How To Copy a System Image from One Device to Another

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Introduction

This document explains how to copy a system image from one device to another within the same router, and from one router to another.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

This document is not restricted to specific software and hardware versions. The platforms used for the purpose of this document are Cisco 2500 series routers and Cisco 3600 series routers.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Copying from Device to Device Inside the Same Router

The table below provides command options for copying a system image from one device to another (methods vary according to different platforms):

Command Summary

The table below lists the various locations to which you can copy an image from a TFTP server. These options vary according to different platforms. Refer to Using URL Prefixes for more information and in order to learn more about each of these options.

```
Router#copy tftp ?
```

Syntax Description

bootflash:	Copy to bootflash: file system
disk0:	Copy to disk0: file system
disk1:	Copy to disk1: file system
flash:	Copy to flash: file system
flh:	Copy to flh: file system
ftp:	Copy to ftp: file system
lex:	Copy to lex: file system
null:	Copy to null: file system
nvram:	Copy to nvram: file system
rcp:	Copy to rcp: file system
running−config	Update (merge with) current system configuration
slot0:	Copy to slot0: file system
slot1:	Copy to slot1: file system
startup−config	Copy to startup configuration
system:	Copy to system: file system
tftp:	Copy to tftp: file system

The three most common commands used for image copying are:

- **copy tftp flash**
- **copy rcp flash**
- **copy slot0: slot1:**

The example below illustrates the procedure to follow for copying the system image from one device to another (for example, from one slot/disk to another slot/disk) on Cisco 3600 series routers.

Detailed Example

```
router#show slot0:

!−−− This command is used to view the contents of slot 0

−#− ED −−type−− −−crc−−− −seek−− nlen −length− −−−−−date/time−−−−−−  name
1 .D unknown 5E8B84E6 209D8 11 2392 Jan 22 2000 00:22:42 flashconfig
2 ..  image 5E7BAE19 B623C4 22 11802988 Jan 22 2000 00:23:18 rsp−jsv−mz.1 20−8.0.2.T

router#show slot1:

!−−− This command is used to view the contents of slot 1

−#− ED −−type−− −−crc−−− −seek−− nlen −length− −−−−−date/time−−−−−−  name
1 .. unknown 6A2B4BA7 6FA9E0 20 7186784 Jul 30 1999 15:05:19 rsp−jv−mz.11  1−26.CC1
2 .. config 631F0D8B 6FB1EC 6 1929 Oct 19 1999 06:15:49 config
3 .. config  631F0D8B 6FB9F8 7 1929 Oct 19 1999 06:16:03 config1
```

The **copy** command shown below is used to copy the system image file from one device to another. In the following example, the system image is copied from slot0 to slot1.

```
router#copy slot0: slot1
```

```
Source  filename []? rsp-jsv-mz.120-8.0.2.T

!--- Enter the file name of the system image to be copied

Destination filename [slot1]?

Erase slot1: before copying? [confirm]Erasing the slot1 filesystem will remove
all files! Continue? [confirm]
Erasing device... eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
...erasedeeErase of slot1: complete
Copy in progress...CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCC


! --- Output Suppressed


Verifying checksum...  OK (0xE884)11802988 bytes copied in 346.312 secs
(38481 bytes/sec)
```

Copying From One Router to Another

Below are the steps to follow for copying the Cisco IOS software image from a router acting as TFTP server to another router. Both routers in this example are Cisco 2500 series routers. In this example, Router1 is the TFTP server and Router2 is the router on which the Cisco IOS software image is being copied to.

Before you begin, verify the connectivity between Router1 and Router2 using the **ping** command.

1. Check the image size on Router1 with the **show flash** command.

   ```
   Router1#show flash
   System flash directory:
   File Length Name/status
   1 15694836 /c2500-js-l.122-10b

    !--- Cisco IOS image file to be copied

   [15694900 bytes used, 1082316 available, 16777216 total]
   16384K bytes of processor board System flash (Read ONLY)
   ```
2. Check the image size on Router2 with the **show flash** command to verify if enough space is available on Router2 for the system image file to be copied.

   ```
   Router2#show flash

   System flash directory:
   File  Length   Name/status

    1   11173264  c2500-jos56i-l.120-9.bin
   [11173328 bytes used, 5603888 available, 16777216 total]
   16384K bytes of processor board System flash (Read ONLY)
   ```

   Note: If there is enough space to copy the system image file, then the original one can be retained and the new file can be copied in the additional memory space. If there is not enough space available, as in this case, then the existing file from the Flash is erased while downloading a new one. It is a good practice to backup the existing system image to the TFTP server using the **copy flash tftp** command.
3. Configure Router1 as the TFTP server using the **configure terminal** command.

   ```
   Router1#configure terminal
   Enter configuration commands, one per line.  End with CNTL/Z.
   ```

```
Router1(config)#tftp-server ?
  bootflash:  Allow URL file TFTP load requests
  disk0:      Allow URL file TFTP load requests
  disk1:      Allow URL file TFTP load requests
  flash:      Allow URL file TFTP load requests
  flh:        Allow URL file TFTP load requests
  lex:        Allow URL file TFTP load requests
  null:       Allow URL file TFTP load requests
  nvram:      Allow URL file TFTP load requests
  slot0:      Allow URL file TFTP load requests
  slot1:      Allow URL file TFTP load requests
  system:     Allow URL file TFTP load requests
```

Note: The options given above for the **tftp-server** command may vary for different platforms.

```
Router1(config)#tftp-server flash:?
flash:/c2500-js-l.122-10b

!--- The Cisco IOS image file name.

Router1(config)#tftp-server flash:/c2500-js-l.122-10b

!--- This command configures the router as a TFTP server.

Router1(config)#^Z
```

4. When the TFTP server is configured, download the specified image from Router1 to Router2 using the **copy tftp flash** command.

```
Router2#copy tftp flash
                          ****  NOTICE  ****
Flash load helper v1.0
This process will accept the copy options and then terminate
the current system image to use the ROM based image for the copy.
Routing functionality will not be available during that time.
If you are logged in via telnet, this connection will terminate.
Users with console access can see the results of the copy operation.
                       ____ ******** ____
Proceed? [confirm]
Address or name of remote host []? 10.10.10.1

!--- Enter the IP address of the TFTP Server

Source filename []? /c2500-js-l.122-10b


!--- This is the filename of the Cisco IOS image
!--- that you want to copy from the TFTP server


Destination filename [c2500-js-l.122-10b]?


!--- Press 'Enter'



Accessing tftp://10.10.10.1//c2500-js-l.122-10b...
Erase flash: before copying? [confirm]

18:37:54: %SYS-5-RELOAD: Reload requested

!--- The reload is platform-specific and is only for the
!--- Run-from-flash systems.*
```

```
** System going down for Flash upgrade **

%SYS-4-CONFIG_NEWER: Configurations from version 12.2 may not be
correctly understood.
%FLH: /c2500-js-l.122-10b from 10.10.10.1 to flash ...

System flash directory:
File Length Name/status
1 15694836 /c2500-js-l.122-10b
[15694900 bytes used, 1082316 available, 16777216 total]
Accessing file '/c2500-js-l.122-10b' on 10.10.10.1...
Loading /c2500-js-l.122-10b from 10.10.10.1 (via Ethernet0): ! [OK]

Erasing device... eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
eeeeeeeeeeeeee ...erased
Loading /c2500-js-l.122-10b from 10.10.10.1 (via Ethernet0):
!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!
[OK - 15694836/16777216 bytes]

Verifying checksum... OK (0x58D2)

!--- System Image file has been successfully copied

Flash copy took 0:07:37 [hh:mm:ss]
%FLH: Re-booting system after download
F3: 14732748+962056+889336 at 0x3000060

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..........
```

5. Verify the Flash for the new system image on Router2.

```
Router2#show flash
System flash directory:
File Length Name/status
1 15694836 /c2500-js-l.122-10b

!--- Cisco IOS image file has been copied

[15694900 bytes used, 1082316 available, 16777216 total]
16384K bytes of processor board System flash (Read ONLY)
```

* The router only reloads for the Run−from−flash systems. For more details, see Copying to Flash Memory for Run−from−Flash Systems

Related Information

- **Configure a Router as a TFTP Server**
- **Moving Files and Images Between a Router and TFTP Server via SNMP**
- **Loading and Maintaining System Images**
- **Technical Support & Documentation − Cisco Systems**

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