0	0.0
	ROMMONA swv1.54 dsmp	1c	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 asmp	1c	rommon	1.54	0.0	0.0
	ROMMONB swv1.54 dsmp	1c	rommon	1.54	0.0	0.0
RP	ROMMONA swv1.54 asmp	1c	rommonA	1.52	0.0	0.0
	ROMMONA swv1.54 dsmp	1c	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 asmp	1c	rommon	1.54	0.0	0.0
	ROMMONB swv1.54 dsmp	1c	rommon	1.54	0.0	0.0
Shelf Controller GE2	ROMMONA swv1.54 asmp	1c	rommonA	1.52	0.0	0.0
	ROMMONA swv1.54 dsmp	1c	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 asmp	1c	rommon	1.54	0.0	0.0
	ROMMONB swv1.54 dsmp	1c	rommon	1.54	0.0	0.0
DRP	ROMMONA swv1.54 asmp	1c	rommonA	1.52	0.0	0.0
	ROMMONA swv1.54 dsmp	1c	rommonA	1.52	0.0	0.0
	ROMMONA swv1.54 sp	1c	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 asmp	1c	rommon	1.54	0.0	0.0
	ROMMONB swv1.54 dsmp	1c	rommon	1.54	0.0	0.0
	ROMMONB swv1.54 sp	1c	rommon	1.54	0.0	0.0
DRP_B	ROMMONA swv1.54 asmp	1c	rommonA	1.52	0.0	0.0
	ROMMONA swv1.54 dsmp	1c	rommonA	1.52	0.0	0.0
	ROMMONA swv1.54 sp	1c	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 asmp	1c	rommon	1.54	0.0	0.0
	ROMMONB swv1.54 dsmp	1c	rommon	1.54	0.0	0.0
	ROMMONB swv1.54 sp	1c	rommon	1.54	0.0	0.0

show fpd package Command Output: Example

S1S2S3	ROMMONA swv1.54 sp	lc	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 sp	lc	rommon	1.54	0.0	0.0

S1S3	ROMMONA swv1.54 sp	lc	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 sp	lc	rommon	1.54	0.0	0.0

S2	ROMMONA swv1.54 sp	lc	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 sp	lc	rommon	1.54	0.0	0.0

Fabric HS123	ROMMONA swv1.54 sp	lc	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 sp	lc	rommon	1.54	0.0	0.0

Fabric HS123 Star	ROMMONA swv1.54 sp	lc	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 sp	lc	rommon	1.54	0.0	0.0

Fabric HS13 Star	ROMMONA swv1.54 sp	lc	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 sp	lc	rommon	1.54	0.0	0.0

Fabric QQS123	ROMMONA swv1.54 sp	lc	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 sp	lc	rommon	1.54	0.0	0.0

LED	ROMMONA swv1.54 sp	lc	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 sp	lc	rommon	1.54	0.0	0.0

40G-MSC	ROMMONA swv1.54 asmp	lc	rommonA	1.52	0.0	0.0
	ROMMONA swv1.54 dsmp	lc	rommonA	1.52	0.0	0.0
	ROMMONA swv1.54 sp	lc	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 asmp	lc	rommon	1.54	0.0	0.0
	ROMMONB swv1.54 dsmp	lc	rommon	1.54	0.0	0.0
	ROMMONB swv1.54 sp	lc	rommon	1.54	0.0	0.0

MSC_B	ROMMONA swv1.54 asmp	lc	rommonA	1.52	0.0	0.0
	ROMMONA swv1.54 dsmp	lc	rommonA	1.52	0.0	0.0
	ROMMONA swv1.54 sp	lc	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 asmp	lc	rommon	1.54	0.0	0.0
	ROMMONB swv1.54 dsmp	lc	rommon	1.54	0.0	0.0
	ROMMONB swv1.54 sp	lc	rommon	1.54	0.0	0.0

FP40	ROMMONA swv1.54 asmp	lc	rommonA	1.53	0.0	0.0
	ROMMONA swv1.54 dsmp	lc	rommonA	1.53	0.0	0.0
	ROMMONA swv1.54 sp	lc	rommonA	1.53	0.0	0.0
	ROMMONB swv1.54 asmp	lc	rommon	1.54	0.0	0.0
	ROMMONB swv1.54 dsmp	lc	rommon	1.54	0.0	0.0
	ROMMONB swv1.54 sp	lc	rommon	1.54	0.0	0.0
PSAL	ROMMONA swv1.54 sp	lc	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 sp	lc	rommon	1.54	0.0	0.0
Unknown	ROMMONA swv1.54 sp	lc	rommonA	1.54	0.0	0.0
	ROMMONB swv1.54 sp	lc	rommon	1.54	0.0	0.0
FAN	ROMMONA swv1.54 sp	lc	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 sp	lc	rommon	1.54	0.0	0.0
FC Fan Controller	ROMMONA swv1.54 sp	lc	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 sp	lc	rommon	1.54	0.0	0.0
LED	ROMMONA swv1.54 sp	lc	rommonA	1.52	0.0	0.0
	ROMMONB swv1.54 sp	lc	rommon	1.54	0.0	0.0
SPA-4XT3/E3	SPA E3 Subrate FPGA	spa	fpga2	1.04	0.0	0.0
	SPA T3 Subrate FPGA	spa	fpga3	1.04	0.0	0.0
	SPA I/O FPGA	spa	fpga1	1.00	0.0	0.0
	SPA ROMMON	spa	rommon	2.12	0.0	0.0
SPA-2XT3/E3	SPA E3 Subrate FPGA	spa	fpga2	1.04	0.0	0.0
	SPA T3 Subrate FPGA	spa	fpga3	1.04	0.0	0.0
	SPA I/O FPGA	spa	fpga1	1.00	0.0	0.0
	SPA ROMMON	spa	rommon	2.12	0.0	0.0
SPA-OC192POS	SPA FPGA swv1.3	spa	fpga1	1.03	0.0	0.0
SPA-8XOC12-POS	SPA FPGA swv1.0	spa	fpga1	1.00	0.0	0.5

show fpd package Command Output: Example

```

SPA-4XOC3-POS          SPA FPGA swv3.4          spa  fpga1          3.04          0.0          0.0
-----
SPA-OC192POS-XFP       SPA FPGA swv1.2          spa  fpga1          1.02          0.0          0.0
-----
SPA-8X1GE              SPA FPGA swv1.8          spa  fpga1          1.08          0.0          0.0
-----
SPA-2XOC48POS/RPR      SPA FPGA swv1.0          spa  fpga1          1.00          0.0          0.0
-----
SPA-4XOC48POS/RPR      SPA FPGA swv1.0          spa  fpga1          1.00          0.0          0.0
-----
SPA-10X1GE-V2          SPA FPGA swv1.10         spa  fpga1          1.10          0.0          0.0
-----
SPA-8X1GE-V2           SPA FPGA swv1.10         spa  fpga1          1.10          0.0          0.0
-----
SPA-5X1GE-V2           SPA FPGA swv1.10         spa  fpga1          1.10          0.0          0.0
-----
SPA-1X10GE-L-V2        SPA FPGA swv1.9          spa  fpga1          1.09          0.0          0.0
-----
SPA-1X10GE-WL-V2       SPA FPGA swv1.11         spa  fpga1          1.11          0.0          0.0
-----
SPA-1XOC3-ATM-V2       SPA FPGA swv1.2          spa  fpga1          1.03          0.0          0.0
-----
SPA-2XOC3-ATM-V2       SPA FPGA swv1.2          spa  fpga1          1.03          0.0          0.0
-----
SPA-3XOC3-ATM-V2       SPA FPGA swv1.2          spa  fpga1          1.03          0.0          0.0
-----
SPA-1XOC12-ATM-V2      SPA FPGA swv1.2          spa  fpga1          1.03          0.0          0.0
-----

```

```

RP/0/0/CPU0:Router# admin
Thu Jul  7 04:40:30.631 DST

```

```

=====
                        Field Programmable Device Package
=====
Card Type          FPD Description          Type Subtype    SW Version    Min Req SW Ver    Min Req HW Vers
=====
E3-OC12-ATM-4      CIS1 FPGA                1c  fpga2        40971.00      0.0            0.0
                  IOB FPGA                 1c  fpga3        41091.00      0.0            0.0
                  SAF 0 FPGA               1c  fpga4        45586.00      0.0            0.0
                  CIS2 FPGA                1c  fpga1        40977.00      0.0            0.0
-----
E3-OC3-ATM-4       CIS1 FPGA                1c  fpga2        40971.00      0.0            0.0

```

	IOB FPGA	1c	fpga3	41091.00	0.0	0.0
	SAF 0 FPGA	1c	fpga4	45586.00	0.0	0.0
	CIS2 FPGA	1c	fpga1	40977.00	0.0	0.0

12000-ServEngCard	TREX FPGA	1c	fpga2	162.45	0.0	0.0
	TREX FPGA	1c	fpga1	0.41257	0.0	0.0

12000-SIP	HABANERO FPGA	1c	fpga2	240.03	0.0	0.0
	JALAPENO FPGA	1c	fpga5	240.13	0.0	0.0
	JALAPENO FPGA	1c	fpga5	240.13	0.0	0.0
	JALAPENO FPGA	1c	fpga1	255.23	0.0	0.0

E3-OC12-CH-1	Shiver FPGA	1c	fpga1	1.02	0.0	0.0

SPA-IPSEC-2G	Sequoia	spa	fpga2	1.01	0.0	1.0
	Lodi	spa	fpga1	1.22	0.0	1.0
	SPA PROM	spa	rommon	1.01	0.0	1.0

SPA-4XT3/E3	SPA E3 Subrate FPGA	spa	fpga2	1.04	0.0	0.0
	SPA T3 Subrate FPGA	spa	fpga3	1.04	0.0	0.0
	SPA I/O FPGA	spa	fpga1	1.01	0.0	0.0
	SPA ROMMON	spa	rommon	2.12	0.0	0.0

SPA-2XT3/E3	SPA E3 Subrate FPGA	spa	fpga2	1.04	0.0	0.0
	SPA T3 Subrate FPGA	spa	fpga3	1.04	0.0	0.0
	SPA I/O FPGA	spa	fpga1	1.01	0.0	0.0
	SPA ROMMON	spa	rommon	2.12	0.0	0.0

SPA-4XCT3/DS0	SPA T3 Subrate FPGA	spa	fpga2	0.11	0.0	0.100
	SPA T3 Subrate FPGA	spa	fpga2	1.04	0.0	0.200
	SPA I/O FPGA	spa	fpga1	2.08	0.0	0.100
	SPA ROMMON	spa	rommon	2.12	0.0	0.100

SPA-2XCT3/DS0	SPA T3 Subrate FPGA	spa	fpga2	0.11	0.0	0.100
	SPA T3 Subrate FPGA	spa	fpga2	1.04	0.0	0.200
	SPA I/O FPGA	spa	fpga1	2.08	0.0	0.100

show fpd package Command Output: Example

	SPA ROMMON	spa rommon	2.12	0.0	0.100
SPA-1XCHSTM1/OC3	SPA T3 Subrate FPGA	spa fpga2	1.04	0.0	0.0
	SPA I/O FPGA	spa fpga1	1.08	0.0	0.0
	SPA ROMMON	spa rommon	2.12	0.0	0.0
SPA-24CHT1-CE-ATM	SPA T3 Subrate FPGA	spa fpga2	1.10	0.0	1.0
	SPA I/O FPGA	spa fpga1	2.32	0.0	1.0
	SPA ROMMON	spa rommon	1.03	0.0	1.0
SPA-2CHT3-CE-ATM	SPA T3 Subrate FPGA	spa fpga2	1.10	0.0	1.0
	SPA I/O FPGA	spa fpga1	2.22	0.0	1.0
	SPA ROMMON	spa rommon	1.04	0.0	1.0
SPA-1CHOC3-CE-ATM	SPA OC3 Subrate FPGA	spa fpga2	1.00	0.0	2.0
	SPA I/O FPGA	spa fpga1	2.23	0.0	2.0
	SPA ROMMON	spa rommon	1.04	0.0	2.0
SPA-IPSEC-2G-2	Sequoia	spa fpga2	1.01	0.0	1.0
	Lodi	spa fpga1	1.22	0.0	1.0
	SPA PROM	spa rommon	1.01	0.0	1.0
SPA-1XCHOC48/DS3	SPA I/O FPGA	spa fpga2	1.00	0.0	0.49
	SPA I/O FPGA	spa fpga3	1.00	0.0	0.52
	SPA I/O FPGA	spa fpga1	1.36	0.0	0.49
	SPA ROMMON	spa rommon	2.02	0.0	0.49
SPA-1XCHOC12/DS0	SPA I/O FPGA	spa fpga2	1.00	0.0	0.49
	SPA I/O FPGA	spa fpga1	1.36	0.0	0.49
	SPA ROMMON	spa rommon	2.02	0.0	0.49
SPA-OC192POS	SPA FPGA swv1.2	spa fpga1	1.02	0.0	0.0
SPA-8XOC12-POS	SPA FPGA swv1.0	spa fpga1	1.00	0.0	0.5
SPA-8XCHT1/E1	SPA I/O FPGA	spa fpga1	2.08	0.0	0.0
	SPA ROMMON	spa rommon	2.12	0.0	0.140
SPA-OC192POS-XFP	SPA FPGA swv1.2	spa fpga1	1.02	0.0	0.0

	SPA FPGA swv1.2 hww2	spa fpga1	1.02	0.0	2.0

SPA-10X1GE	SPA FPGA swv1.10	spa fpga1	1.10	0.0	0.0

SPA-5X1GE	SPA FPGA swv1.10	spa fpga1	1.10	0.0	0.0

SPA-2XOC48POS/RPR	SPA FPGA swv1.0	spa fpga1	1.00	0.0	0.0

SPA-4XOC48POS/RPR	SPA FPGA swv1.0	spa fpga1	1.00	0.0	0.0

SPA-1XTENGE-XFP	SPA FPGA swv1.9	spa fpga1	1.09	0.0	0.0

SPA-8X1FE	SPA FPGA swv1.1	spa fpga1	1.01	0.0	0.0

SPA-1XOC48POS/RPR	SPA FPGA swv1.2	spa fpga1	1.02	0.0	0.0

SPA-8XOC3-POS	SPA FPGA swv1.0	spa fpga1	1.00	0.0	0.5

SPA-2XOC12-POS	SPA FPGA swv1.0	spa fpga1	1.00	0.0	0.5

SPA-4XOC12-POS	SPA FPGA swv1.0	spa fpga1	1.00	0.0	0.5

SPA-10X1GE-V2	SPA FPGA swv1.10	spa fpga1	1.10	0.0	0.0

SPA-8X1GE-V2	SPA FPGA swv1.10	spa fpga1	1.10	0.0	0.0

SPA-5X1GE-V2	SPA FPGA swv1.10	spa fpga1	1.10	0.0	0.0

SPA-2X1GE-V2	SPA FPGA swv1.1	spa fpga1	1.01	0.0	0.0

SPA-1X10GE-L-V2	SPA FPGA swv1.11	spa fpga1	1.11	0.0	0.0

SPA-8X1FE-V2	SPA FPGA swv1.1	spa fpga1	1.01	0.0	0.0

SPA-4XOC3-POS-V2	SPA FPGA swv1.0	spa fpga1	1.00	0.0	0.5

SPA-1X10GE-L-IT	SPA FPGA swv1.0	spa fpga1	1.00	0.0	0.0

SPA-1XOC3-ATM-V2	TATM SPA IOFPGA	spa fpga1	2.02	0.0	0.0

SPA-2XOC3-ATM-V2	SPA TATM IOFPGA	spa fpga1	2.02	0.0	0.0

show fpd package Command Output: Example

```
SPA-3XOC3-ATM-V2      SPA TATM IOFPGA          spa  fpga1      2.02      0.0      0.0
-----
SPA-1XOC12-ATM-V2     SPA TATM IOFPGA          spa  fpga1      2.02      0.0      0.0
-----
```

RP/0/RP1/CPU0:router(admin)# **show fpd package**

Thu Jul 7 04:34:48.351 DST

```
=====
                        Field Programmable Device Package
=====
```

Card Type	FPD Description	Type	Subtype	SW Version	Min Req SW Ver	Min Req HW Vers
A9K-40GE-B	Can Bus Ctrl (CBC) LC2	lc	cbc	2.02	0.0	0.1
	CPUCtrl LC2	lc	cp1d1	1.00	0.0	0.1
	PHYCtrl LC2	lc	cp1d2	0.06	0.0	0.1
	PortCtrl LC2	lc	fpga2	0.10	0.0	0.1
	Bridge LC2	lc	fpga1	0.43	0.0	0.1
	ROMMONA LC2	lc	rommonA	1.05	0.0	0.1
	ROMMONB LC2	lc	rommon	1.05	0.0	0.1
A9K-4T-B	Can Bus Ctrl (CBC) LC2	lc	cbc	2.02	0.0	0.1
	CPUCtrl LC2	lc	cp1d1	1.00	0.0	0.1
	PHYCtrl LC2	lc	cp1d2	0.08	0.0	0.1
	LCCLkCtrl LC2	lc	cp1d3	0.03	0.0	0.1
	PortCtrl LC2	lc	fpga2	0.10	0.0	0.1
	PHY LC2	lc	fpga3	14.44	0.0	0.1
	Bridge LC2	lc	fpga1	0.43	0.0	0.1
	ROMMONB LC2	lc	rommon	1.05	0.0	0.1
A9K-8T/4-B	Can Bus Ctrl (CBC) LC2	lc	cbc	2.02	0.0	0.1
	CPUCtrl LC2	lc	cp1d1	1.00	0.0	0.1
	PHYCtrl LC2	lc	cp1d2	0.08	0.0	0.1
	LCCLkCtrl LC2	lc	cp1d3	0.03	0.0	0.1
	PortCtrl LC2	lc	fpga2	0.10	0.0	0.1
	PHY LC2	lc	fpga3	14.44	0.0	0.1
	Bridge LC2	lc	fpga1	0.43	0.0	0.1

	ROMMONB LC2	lc	rommon	1.05	0.0	0.1

A9K-2T20GE-B	Can Bus Ctrl (CBC) LC2	lc	cbc	2.02	0.0	0.1
	CPUCtrl LC2	lc	cpld1	1.00	0.0	0.1
	PHYCtrl LC2	lc	cpld2	0.11	0.0	0.1
	LCClkCtrl LC2	lc	cpld3	0.09	0.0	0.1
	PortCtrl LC2	lc	fpga2	0.16	0.0	0.1
	Bridge LC2	lc	fpga1	0.43	0.0	0.1
	ROMMONB LC2	lc	rommon	1.05	0.0	0.1

A9K-40GE-E	Can Bus Ctrl (CBC) LC2	lc	cbc	2.02	0.0	0.1
	CPUCtrl LC2	lc	cpld1	1.00	0.0	0.1
	PHYCtrl LC2	lc	cpld2	0.06	0.0	0.1
	PortCtrl LC2	lc	fpga2	0.10	0.0	0.1
	Bridge LC2	lc	fpga1	0.43	0.0	0.1
	ROMMONA LC2	lc	rommonA	1.05	0.0	0.1
	ROMMONB LC2	lc	rommon	1.05	0.0	0.1

A9K-4T-E	Can Bus Ctrl (CBC) LC2	lc	cbc	2.02	0.0	0.1
	CPUCtrl LC2	lc	cpld1	1.00	0.0	0.1
	PHYCtrl LC2	lc	cpld2	0.08	0.0	0.1
	LCClkCtrl LC2	lc	cpld3	0.03	0.0	0.1
	PortCtrl LC2	lc	fpga2	0.10	0.0	0.1
	PHY LC2	lc	fpga3	14.44	0.0	0.1
	Bridge LC2	lc	fpga1	0.43	0.0	0.1
	ROMMONB LC2	lc	rommon	1.05	0.0	0.1

A9K-8T/4-E	Can Bus Ctrl (CBC) LC2	lc	cbc	2.02	0.0	0.1
	CPUCtrl LC2	lc	cpld1	1.00	0.0	0.1
	PHYCtrl LC2	lc	cpld2	0.08	0.0	0.1
	LCClkCtrl LC2	lc	cpld3	0.03	0.0	0.1
	PortCtrl LC2	lc	fpga2	0.10	0.0	0.1
	PHY LC2	lc	fpga3	14.44	0.0	0.1
	Bridge LC2	lc	fpga1	0.43	0.0	0.1

show fpd package Command Output: Example

	ROMMONB LC2	lc	rommon	1.05	0.0	0.1

A9K-2T20GE-E	Can Bus Ctrl (CBC) LC2	lc	cbc	2.02	0.0	0.1
	CPUCtrl LC2	lc	cp1d1	1.00	0.0	0.1
	PHYCtrl LC2	lc	cp1d2	0.11	0.0	0.1
	LCCLKCtrl LC2	lc	cp1d3	0.09	0.0	0.1
	PortCtrl LC2	lc	fpga2	0.16	0.0	0.1
	Bridge LC2	lc	fpga1	0.43	0.0	0.1
	ROMMONB LC2	lc	rommon	1.05	0.0	0.1

A9K-8T-B	Can Bus Ctrl (CBC) LC3	lc	cbc	6.02	0.0	0.1
	CPUCtrl LC3	lc	cp1d1	1.02	0.0	0.1
	PHYCtrl LC3	lc	cp1d2	0.08	0.0	0.1
	LCCLKCtrl LC3	lc	cp1d3	0.03	0.0	0.1
	DB CPUCtrl LC3	lc	cp1d4	1.03	0.0	0.1
	PortCtrl LC3	lc	fpga2	0.11	0.0	0.1
	Raven LC3	lc	fpga1	1.02	0.0	0.1
	ROMMONB LC3	lc	rommon	1.03	0.0	0.1

A9K-16T/8-B	Can Bus Ctrl (CBC) LC3	lc	cbc	6.02	0.0	0.1
	CPUCtrl LC3	lc	cp1d1	1.02	0.0	0.1
	PHYCtrl LC3	lc	cp1d2	0.04	0.0	0.1
	LCCLKCtrl LC3	lc	cp1d3	0.01	0.0	0.1
	DB CPUCtrl LC3	lc	cp1d4	1.03	0.0	0.1
	PortCtrl LC3	lc	fpga2	0.01	0.0	0.1
	Raven LC3	lc	fpga1	1.02	0.0	0.1
	ROMMONB LC3	lc	rommon	1.03	0.0	0.1

A9K-16T/8-B	Can Bus Ctrl (CBC) LC3	lc	cbc	6.02	0.0	0.1
	CPUCtrl LC3	lc	cp1d1	1.02	0.0	0.1
	PHYCtrl LC3	lc	cp1d2	0.04	0.0	0.1
	LCCLKCtrl LC3	lc	cp1d3	0.01	0.0	0.1
	DB CPUCtrl LC3	lc	cp1d4	1.03	0.0	0.1
	PortCtrl LC3	lc	fpga2	0.01	0.0	0.1

	Raven LC3	lc	fpga1	1.02	0.0	0.1
	ROMMONB LC3	lc	rommon	1.03	0.0	0.1

A9K-8T-E	Can Bus Ctrl (CBC) LC3	lc	cbc	6.02	0.0	0.1
	CPUCtrl LC3	lc	cpld1	1.02	0.0	0.1
	PHYCtrl LC3	lc	cpld2	0.08	0.0	0.1
	LCCLKCtrl LC3	lc	cpld3	0.03	0.0	0.1
	CPUCtrl LC3	lc	cpld4	1.03	0.0	0.1
	PortCtrl LC3	lc	fpga2	0.11	0.0	0.1
	Raven LC3	lc	fpga1	1.02	0.0	0.1
	ROMMONB LC3	lc	rommon	1.03	0.0	0.1

A9K-16T/8-E	Can Bus Ctrl (CBC) LC3	lc	cbc	6.02	0.0	0.1
	CPUCtrl LC3	lc	cpld1	1.02	0.0	0.1
	PHYCtrl LC3	lc	cpld2	0.04	0.0	0.1
	LCCLKCtrl LC3	lc	cpld3	0.01	0.0	0.1
	DB CPUCtrl LC3	lc	cpld4	1.03	0.0	0.1
	PortCtrl LC3	lc	fpga2	0.01	0.0	0.1
	Raven LC3	lc	fpga1	1.02	0.0	0.1
	ROMMONB LC3	lc	rommon	1.03	0.0	0.1

A9K-16T/8-E	Can Bus Ctrl (CBC) LC3	lc	cbc	6.02	0.0	0.1
	CPUCtrl LC3	lc	cpld1	1.02	0.0	0.1
	PHYCtrl LC3	lc	cpld2	0.04	0.0	0.1
	LCCLKCtrl LC3	lc	cpld3	0.01	0.0	0.1
	DB CPUCtrl LC3	lc	cpld4	1.03	0.0	0.1
	PortCtrl LC3	lc	fpga2	0.01	0.0	0.1
	Raven LC3	lc	fpga1	1.02	0.0	0.1
	ROMMONB LC3	lc	rommon	1.03	0.0	0.1

A9K-40GE-L	Can Bus Ctrl (CBC) LC2	lc	cbc	2.02	0.0	0.1
	CPUCtrl LC2	lc	cpld1	1.00	0.0	0.1
	PHYCtrl LC2	lc	cpld2	0.06	0.0	0.1
	PortCtrl LC2	lc	fpga2	0.10	0.0	0.1

show fpd package Command Output: Example

	Bridge LC2	lc	fpga1	0.43	0.0	0.1
	ROMMONB LC2	lc	rommon	1.05	0.0	0.1

A9K-4T-L	Can Bus Ctrl (CBC) LC2	lc	cbc	2.02	0.0	0.1
	CPUCtrl LC2	lc	cp1d1	1.00	0.0	0.1
	PHYCtrl LC2	lc	cp1d2	0.08	0.0	0.1
	LCCLKCtrl LC2	lc	cp1d3	0.03	0.0	0.1
	PortCtrl LC2	lc	fpga2	0.10	0.0	0.1
	Serdes Upgrade LC2	lc	fpga3	14.44	0.0	0.1
	Bridge LC2	lc	fpga1	0.43	0.0	0.1
	ROMMONB LC2	lc	rommon	1.05	0.0	0.1

A9K-8T/4-L	Can Bus Ctrl (CBC) LC2	lc	cbc	2.02	0.0	0.1
	CPUCtrl LC2	lc	cp1d1	1.00	0.0	0.1
	PHYCtrl LC2	lc	cp1d2	0.08	0.0	0.1
	LCCLKCtrl LC2	lc	cp1d3	0.03	0.0	0.1
	PortCtrl LC2	lc	fpga2	0.10	0.0	0.1
	Serdes Upgrade LC2	lc	fpga3	14.44	0.0	0.1
	Bridge LC2	lc	fpga1	0.43	0.0	0.1
	ROMMONB LC2	lc	rommon	1.05	0.0	0.1

A9K-2T20GE-L	Can Bus Ctrl (CBC) LC2	lc	cbc	2.02	0.0	0.1
	CPUCtrl LC2	lc	cp1d1	1.00	0.0	0.1
	PHYCtrl LC2	lc	cp1d2	0.11	0.0	0.1
	LCCLKCtrl LC2	lc	cp1d3	0.09	0.0	0.1
	Tomcat LC2	lc	fpga2	0.16	0.0	0.1
	Bridge LC2	lc	fpga1	0.43	0.0	0.1
	ROMMONB LC2	lc	rommon	1.05	0.0	0.1

A9K-8T-L	Can Bus Ctrl (CBC) LC3	lc	cbc	6.02	0.0	0.1
	CPUCtrl LC3	lc	cp1d1	1.02	0.0	0.1
	PHYCtrl LC3	lc	cp1d2	0.08	0.0	0.1
	LCCLKCtrl LC3	lc	cp1d3	0.03	0.0	0.1
	CPUCtrl LC3	lc	cp1d4	1.03	0.0	0.1

	PortCtrl LC3	1c	fpga2	0.11	0.0	0.1
	Raven LC3	1c	fpga1	1.02	0.0	0.1
	ROMMONB LC3	1c	rommon	1.03	0.0	0.1

A9K-16T/8-L	Can Bus Ctrl (CBC) LC3	1c	cbc	6.02	0.0	0.1
	CPUCtrl LC3	1c	cp1d1	1.02	0.0	0.1
	PHYCtrl LC3	1c	cp1d2	0.04	0.0	0.1
	LCClkCtrl LC3	1c	cp1d3	0.01	0.0	0.1
	DB CPUCtrl LC3	1c	cp1d4	1.03	0.0	0.1
	PortCtrl LC3	1c	fpga2	0.01	0.0	0.1
	Raven LC3	1c	fpga1	1.02	0.0	0.1
	ROMMONB LC3	1c	rommon	1.03	0.0	0.1

A9K-SIP-700	Can Bus Ctrl (CBC) LC5	1c	cbc	3.05	0.0	0.1
	CPUCtrl LC5	1c	cp1d1	0.15	0.0	0.1
	QFPCPUBridge LC5	1c	fpga2	5.14	0.0	0.1
	NPUXBarBridge LC5	1c	fpga1	0.22	0.0	0.1
	ROMMONA LC5	1c	rommonA	1.03	0.0	0.1
	ROMMONB LC5	1c	rommon	1.03	0.0	0.1

A9K-SIP-500	Can Bus Ctrl (CBC) LC5	1c	cbc	3.05	0.0	0.1
	CPUCtrl LC5	1c	cp1d1	0.15	0.0	0.1
	QFPCPUBridge LC5	1c	fpga2	5.14	0.0	0.1
	NPUXBarBridge LC5	1c	fpga1	0.22	0.0	0.1
	ROMMONA LC5	1c	rommonA	1.03	0.0	0.1
	ROMMONB LC5	1c	rommon	1.03	0.0	0.1

A9K-RSP-2G	Can Bus Ctrl (CBC) RSP2	1c	cbc	1.02	0.0	0.1
	CPUCtrl RSP2	1c	cp1d2	1.17	0.0	0.1
	IntCtrl RSP2	1c	fpga2	1.15	0.0	0.1
	ClkCtrl RSP2	1c	fpga3	1.23	0.0	0.1
	UTI RSP2	1c	fpga4	3.08	0.0	0.1
	PUNT RSP2	1c	fpga1	1.05	0.0	0.1
	HSBI RSP2	1c	hsbi	4.00	0.0	0.1

show fpd package Command Output: Example

	ROMMONA RSP2	lc	rommonA	1.05	0.0	0.1
	ROMMONB RSP2	lc	rommon	1.05	0.0	0.1

A9K-RSP-4G	Can Bus Ctrl (CBC) RSP2	lc	cbc	1.02	0.0	0.1
	CPUCtrl RSP2	lc	cp1d2	1.17	0.0	0.1
	IntCtrl RSP2	lc	fpga2	1.15	0.0	0.1
	ClkCtrl RSP2	lc	fpga3	1.23	0.0	0.1
	UTI RSP2	lc	fpga4	3.08	0.0	0.1
	PUNT RSP2	lc	fpga1	1.05	0.0	0.1
	HSBI RSP2	lc	hsbi	4.00	0.0	0.1
	ROMMONA RSP2	lc	rommonA	1.05	0.0	0.1
	ROMMONB RSP2	lc	rommon	1.05	0.0	0.1

A9K-RSP-8G	Can Bus Ctrl (CBC) RSP2	lc	cbc	1.02	0.0	0.1
	CPUCtrl RSP2	lc	cp1d2	1.17	0.0	0.1
	IntCtrl RSP2	lc	fpga2	1.15	0.0	0.1
	ClkCtrl RSP2	lc	fpga3	1.23	0.0	0.1
	UTI RSP2	lc	fpga4	3.08	0.0	0.1
	PUNT RSP2	lc	fpga1	1.05	0.0	0.1
	HSBI RSP2	lc	hsbi	4.00	0.0	0.1
	ROMMONA RSP2	lc	rommonA	1.05	0.0	0.1
	ROMMONB RSP2	lc	rommon	1.05	0.0	0.1

ASR-9010-FAN	Can Bus Ctrl (CBC) FAN	lc	cbc	4.00	0.0	0.1

ASR-9006-FAN	Can Bus Ctrl (CBC) FAN	lc	cbc	5.00	0.0	0.1

A9K-BPID2-10-SLOT	Can Bus Ctrl (CBC) BP2	lc	cbc	7.103	0.0	0.1

A9K-BPID2-6-SLOT	Can Bus Ctrl (CBC) BP2	lc	cbc	7.103	0.0	0.1

A9K-ISM-100	Can Bus Ctrl (CBC) LC6	lc	cbc	18.05	0.0	0.1
	CPUCtrl LC6	lc	cp1d1	0.01	0.0	0.1
	Maintenance LC6	lc	fpga2	1.00	0.0	0.1
	Amistad LC6	lc	fpga1	0.25	0.0	0.20

	ROMMONA LC6	lc	rommonA	1.02	0.0	0.1
	ROMMONB LC6	lc	rommon	1.02	0.0	0.1

A9K-8T-B	CPUCtrl LC3	lc	cp1d1	1.02	0.0	0.1
	PHYCtrl LC3	lc	cp1d2	0.08	0.0	0.1
	DB CPUCtrl LC3	lc	cp1d4	1.03	0.0	0.1
	PortCtrl LC3	lc	fpga2	0.11	0.0	0.1
	Raven LC3	lc	fpga1	1.02	0.0	0.1

A9K-8T-E	CPUCtrl LC3	lc	cp1d1	1.02	0.0	0.1
	DB CPUCtrl LC3	lc	cp1d4	1.03	0.0	0.1
	PortCtrl LC3	lc	fpga2	0.11	0.0	0.1
	Raven LC3	lc	fpga1	1.02	0.0	0.1

SPA-4XT3/E3	SPA E3 Subrate FPGA	spa	fpga2	1.04	0.0	0.0
	SPA T3 Subrate FPGA	spa	fpga3	1.04	0.0	0.0
	SPA I/O FPGA	spa	fpga1	1.01	0.0	0.0
	SPA ROMMON	spa	rommon	2.12	0.0	0.0

SPA-2XT3/E3	SPA E3 Subrate FPGA	spa	fpga2	1.04	0.0	0.0
	SPA T3 Subrate FPGA	spa	fpga3	1.04	0.0	0.0
	SPA I/O FPGA	spa	fpga1	1.01	0.0	0.0
	SPA ROMMON	spa	rommon	2.12	0.0	0.0

SPA-4XCT3/DS0	SPA T3 Subrate FPGA	spa	fpga2	0.11	0.0	0.100
	SPA T3 Subrate FPGA	spa	fpga2	1.04	0.0	0.200
	SPA I/O FPGA	spa	fpga1	2.08	0.0	0.100
	SPA ROMMON	spa	rommon	2.12	0.0	0.100

SPA-2XCT3/DS0	SPA T3 Subrate FPGA	spa	fpga2	0.11	0.0	0.100
	SPA T3 Subrate FPGA	spa	fpga2	1.04	0.0	0.200
	SPA I/O FPGA	spa	fpga1	2.08	0.0	0.100
	SPA ROMMON	spa	rommon	2.12	0.0	0.100

SPA-1XCHSTM1/OC3	SPA T3 Subrate FPGA	spa	fpga2	1.04	0.0	0.0
	SPA I/O FPGA	spa	fpga1	1.08	0.0	0.0
	SPA ROMMON	spa	rommon	2.12	0.0	0.0

show fpd package Command Output: Example

SPA-1XCHOC48/DS3	SPA I/O FPGA	spa fpga2	1.00	0.0	0.49
	SPA I/O FPGA	spa fpga3	1.00	0.0	0.52
	SPA I/O FPGA	spa fpga1	1.36	0.0	0.49
	SPA ROMMON	spa rommon	2.02	0.0	0.49
SPA-2XCHOC12/DS0	SPA FPGA2 swv1.00	spa fpga2	1.00	0.0	0.0
	SPA FPGA swv1.36	spa fpga1	1.36	0.0	0.49
	SPA ROMMON swv2.2	spa rommon	2.02	0.0	0.49
SPA-8XOC12-POS	SPA FPGA swv1.0	spa fpga1	1.00	0.0	0.5
SPA-8XCHT1/E1	SPA I/O FPGA	spa fpga1	2.08	0.0	0.0
	SPA ROMMON	spa rommon	2.12	0.0	0.140
SPA-OC192POS-XFP	SPA FPGA swv1.2 hmv2	spa fpga1	1.02	0.0	2.0
SPA-2XOC48POS/RPR	SPA FPGA swv1.0	spa fpga1	1.00	0.0	0.0
SPA-8XOC3-POS	SPA FPGA swv1.0	spa fpga1	1.00	0.0	0.5
SPA-10X1GE-V2	SPA FPGA swv1.10	spa fpga1	1.10	0.0	0.0
SPA-5X1GE-V2	SPA FPGA swv1.10	spa fpga1	1.10	0.0	0.0
SPA-1X10GE-L-V2	SPA FPGA swv1.9	spa fpga1	1.09	0.0	0.0
SPA-4XOC3-POS-V2	SPA FPGA swv1.0	spa fpga1	1.00	0.0	0.5
SPA-1X10GE-WL-V2	SPA FPGA swv1.9	spa fpga1	1.09	0.0	0.0

This table describes the significant fields shown in the display:

Table 3: show fpd package Field Descriptions

Field	Description
Card Type	Module part number.
FPD Description	Description of all FPD images available for the SPA.

Field	Description
Type	Hardware type. Possible types can be: • spa—Shared port adapter • lc—Line card
Subtype	FPD subtype. These values are used in the upgrade hw-module fpd command to indicate a specific FPD image type to upgrade.
SW Version	FPD software version recommended for the associated module running the current Cisco IOS XR software.
Min Req SW Vers	Minimum required FPD image software version to operate the card. Version 0.0 indicates that a minimum required image was not programmed into the card.
Min Req HW Vers	Minimum required hardware version for the associated FPD image. A minimum hardware requirement of version 0.0 indicates that all hardware can support this FPD image version.

This example shows the output display for ASR9912 and ASR9922:

```
RP/0/RP0/CPU0:router # show fpd package
```

```
=====
                        Field Programmable Device Package
=====
```

Card Type	FPD Description	Type	Subtype	SW Version	Min Req SW Ver	Min Req HW Vers
ASR-9912-BPID2	Can Bus Ctrl (CBC) BP2	bp	cbc	7.104	0.00	0.1
	Can Bus Ctrl (CBC) BP2	lc	cbc	7.104	0.00	0.1
ASR-9922-BPID2	Can Bus Ctrl (CBC) BP2	bp	cbc	7.104	0.00	0.1
	Can Bus Ctrl (CBC) BP2	lc	cbc	7.104	0.00	0.1
A9K-BPID2-10-SLOT	Can Bus Ctrl (CBC) BP2	bp	cbc	7.104	0.00	0.1
	Can Bus Ctrl (CBC) BP2	lc	cbc	7.104	0.00	0.1
A9K-BPID2-6-SLOT	Can Bus Ctrl (CBC) BP2	bp	cbc	7.104	0.00	0.1
	Can Bus Ctrl (CBC) BP2	lc	cbc	7.104	0.00	0.1
ASR-9922-SFC110	Can Bus Ctrl (CBC) MTFC	fc	cbc	28.03	0.00	0.1
	Fabric Ctrl0 MTFC	fc	fpga7	1.01	0.00	0.1
	Can Bus Ctrl (CBC) MTFC	lc	cbc	28.03	0.00	0.1
ASR-9912-SFC110	Can Bus Ctrl (CBC) SSFC	fc	cbc	32.02	0.00	0.1

show fpd package Command Output: Example

	Fabric Ctrl10 MTFC	fc	fpga7	1.01	0.00	0.1

ASR-9010-FAN	Can Bus Ctrl1 (CBC) FAN	ft	cbc	4.02	0.00	0.1
	Can Bus Ctrl1 (CBC) FAN	lc	cbc	4.02	0.00	0.1

ASR-9006-FAN	Can Bus Ctrl1 (CBC) FAN	ft	cbc	5.02	0.00	0.1
	Can Bus Ctrl1 (CBC) FAN	lc	cbc	5.02	0.00	0.1

ASR-9922-FAN	Can Bus Ctrl1 (CBC) MFAN	ft	cbc	29.10	0.00	0.1
	Can Bus Ctrl1 (CBC) MFAN	lc	cbc	29.10	0.00	0.1

ASR-9912-FAN	Can Bus Ctrl1 (CBC) SFAN	ft	cbc	31.03	0.00	0.1

ASR-9010-FAN-V2	Can Bus Ctrl1 (CBC) FAN	ft	cbc	29.10	0.00	0.1
	Can Bus Ctrl1 (CBC) FAN	lc	cbc	29.10	0.00	0.1

ASR-9001-FAN	Can Bus Ctrl1 (CBC) FAN	ft	cbc	24.114	0.00	0.1
	Can Bus Ctrl1 (CBC) FAN	lc	cbc	24.114	0.00	0.1

A9K-40GE-B	Can Bus Ctrl1 (CBC) LC2	lc	cbc	2.03	0.00	0.1
	CPUCtrl LC2	lc	cp1d1	1.00	0.00	0.1
	PHYCtrl LC2	lc	cp1d2	0.06	0.00	0.1
	PortCtrl LC2	lc	fpga2	0.10	0.00	0.1
	Bridge LC2	lc	fpga1	0.44	0.00	0.1
	ROMMONB LC2	lc	rommon	1.05	0.00	0.1

A9K-4T-B	Can Bus Ctrl1 (CBC) LC2	lc	cbc	2.03	0.00	0.1
	CPUCtrl LC2	lc	cp1d1	1.00	0.00	0.1
	PHYCtrl LC2	lc	cp1d2	0.08	0.00	0.1
	LCCLKCtrl LC2	lc	cp1d3	0.03	0.00	0.1
	PortCtrl LC2	lc	fpga2	0.10	0.00	0.1
	PHY LC2	lc	fpga3	14.44	0.00	0.1
	Bridge LC2	lc	fpga1	0.44	0.00	0.1
	ROMMONB LC2	lc	rommon	1.05	0.00	0.1

A9K-8T/4-B	Can Bus Ctrl1 (CBC) LC2	lc	cbc	2.03	0.00	0.1
	CPUCtrl LC2	lc	cp1d1	1.00	0.00	0.1

	PHYCtrl LC2	1c	cp1d2	0.08	0.00	0.1
	LCC1kCtrl LC2	1c	cp1d3	0.03	0.00	0.1
	PortCtrl LC2	1c	fpga2	0.10	0.00	0.1
	PHY LC2	1c	fpga3	14.44	0.00	0.1
	Bridge LC2	1c	fpga1	0.44	0.00	0.1
	ROMMONB LC2	1c	rommon	1.05	0.00	0.1

A9K-2T20GE-B	Can Bus Ctrl (CBC) LC2	1c	cbc	2.03	0.00	0.1
	CPUCtrl LC2	1c	cp1d1	1.00	0.00	0.1
	PHYCtrl LC2	1c	cp1d2	0.11	0.00	0.1
	LCC1kCtrl LC2	1c	cp1d3	0.10	0.00	0.1
	PortCtrl LC2	1c	fpga2	0.16	0.00	0.1
	Bridge LC2	1c	fpga1	0.44	0.00	0.1
	ROMMONB LC2	1c	rommon	1.05	0.00	0.1

A9K-40GE-E	Can Bus Ctrl (CBC) LC2	1c	cbc	2.03	0.00	0.1
	CPUCtrl LC2	1c	cp1d1	1.00	0.00	0.1
	PHYCtrl LC2	1c	cp1d2	0.06	0.00	0.1
	PortCtrl LC2	1c	fpga2	0.10	0.00	0.1
	Bridge LC2	1c	fpga1	0.44	0.00	0.1
	ROMMONB LC2	1c	rommon	1.05	0.00	0.1

A9K-4T-E	Can Bus Ctrl (CBC) LC2	1c	cbc	2.03	0.00	0.1
	CPUCtrl LC2	1c	cp1d1	1.00	0.00	0.1
	PHYCtrl LC2	1c	cp1d2	0.08	0.00	0.1
	LCC1kCtrl LC2	1c	cp1d3	0.03	0.00	0.1
	PortCtrl LC2	1c	fpga2	0.10	0.00	0.1
	PHY LC2	1c	fpga3	14.44	0.00	0.1
	Bridge LC2	1c	fpga1	0.44	0.00	0.1
	ROMMONB LC2	1c	rommon	1.05	0.00	0.1

A9K-8T/4-E	Can Bus Ctrl (CBC) LC2	1c	cbc	2.03	0.00	0.1
	CPUCtrl LC2	1c	cp1d1	1.00	0.00	0.1
	PHYCtrl LC2	1c	cp1d2	0.08	0.00	0.1

show fpd package Command Output: Example

	LCClkCtrl LC2	lc	cp1d3	0.03	0.00	0.1
	PortCtrl LC2	lc	fpga2	0.10	0.00	0.1
	PHY LC2	lc	fpga3	14.44	0.00	0.1
	Bridge LC2	lc	fpga1	0.44	0.00	0.1
	ROMMONB LC2	lc	rommon	1.05	0.00	0.1

A9K-2T20GE-E	Can Bus Ctrl (CBC) LC2	lc	cbc	2.03	0.00	0.1
	CPUCtrl LC2	lc	cp1d1	1.00	0.00	0.1
	PHYCtrl LC2	lc	cp1d2	0.11	0.00	0.1
	LCClkCtrl LC2	lc	cp1d3	0.10	0.00	0.1
	PortCtrl LC2	lc	fpga2	0.16	0.00	0.1
	Bridge LC2	lc	fpga1	0.44	0.00	0.1
	ROMMONB LC2	lc	rommon	1.05	0.00	0.1

A9K-8T-B	Can Bus Ctrl (CBC) LC3	lc	cbc	6.07	0.00	0.1
	CPUCtrl LC3	lc	cp1d1	1.02	0.00	0.1
	PHYCtrl LC3	lc	cp1d2	0.08	0.00	0.1
	LCClkCtrl LC3	lc	cp1d3	0.03	0.00	0.1
	DB CPUCtrl LC3	lc	cp1d4	1.03	0.00	0.1
	PortCtrl LC3	lc	fpga2	0.11	0.00	0.1
	Raven LC3	lc	fpga1	1.03	0.00	0.1
	ROMMONB LC3	lc	rommon	1.03	0.00	0.1

A9K-16T/8-B	Can Bus Ctrl (CBC) LC3	lc	cbc	6.08	0.00	0.1
	CPUCtrl LC3	lc	cp1d1	1.02	0.00	0.1
	PHYCtrl LC3	lc	cp1d2	0.04	0.00	0.1
	LCClkCtrl LC3	lc	cp1d3	0.01	0.00	0.1
	DB CPUCtrl LC3	lc	cp1d4	1.03	0.00	0.1
	PortCtrl LC3	lc	fpga2	0.01	0.00	0.1
	Raven LC3	lc	fpga1	1.03	0.00	0.1
	ROMMONB LC3	lc	rommon	1.03	0.00	0.1

A9K-8T-E	Can Bus Ctrl (CBC) LC3	lc	cbc	6.07	0.00	0.1
	CPUCtrl LC3	lc	cp1d1	1.02	0.00	0.1

	PHYCtrl LC3	1c	cp1d2	0.08	0.00	0.1
	LCC1kCtrl LC3	1c	cp1d3	0.03	0.00	0.1
	CPUCtrl LC3	1c	cp1d4	1.03	0.00	0.1
	PortCtrl LC3	1c	fpga2	0.11	0.00	0.1
	Raven LC3	1c	fpga1	1.03	0.00	0.1
	ROMMONB LC3	1c	rommon	1.03	0.00	0.1

A9K-16T/8-E	Can Bus Ctrl (CBC) LC3	1c	cbc	6.08	0.00	0.1
	CPUCtrl LC3	1c	cp1d1	1.02	0.00	0.1
	PHYCtrl LC3	1c	cp1d2	0.04	0.00	0.1
	LCC1kCtrl LC3	1c	cp1d3	0.01	0.00	0.1
	DB CPUCtrl LC3	1c	cp1d4	1.03	0.00	0.1
	PortCtrl LC3	1c	fpga2	0.01	0.00	0.1
	Raven LC3	1c	fpga1	1.03	0.00	0.1
	ROMMONB LC3	1c	rommon	1.03	0.00	0.1

A9K-40GE-L	Can Bus Ctrl (CBC) LC2	1c	cbc	2.03	0.00	0.1
	CPUCtrl LC2	1c	cp1d1	1.00	0.00	0.1
	PHYCtrl LC2	1c	cp1d2	0.06	0.00	0.1
	PortCtrl LC2	1c	fpga2	0.10	0.00	0.1
	Bridge LC2	1c	fpga1	0.44	0.00	0.1
	ROMMONB LC2	1c	rommon	1.05	0.00	0.1

A9K-4T-L	Can Bus Ctrl (CBC) LC2	1c	cbc	2.03	0.00	0.1
	CPUCtrl LC2	1c	cp1d1	1.00	0.00	0.1
	PHYCtrl LC2	1c	cp1d2	0.08	0.00	0.1
	LCC1kCtrl LC2	1c	cp1d3	0.03	0.00	0.1
	PortCtrl LC2	1c	fpga2	0.10	0.00	0.1
	Serdes Upgrade LC2	1c	fpga3	14.44	0.00	0.1
	Bridge LC2	1c	fpga1	0.44	0.00	0.1
	ROMMONB LC2	1c	rommon	1.05	0.00	0.1

A9K-8T/4-L	Can Bus Ctrl (CBC) LC2	1c	cbc	2.03	0.00	0.1
	CPUCtrl LC2	1c	cp1d1	1.00	0.00	0.1

show fpd package Command Output: Example

	PHYCtrl LC2	lc	cp1d2	0.08	0.00	0.1
	LCCLKCtrl LC2	lc	cp1d3	0.03	0.00	0.1
	PortCtrl LC2	lc	fpga2	0.10	0.00	0.1
	Serdes Upgrade LC2	lc	fpga3	14.44	0.00	0.1
	Bridge LC2	lc	fpga1	0.44	0.00	0.1
	ROMMONB LC2	lc	rommon	1.05	0.00	0.1

A9K-2T20GE-L	Can Bus Ctrl (CBC) LC2	lc	cbc	2.03	0.00	0.1
	CPUCtrl LC2	lc	cp1d1	1.00	0.00	0.1
	PHYCtrl LC2	lc	cp1d2	0.11	0.00	0.1
	LCCLKCtrl LC2	lc	cp1d3	0.10	0.00	0.1
	Tomcat LC2	lc	fpga2	0.16	0.00	0.1
	Bridge LC2	lc	fpga1	0.44	0.00	0.1
	ROMMONB LC2	lc	rommon	1.05	0.00	0.1

A9K-8T-L	Can Bus Ctrl (CBC) LC3	lc	cbc	6.07	0.00	0.1
	CPUCtrl LC3	lc	cp1d1	1.02	0.00	0.1
	PHYCtrl LC3	lc	cp1d2	0.08	0.00	0.1
	LCCLKCtrl LC3	lc	cp1d3	0.03	0.00	0.1
	CPUCtrl LC3	lc	cp1d4	1.03	0.00	0.1
	PortCtrl LC3	lc	fpga2	0.11	0.00	0.1
	Raven LC3	lc	fpga1	1.03	0.00	0.1
	ROMMONB LC3	lc	rommon	1.03	0.00	0.1

A9K-16T/8-L	Can Bus Ctrl (CBC) LC3	lc	cbc	6.08	0.00	0.1
	CPUCtrl LC3	lc	cp1d1	1.02	0.00	0.1
	PHYCtrl LC3	lc	cp1d2	0.04	0.00	0.1
	LCCLKCtrl LC3	lc	cp1d3	0.01	0.00	0.1
	DB CPUCtrl LC3	lc	cp1d4	1.03	0.00	0.1
	PortCtrl LC3	lc	fpga2	0.01	0.00	0.1
	Raven LC3	lc	fpga1	1.03	0.00	0.1
	ROMMONB LC3	lc	rommon	1.03	0.00	0.1

A9K-SIP-700	Can Bus Ctrl (CBC) LC5	lc	cbc	3.06	0.00	0.1

	CPUCtrl LC5	lc	cpld1	0.15	0.00	0.1
	QFPCPUBridge LC5	lc	fpga2	5.14	0.00	0.1
	NPUXBarBridge LC5	lc	fpga1	0.23	0.00	0.1
	ROMMONB LC5	lc	rommon	1.04	0.00	0.1

A9K-SIP-500	Can Bus Ctrl (CBC) LC5	lc	cbc	3.06	0.00	0.1
	CPUCtrl LC5	lc	cpld1	0.15	0.00	0.1
	QFPCPUBridge LC5	lc	fpga2	5.14	0.00	0.1
	NPUXBarBridge LC5	lc	fpga1	0.23	0.00	0.1
	ROMMONB LC5	lc	rommon	1.04	0.00	0.1

A9K-SIP-700-8G	Can Bus Ctrl (CBC) LC5	lc	cbc	3.06	0.00	0.1
	CPUCtrl LC5	lc	cpld1	0.15	0.00	0.1
	QFPCPUBridge LC5	lc	fpga2	5.14	0.00	0.1
	NPUXBarBridge LC5	lc	fpga1	0.23	0.00	0.1
	ROMMONB LC5	lc	rommon	1.35	0.00	0.1

A9K-RSP-2G	Can Bus Ctrl (CBC) RSP2	lc	cbc	1.03	0.00	0.1
	CPUCtrl RSP2	lc	cpld2	1.18	0.00	0.1
	IntCtrl RSP2	lc	fpga2	1.15	0.00	0.1
	ClkCtrl RSP2	lc	fpga3	1.23	0.00	0.1
	UTI RSP2	lc	fpga4	3.08	0.00	0.1
	PUNT RSP2	lc	fpga1	1.05	0.00	0.1
	ROMMONB RSP2	lc	rommon	1.06	0.00	0.1

A9K-RSP-4G	Can Bus Ctrl (CBC) RSP2	lc	cbc	1.03	0.00	0.1
	CPUCtrl RSP2	lc	cpld2	1.18	0.00	0.1
	IntCtrl RSP2	lc	fpga2	1.15	0.00	0.1
	ClkCtrl RSP2	lc	fpga3	1.23	0.00	0.1
	UTI RSP2	lc	fpga4	3.08	0.00	0.1
	PUNT RSP2	lc	fpga1	1.05	0.00	0.1
	ROMMONB RSP2	lc	rommon	1.06	0.00	0.1

A9K-RSP-8G	Can Bus Ctrl (CBC) RSP2	lc	cbc	1.03	0.00	0.1

show fpd package Command Output: Example

	CPUCtrl1 RSP2	lc	cpld2	1.18	0.00	0.1
	IntCtrl1 RSP2	lc	fpga2	1.15	0.00	0.1
	ClkCtrl1 RSP2	lc	fpga3	1.23	0.00	0.1
	UTI RSP2	lc	fpga4	3.08	0.00	0.1
	PUNT RSP2	lc	fpga1	1.05	0.00	0.1
	ROMMONB RSP2	lc	rommon	1.06	0.00	0.1

A9K-RSP440-TR	Can Bus Ctrl1 (CBC) RSP3	lc	cbc	16.115	0.00	0.1
	ClockCtrl10 RSP3	lc	fpga2	1.06	0.00	0.1
	UTI RSP3	lc	fpga3	4.09	0.00	0.1
	CPUCtrl1 RSP3	lc	fpga1	0.09	0.00	0.1
	ROMMONB RSP3	lc	rommon	0.70	0.00	0.1

A9K-RSP440-SE	Can Bus Ctrl1 (CBC) RSP3	lc	cbc	16.115	0.00	0.1
	ClockCtrl10 RSP3	lc	fpga2	1.06	0.00	0.1
	UTI RSP3	lc	fpga3	4.09	0.00	0.1
	CPUCtrl1 RSP3	lc	fpga1	0.09	0.00	0.1
	ROMMONB RSP3	lc	rommon	0.70	0.00	0.1

ASR-9922-RP-TR	Can Bus Ctrl1 (CBC) MTRP	lc	cbc	25.02	0.00	0.1
	Fabric Ctrl13 MTFC	lc	fpga10	1.01	0.00	0.1
	Fabric Ctrl14 MTFC	lc	fpga11	1.01	0.00	0.1
	Fabric Ctrl15 MTFC	lc	fpga12	1.01	0.00	0.1
	Fabric Ctrl16 MTFC	lc	fpga13	1.01	0.00	0.1
	CPUCtrl11	lc	fpga2	1.03	0.00	0.1
	ClkCtrl1	lc	fpga3	1.03	0.00	0.1
	IntCtrl1	lc	fpga4	1.03	0.00	0.1
	UTI	lc	fpga5	4.09	0.00	0.1
	Timex	lc	fpga6	0.02	0.00	0.1
	Fabric Ctrl10 MTFC	lc	fpga7	1.01	0.00	0.1
	Fabric Ctrl11 MTFC	lc	fpga8	1.01	0.00	0.1
	Fabric Ctrl12 MTFC	lc	fpga9	1.01	0.00	0.1
	CPUCtrl10	lc	fpga1	1.04	0.00	0.1
	ROMMONB MTRP	lc	rommon	5.10	0.00	0.1

ASR-9922-RP-SE	Can Bus Ctrl (CBC) MTRP	1c	cbc	25.02	0.00	0.1
	Fabric Ctrl13 MTFC	1c	fpga10	1.01	0.00	0.1
	Fabric Ctrl14 MTFC	1c	fpga11	1.01	0.00	0.1
	Fabric Ctrl15 MTFC	1c	fpga12	1.01	0.00	0.1
	Fabric Ctrl16 MTFC	1c	fpga13	1.01	0.00	0.1
	CPUCtrl1	1c	fpga2	1.03	0.00	0.1
	ClkCtrl	1c	fpga3	1.03	0.00	0.1
	IntCtrl	1c	fpga4	1.03	0.00	0.1
	UTI	1c	fpga5	4.09	0.00	0.1
	Timex	1c	fpga6	0.02	0.00	0.1
	Fabric Ctrl10 MTFC	1c	fpga7	1.01	0.00	0.1
	Fabric Ctrl11 MTFC	1c	fpga8	1.01	0.00	0.1
	Fabric Ctrl12 MTFC	1c	fpga9	1.01	0.00	0.1
	CPUCtrl0	1c	fpga1	1.04	0.00	0.1
	ROMMONB MTRP	1c	rommon	5.10	0.00	0.1
ASR-9900-RP-TR	Can Bus Ctrl (CBC) MTRP	1c	cbc	25.02	0.00	0.1
	Fabric Ctrl13 MTFC	1c	fpga10	1.01	0.00	0.1
	Fabric Ctrl14 MTFC	1c	fpga11	1.01	0.00	0.1
	Fabric Ctrl15 MTFC	1c	fpga12	1.01	0.00	0.1
	Fabric Ctrl16 MTFC	1c	fpga13	1.01	0.00	0.1
	CPUCtrl1	1c	fpga2	1.03	0.00	0.1
	ClkCtrl	1c	fpga3	1.03	0.00	0.1
	IntCtrl	1c	fpga4	1.03	0.00	0.1
	UTI	1c	fpga5	4.09	0.00	0.1
	Timex	1c	fpga6	0.02	0.00	0.1
	Fabric Ctrl10 MTFC	1c	fpga7	1.01	0.00	0.1
	Fabric Ctrl11 MTFC	1c	fpga8	1.01	0.00	0.1
	Fabric Ctrl12 MTFC	1c	fpga9	1.01	0.00	0.1
	CPUCtrl0	1c	fpga1	1.04	0.00	0.1
	ROMMONB MTRP	1c	rommon	5.10	0.00	0.1

show fpd package Command Output: Example

ASR-9900-RP-SE	Can Bus Ctrl (CBC) MTRP	lc	cbc	25.02	0.00	0.1
	Fabric Ctrl3 MTFC	lc	fpga10	1.01	0.00	0.1
	Fabric Ctrl4 MTFC	lc	fpga11	1.01	0.00	0.1
	Fabric Ctrl5 MTFC	lc	fpga12	1.01	0.00	0.1
	Fabric Ctrl6 MTFC	lc	fpga13	1.01	0.00	0.1
	CPUCtrl1	lc	fpga2	1.03	0.00	0.1
	ClkCtrl	lc	fpga3	1.03	0.00	0.1
	IntCtrl	lc	fpga4	1.03	0.00	0.1
	UTI	lc	fpga5	4.09	0.00	0.1
	Timex	lc	fpga6	0.02	0.00	0.1
	Fabric Ctrl10 MTFC	lc	fpga7	1.01	0.00	0.1
	Fabric Ctrl11 MTFC	lc	fpga8	1.01	0.00	0.1
	Fabric Ctrl12 MTFC	lc	fpga9	1.01	0.00	0.1
	CPUCtrl0	lc	fpga1	1.04	0.00	0.1
	ROMMONB MTRP	lc	rommon	5.10	0.00	0.1

ASR9001-RP	Can Bus Ctrl (CBC) IMRP	lc	cbc	22.114	0.00	0.1
	MB CPUCtrl	lc	fpga2	1.14	0.00	0.0
	ROMMONB IM RP	lc	rommon	1.36	0.00	0.1

A9K-24x10GE-SE	Can Bus Ctrl (CBC) LC6	lc	cbc	19.109	0.00	0.0
	DBCtrl LC6	lc	fpga2	1.03	0.00	0.0
	LinkCtrl LC6	lc	fpga3	1.01	0.00	0.0
	LCCPUCtrl LC6	lc	fpga4	1.07	0.00	0.0
	ROMMONB LC6	lc	rommon	1.29	0.00	0.0

A9K-2x100GE-SE	Can Bus Ctrl (CBC) LC4	lc	cbc	21.108	0.00	0.1
	DB IO FPGA1	lc	cp1d1	1.03	0.00	0.0
	MB CPUCtrl	lc	fpga2	1.08	0.00	0.0
	PortCtrl	lc	fpga3	1.05	0.00	0.0
	Imux	lc	fpga4	1.01	0.00	0.0
	Emux	lc	fpga5	1.03	0.00	0.0
	100GIGMAC	lc	fpga6	38.00	0.00	0.0
	ROMMONB LC4	lc	rommon	1.29	0.00	0.0

A9K-MOD80-SE	Can Bus Ctrl (CBC) LC4	lc	cbc	20.115	0.00	0.1
	DB Ctrl	lc	fpga2	1.04	0.00	0.0
	MB CPUCtrl	lc	fpga4	1.05	0.00	0.0
	ROMMONB LC4	lc	rommon	1.29	0.00	0.1
A9K-MOD160-SE	Can Bus Ctrl (CBC) LC4	lc	cbc	20.115	0.00	0.1
	DB Ctrl	lc	fpga2	1.04	0.00	0.0
	MB CPUCtrl	lc	fpga4	1.05	0.00	0.0
	ROMMONB LC4	lc	rommon	1.29	0.00	0.1
A9K-24x10GE-TR	Can Bus Ctrl (CBC) LC6	lc	cbc	19.109	0.00	0.0
	DBCtrl LC6	lc	fpga2	1.03	0.00	0.0
	LinkCtrl LC6	lc	fpga3	1.01	0.00	0.0
	LCCPUCtrl LC6	lc	fpga4	1.07	0.00	0.0
	ROMMONB LC6	lc	rommon	1.29	0.00	0.0
A9K-2x100GE-TR	Can Bus Ctrl (CBC) LC4	lc	cbc	21.108	0.00	0.1
	DB IO FPGA1	lc	cp1d1	1.03	0.00	0.0
	MB CPUCtrl	lc	fpga2	1.08	0.00	0.0
	PortCtrl	lc	fpga3	1.05	0.00	0.0
	Imux	lc	fpga4	1.01	0.00	0.0
	Emux	lc	fpga5	1.03	0.00	0.0
	100GIGMAC	lc	fpga6	38.00	0.00	0.0
	ROMMONB LC4	lc	rommon	1.29	0.00	0.0
A9K-MOD80-TR	Can Bus Ctrl (CBC) LC4	lc	cbc	20.115	0.00	0.1
	DB Ctrl	lc	fpga2	1.04	0.00	0.0
	MB CPUCtrl	lc	fpga4	1.05	0.00	0.0
	ROMMONB LC4	lc	rommon	1.29	0.00	0.1
A9K-MOD160-TR	Can Bus Ctrl (CBC) LC4	lc	cbc	20.115	0.00	0.1
	DB Ctrl	lc	fpga2	1.04	0.00	0.0
	MB CPUCtrl	lc	fpga4	1.05	0.00	0.0
	ROMMONB LC4	lc	rommon	1.29	0.00	0.1

show fpd package Command Output: Example

A9K-8T-TEST	Can Bus Ctrl (CBC) LC17	lc	cbc	17.214	0.00	0.0
	LCCPUCtrl LC6	lc	fpga4	0.03	0.00	0.0
	ROMMONB LC6	lc	rommon	1.04	0.00	0.0
A9K-36x10GE-SE	Can Bus Ctrl (CBC) LC6	lc	cbc	15.101	0.00	0.0
	DBCtrl LC6	lc	fpga2	1.01	0.00	0.0
	LinkCtrl LC6	lc	fpga3	1.00	0.00	0.0
	LCCPUCtrl LC6	lc	fpga4	1.03	0.00	0.0
	ROMMONB LC6	lc	rommon	1.29	0.00	0.0
A9K-36x10GE-TR	Can Bus Ctrl (CBC) LC6	lc	cbc	15.101	0.00	0.0
	DBCtrl LC6	lc	fpga2	1.01	0.00	0.0
	LinkCtrl LC6	lc	fpga3	1.00	0.00	0.0
	LCCPUCtrl LC6	lc	fpga4	1.03	0.00	0.0
	ROMMONB LC6	lc	rommon	1.29	0.00	0.0
A9K-1x100GE-SE	Can Bus Ctrl (CBC) LC4	lc	cbc	21.108	0.00	0.1
	DB IO FPGA1	lc	cp1d1	1.03	0.00	0.0
	MB CPUCtrl	lc	fpga2	1.08	0.00	0.0
	PortCtrl	lc	fpga3	1.05	0.00	0.0
	Imux	lc	fpga4	1.01	0.00	0.0
	Emux	lc	fpga5	1.03	0.00	0.0
	100GIGMAC	lc	fpga6	38.00	0.00	0.0
	ROMMONB LC4	lc	rommon	1.29	0.00	0.0
A9K-1x100GE-TR	Can Bus Ctrl (CBC) LC4	lc	cbc	21.108	0.00	0.1
	DB IO FPGA1	lc	cp1d1	1.03	0.00	0.0
	MB CPUCtrl	lc	fpga2	1.08	0.00	0.0
	PortCtrl	lc	fpga3	1.05	0.00	0.0
	Imux	lc	fpga4	1.01	0.00	0.0
	Emux	lc	fpga5	1.03	0.00	0.0
	100GIGMAC	lc	fpga6	38.00	0.00	0.0
	ROMMONB LC4	lc	rommon	1.29	0.00	0.0

ASR9001-LC	Can Bus Ctrl (CBC) IMLC	lc	cbc	23.114	0.00	0.1
	DB CPUCtrl	lc	fpga2	1.17	0.00	0.0
	EP Gambit	lc	fpga3	0.08	0.00	0.0
	MB CPUCtrl	lc	fpga4	2.07	0.00	0.0
	EP Rogue	lc	fpga6	1.06	0.00	0.0
	EP Sage	lc	fpga7	1.02	0.00	0.0
	ROMMONB IM LC	lc	rommon	1.36	0.00	0.1
ASR9001-LC-S	Can Bus Ctrl (CBC) IMLC	lc	cbc	23.114	0.00	0.1
	DB CPUCtrl	lc	fpga2	1.17	0.00	0.0
	EP Gambit	lc	fpga3	0.08	0.00	0.0
	MB CPUCtrl	lc	fpga4	2.07	0.00	0.0
	EP Rogue	lc	fpga6	1.06	0.00	0.0
	EP Sage	lc	fpga7	1.02	0.00	0.0
	ROMMONB IM LC	lc	rommon	1.36	0.00	0.1
A9K-ISM-100	Can Bus Ctrl (CBC) LC6	lc	cbc	18.06	0.00	0.1
	CPUCtrl LC6	lc	cpld1	0.01	0.00	0.1
	Maintenance LC6	lc	fpga2	2.13	0.00	0.1
	Amistad LC6	lc	fpga1	0.33	0.00	0.20
	ROMMONB LC6	lc	rommon	1.02	0.00	0.1
A9K-RSP-3G	ClockCtrl0 RSP3	lc	fpga2	1.06	0.00	0.1
	UTI RSP3	lc	fpga3	4.09	0.00	0.1
	CPUCtrl RSP3	lc	fpga1	0.09	0.00	0.1
	ROMMONB RSP3	lc	rommon	0.70	0.00	0.1
A9K-RSP-24G	ClockCtrl0 RSP3	lc	fpga2	1.06	0.00	0.1
	UTI RSP3	lc	fpga3	4.09	0.00	0.1
	CPUCtrl RSP3	lc	fpga1	0.09	0.00	0.1
	ROMMONB RSP3	lc	rommon	0.70	0.00	0.1
SPA-4XT3/E3	SPA E3 Subrate FPGA	spa	fpga2	1.04	0.00	0.0
	SPA T3 Subrate FPGA	spa	fpga3	1.04	0.00	0.0

show fpd package Command Output: Example

	SPA I/O FPGA	spa fpga1	1.01	0.00	0.0
	SPA ROMMON	spa rommon	2.12	0.00	0.0

SPA-4XCT3/DS0	SPA T3 Subrate FPGA	spa fpga2	0.11	0.00	0.100
	SPA T3 Subrate FPGA	spa fpga2	1.04	0.00	0.200
	SPA I/O FPGA	spa fpga1	2.08	0.00	0.100
	SPA ROMMON	spa rommon	2.12	0.00	0.100

SPA-1XCHSTM1/OC3	SPA T3 Subrate FPGA	spa fpga2	1.04	0.00	0.0
	SPA I/O FPGA	spa fpga1	1.08	0.00	0.0
	SPA ROMMON	spa rommon	2.12	0.00	0.0

SPA-24CHT1-CE-ATM	SPA T3 Subrate FPGA	spa fpga2	1.10	0.00	1.0
	SPA I/O FPGA	spa fpga1	2.32	0.00	1.0
	SPA ROMMON	spa rommon	1.03	0.00	1.0

SPA-2CHT3-CE-ATM	SPA T3 Subrate FPGA	spa fpga2	1.11	0.00	1.0
	SPA I/O FPGA	spa fpga1	2.22	0.00	1.0
	SPA ROMMON	spa rommon	1.04	0.00	1.0

SPA-1CHOC3-CE-ATM	SPA OC3 Subrate FPGA	spa fpga2	2.23	0.00	0.0
	SPA I/O FPGA	spa fpga1	2.23	0.00	2.0
	SPA ROMMON	spa rommon	1.04	0.00	0.0

SPA-1XCHOC48/DS3	SPA I/O FPGA	spa fpga2	1.00	0.00	0.49
	SPA I/O FPGA	spa fpga3	1.00	0.00	0.52
	SPA I/O FPGA	spa fpga1	1.36	0.00	0.49
	SPA ROMMON	spa rommon	2.02	0.00	0.49

SPA-2XCHOC12/DS0	SPA FPGA2 swv1.00	spa fpga2	1.00	0.00	0.0
	SPA FPGA swv1.36	spa fpga1	1.36	0.00	0.49
	SPA ROMMON swv2.2	spa rommon	2.02	0.00	0.49

A9K-MPA-20X1GE	EP I/O FPGA	spa fpga3	0.08	0.00	0.0

A9K-MPA-2X10GE	EP I/O FPGA	spa fpga6	1.06	0.00	0.0

A9K-MPA-4X10GE	EP I/O FPGA	spa fpga6	1.06	0.00	0.0

A9K-MPA-2X40GE	EP Sage	spa fpga7	1.03	0.00	0.0
A9K-MPA-1X40GE	EP Sage	spa fpga7	1.03	0.00	0.0
A9K-MPA-8X10GE	EP I/O FPGA	spa fpga8	0.07	0.00	0.0
SPA-8XOC12-POS	SPA FPGA swv1.0	spa fpga1	1.00	0.00	0.5
SPA-8XCHT1/E1	SPA I/O FPGA	spa fpga1	2.08	0.00	0.0
	SPA ROMMON	spa rommon	2.12	0.00	0.140
SPA-OC192POS-XFP	SPA FPGA swv1.2 hww2	spa fpga1	1.02	0.00	2.0
SPA-2XOC48POS/RPR	SPA FPGA swv1.0	spa fpga1	1.00	0.00	0.0
SPA-4XOC48POS/RPR	SPA FPGA swv1.0	spa fpga1	1.00	0.00	0.0
SPA-8XOC3-POS	SPA FPGA swv1.0	spa fpga1	1.00	0.00	0.5
SPA-2XOC12-POS	SPA FPGA swv1.0	spa fpga1	1.00	0.00	0.5
SPA-4XOC12-POS	SPA FPGA swv1.0	spa fpga1	1.00	0.00	0.5
SPA-10X1GE-V2	SPA FPGA swv1.10	spa fpga1	1.10	0.00	0.0
SPA-5X1GE-V2	SPA FPGA swv1.10	spa fpga1	1.10	0.00	0.0
SPA-1X10GE-L-V2	SPA FPGA swv1.9	spa fpga1	1.09	0.00	0.0
SPA-4XOC3-POS-V2	SPA FPGA swv1.0	spa fpga1	1.00	0.00	0.5
SPA-1X10GE-WL-V2	SPA FPGA swv1.9	spa fpga1	1.09	0.00	0.0
SPA-1XOC3-ATM-V2	SPA FPGA swv1.2	spa fpga1	2.02	0.00	0.0
SPA-2XOC3-ATM-V2	SPA FPGA swv1.2	spa fpga1	2.02	0.00	0.0
SPA-3XOC3-ATM-V2	SPA FPGA swv1.2	spa fpga1	2.02	0.00	0.0
SPA-1XOC12-ATM-V2	SPA FPGA swv1.2	spa fpga1	2.02	0.00	0.0

upgrade hw-module fpd Command Output: Example

This example shows the fpd details of the A9K-MOD400-SE:

```
RP/0/RP0/CPU0:router # show hw-module fpd location 0/2/CPU0
=====
Existing Field Programmable Devices
=====
```

Location	Card Type	HW Version	Type	Subtype	Inst	Current SW Upg/ Version	Dng?
0/2/CPU0	A9K-MOD400-SE	1.0	lc	cbc	0	39.05	No
			lc	rommon	0	8.32	No
			lc	fpga2	0	1.30	Yes
			lc	fsbl	0	1.19	Yes
			lc	lnxfw	0	1.20	Yes
			lc	fpga10	0	1.17	No

```
-----
```



Note In the **show fpd package** command output, the “subtype” column shows the FPDs that correspond with each SPA image. To upgrade a specific FPD with the **upgrade hw-module fpd** command, replace the *fpga-type* argument with the appropriate FPD from the “subtype” column, as shown in the following example:

```
RP/0/RP0/CPU0:router(admin)# upgrade hw-module fpd fpga2 location 0/3/1 reload
```

upgrade hw-module fpd Command Output: Example

Use the **upgrade hw-module fpd** command to upgrade the FPD image on a SPA, SIP or line card.

show platform Command Output: Example

Use the **show platform** command to verify that the SPA is up and running.