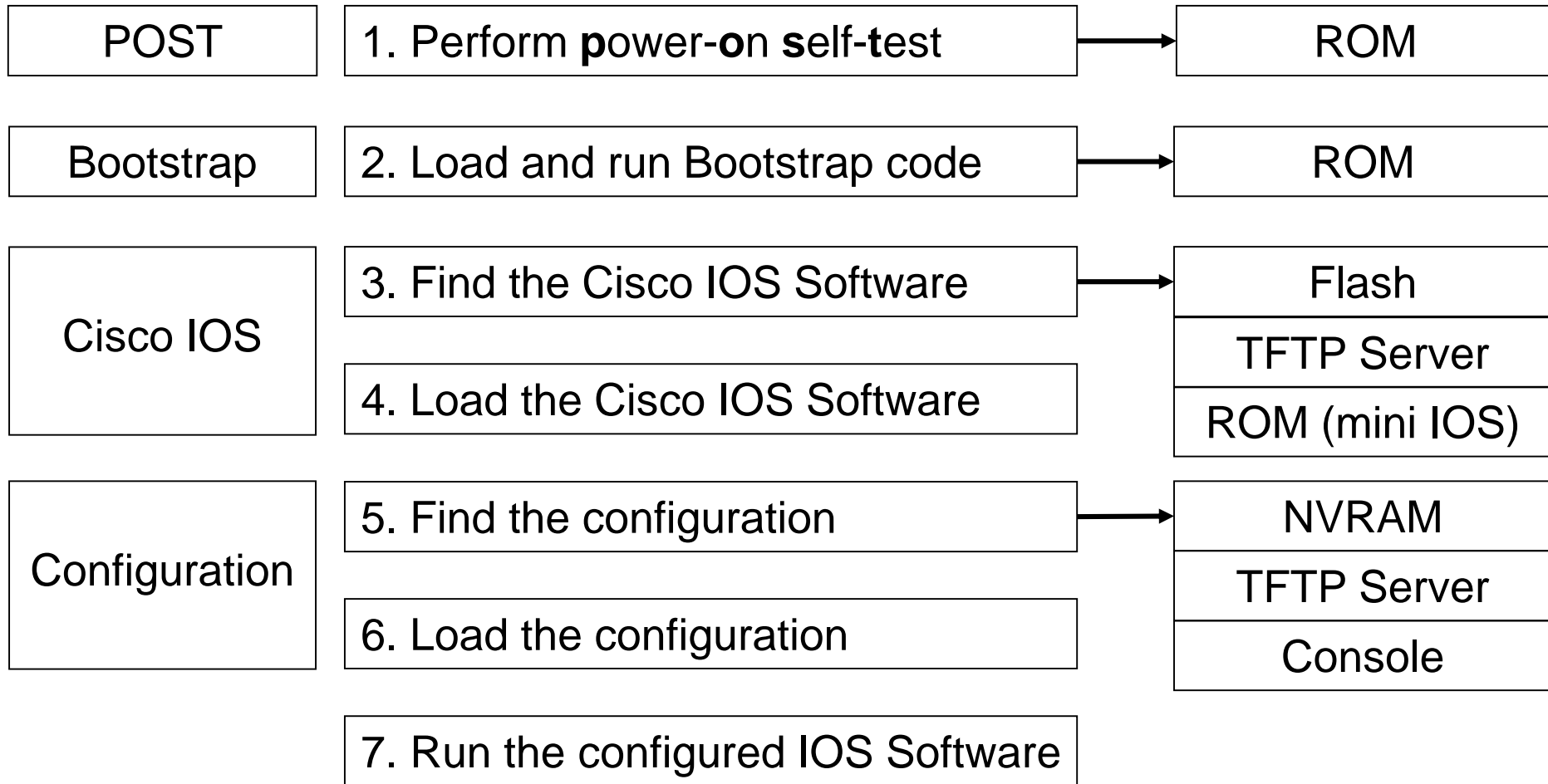


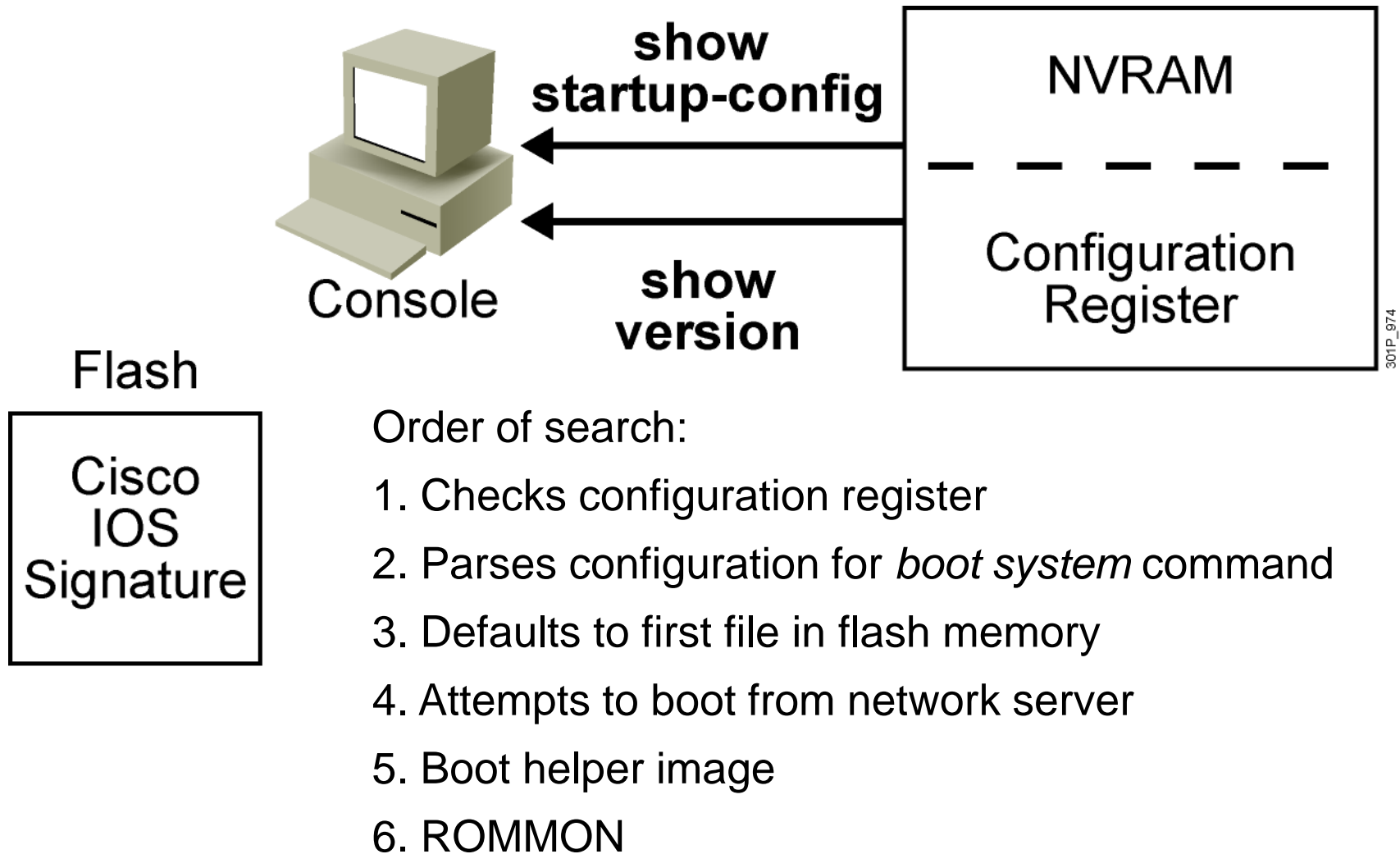


# Recovery Password

# Router Power-On Boot Sequence



# Finding the Cisco IOS Image



# The configuration register bit numbers

Default (Hexa): 0x2102

Configuration Register	2				1				0				2			
Bit number	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Binary	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0

Ignore NVRAM contents or not?

Load startup-config ← 0

0x2142 ← Don't load startup-config ← 1

Boot Field

Use ROMMON mode (manual boot) ← 0x0

ROM ← TFTP ← Flash ← Automatically boot up from ROM ← 0x1

Examine NVRAM for boot system commands  
(0x2 default if router has flash) ← 0x2 to 0xF

# Step by step recovery password

1. Power-off Router and wait 30s then turn it on
2. When you see the line “Readonly ROMMON initialized”, press Ctrl + Break
3. Set configuration register to 0x2142 and reboot the router  
**rommon 1 > confreg 0x2142**  
**rommon 2 > reset**
4. **Copy startup-config running-config**
5. Change all password and **copy running-config startup-config**
6. Set back the config-register to 0x2102  
**Router(config)#config-register 0x2102**

# show version Command

```
Cisco IOS Software, 2800 Software (C2800NM-IPBASE-M), Version  
12.4(5a), RELEASE SOFTWARE (fc3)
```

```
Technical Support: http://www.cisco.com/techsupport
```

```
Copyright (c) 1986-2006 by Cisco Systems, Inc.
```

```
Compiled Sat 14-Jan-06 03:19 by alnguyen
```

```
ROM: System Bootstrap, Version 12.4(1r) [hqluong 1r], RELEASE  
SOFTWARE (fc1)
```

```
RouterX uptime is 1 week, 5 days, 21 hours, 30 minutes  
System returned to ROM by reload at 23:04:40 UTC Tue Mar 13 2007  
System image file is "flash:c2800nm-ipbase-mz.124-5a.bin"
```

```
Cisco 2811 (revision 53.51) with 251904K/10240K bytes of memory.
```

```
Processor board ID FTX1013A1DJ
```

```
2 FastEthernet interfaces
```

```
2 Serial(sync/async) interfaces
```

```
DRAM configuration is 64 bits wide with parity enabled.
```

```
239K bytes of non-volatile configuration memory.
```

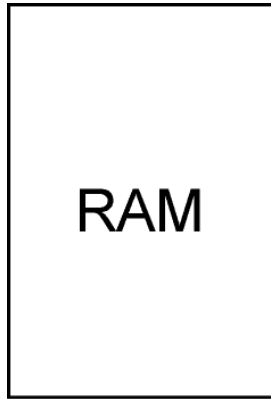
```
62720K bytes of ATA CompactFlash (Read/Write)
```

```
Configuration register is 0x2142 (will be 2102 at next reload)
```

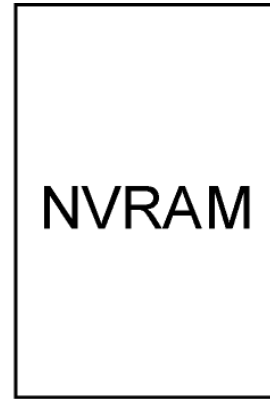


# Managing Cisco Devices

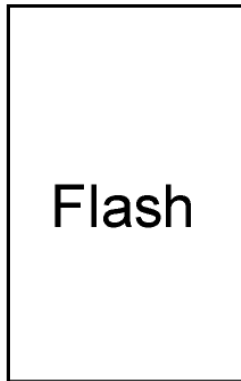
# Cisco IOS File System and Devices



system:



nvram:



flash:



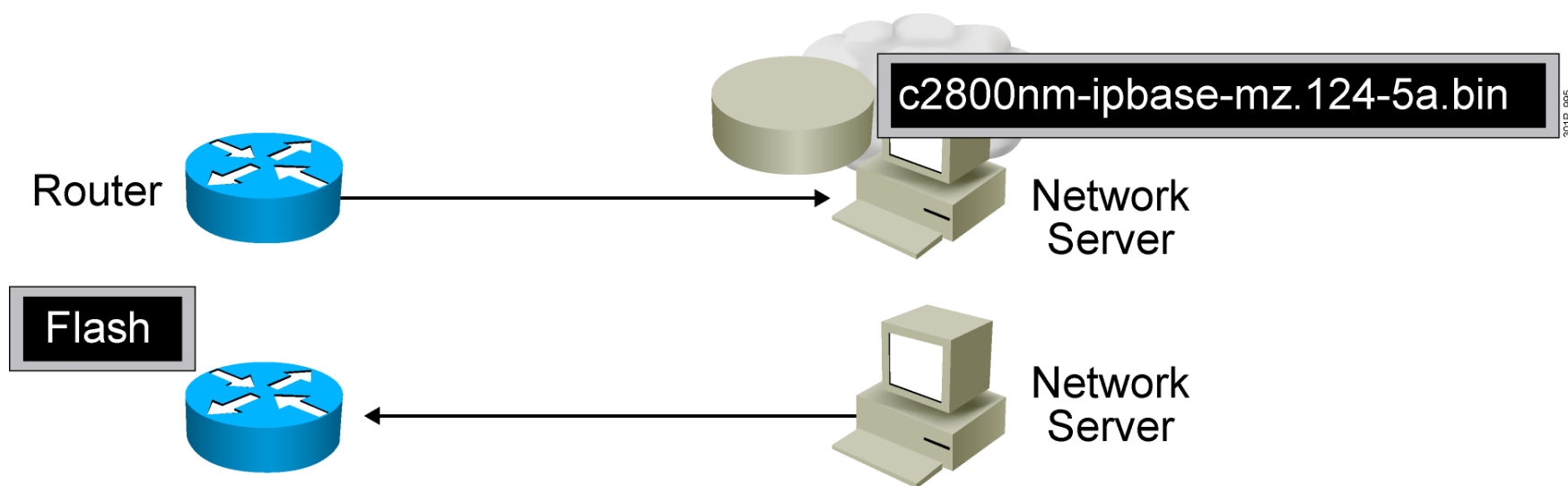
301P\_9906

(Trivial File Transfer Protocol)  
**TFTP  
Server**

tftp:



# Managing Cisco IOS Images



# Verifying Memory and Deciphering Image Filenames

The image was compressed in zip format ← Compression Format  
Runs from RAM ← Memory Location  
Feature Set  
Cisco 2800 router with a network module ← Hardware (platform)

Version of IOS  
File extension

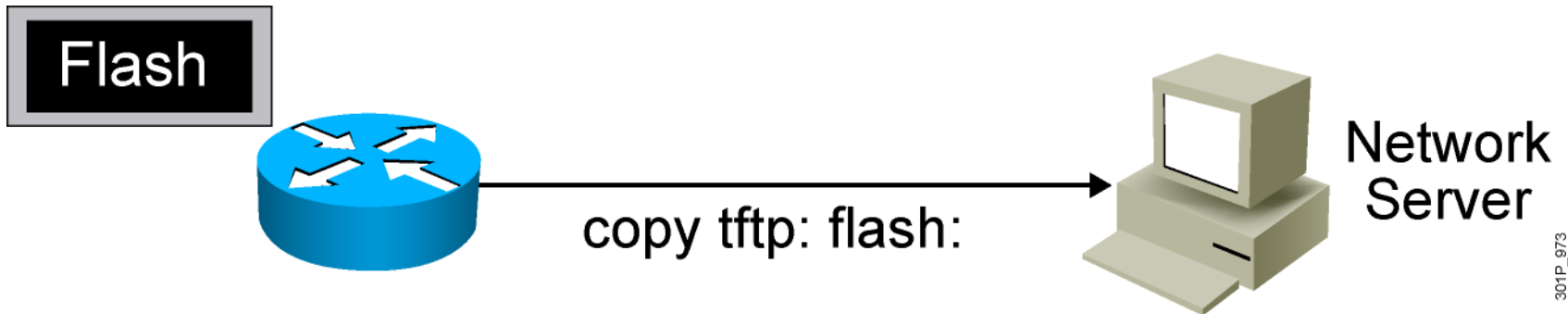
```
RouterX#show flash:
```

-#-	--length--	----	date/time-----	path
1	14951648	Feb 22 2007 21:38:56	+00:00	<u>c2800nm-ipbase-mz.124-5a.bin</u>
2	1823	Dec 14 2006 08:24:54	+00:00	sdmconfig-2811.cfg
3	4734464	Dec 14 2006 08:25:24	+00:00	sdm.tar
4	833024	Dec 14 2006 08:25:38	+00:00	es.tar
5	1052160	Dec 14 2006 08:25:54	+00:00	common.tar
6	1038	Dec 14 2006 08:26:08	+00:00	home.shtml
7	102400	Dec 14 2006 08:26:22	+00:00	home.tar
8	491213	Dec 14 2006 08:26:40	+00:00	128MB.sdf

```
41836544 bytes available (22179840 bytes used)
```

Verify that flash memory has room for the Cisco IOS image

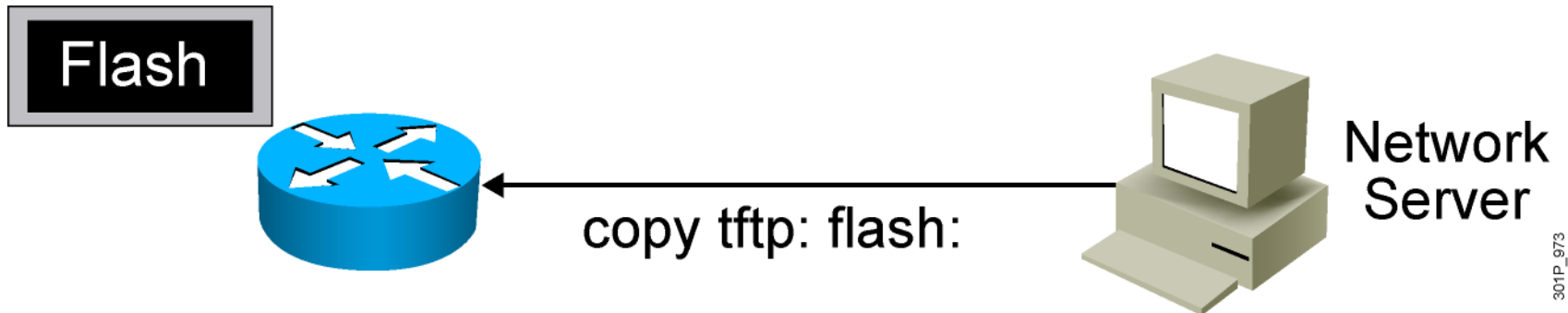
# Creating a Software Image Backup



```
RouterX#copy flash tftp:  
Source filename []? c2800nm-ipbase-mz.124-5a.bin  
Address or name of remote host []? 10.1.1.1  
Destination filename [c2800nm-ipbase-mz.124-5a.bin]  
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! <output omitted>  
12094416 bytes copied in 98.858 secs (122341 bytes/sec)  
RouterX#
```

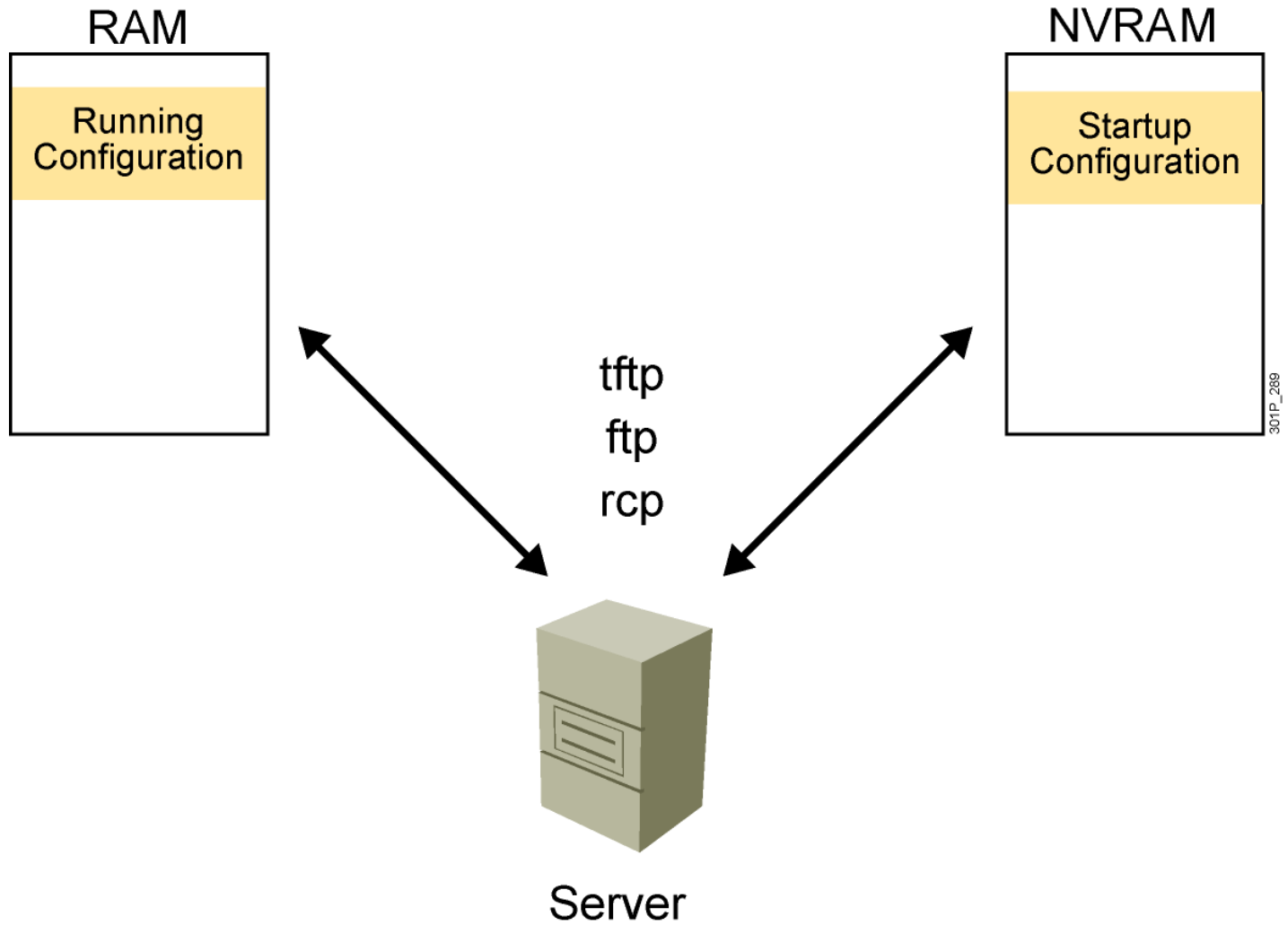
## Back up current files prior to updating flash memory

# Upgrading the Image from the Network

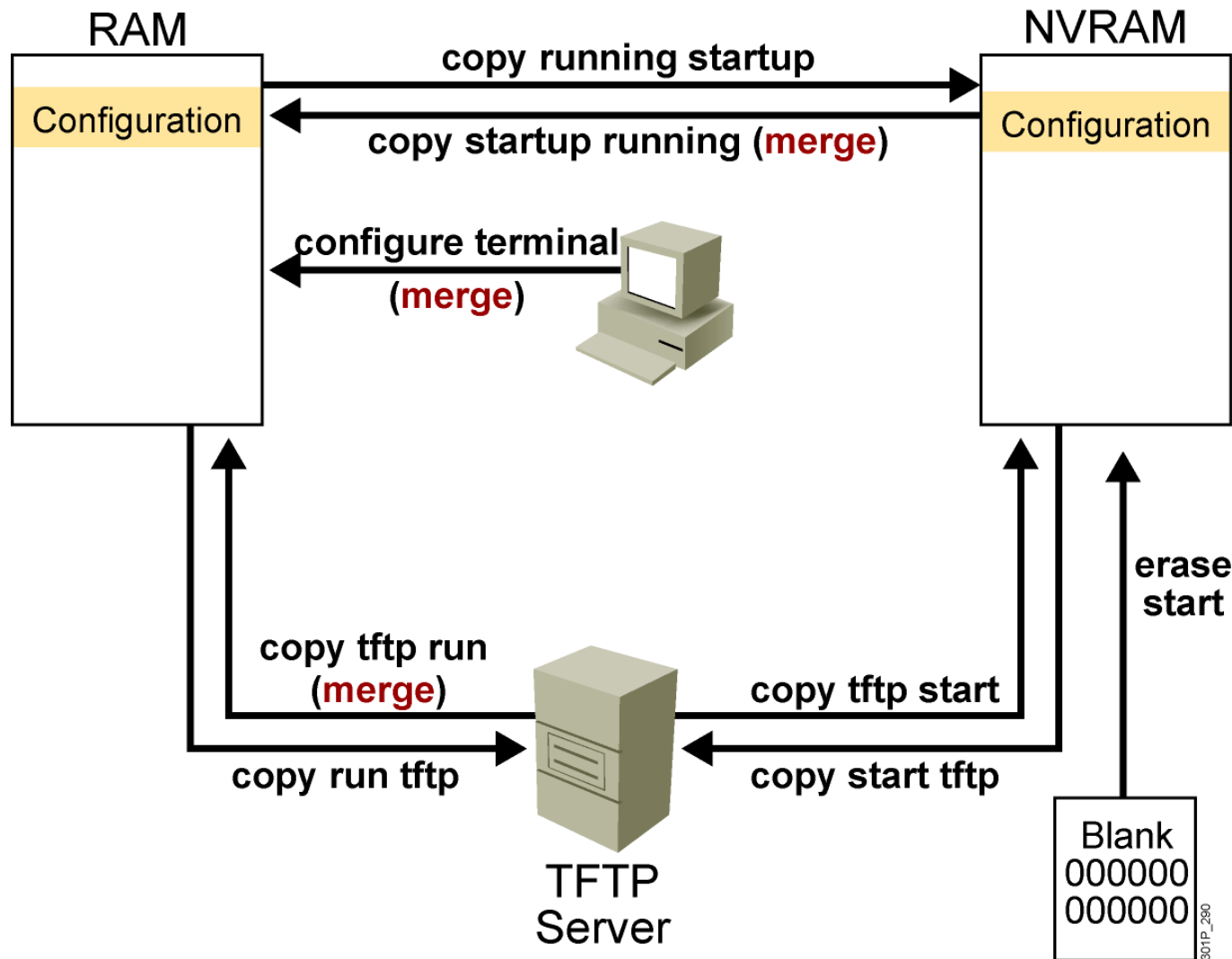


```
RouterX#copy tftp flash:
Address or name of remote host [10.1.1.1]?
Source filename []? c2800nm-ipbase-mz.124-5a.bin
Destination filename [c2800nm-ipbase-mz.124-5a.bin]
Accessing tftp://10.1.1.1/c2600-js-mz.122-21a.bin...
Erase flash: before copying? [confirm]
Erasing the flash filesystem will remove all files! Continue? [confirm]
Erasing device... eeeeeeeeeee (output omitted) ...erased
Erase of flash: complete
Loading c2800nm-ipbase-mz.124-5a.bin from 10.1.1.1 (via Ethernet0/0): !!!!!!!!!!!
(output omitted)
[OK - 12094416 bytes]
Verifying checksum... OK (0x45E2)
12094416 bytes copied in 120.465 secs (100398 bytes/sec)
RouterX
```

# Device Configuration Files



# Cisco IOS copy Command



- NVRAM
- Terminal
- TFTP server
- Erase start

# Cisco IOS copy Command Example

## running-config

```
interface s0/0/0  
  ip address 10.1.1.1 255.255.255.0  
  
interface fa0/0  
  ip address 10.2.2.2 255.255.255.0  
  
interface fa0/1  
  no ip address
```

## TFTP Server saved.cfg

```
interface fa0/0  
  ip address 172.16.1.1 255.255.255.0  
  
interface fa0/1  
  ip address 192.168.1.1 255.255.255.0
```

copy tftp run (merged)

## Resulting running-config

```
interface s0/0/0  
  ip address 10.1.1.1 255.255.255.0  
  
interface fa0/0  
  ip address 172.16.1.1 255.255.255.0  
  
interface fa0/1  
  ip address 192.168.1.1 255.255.255.0
```

# copy run tftp and copy tftp run Commands

```
RouterX#copy running-config: tftp:
Address or name of remote host []? 10.1.1.1
Destination filename [running-config]? wgroa.cfg
.!!
1684 bytes copied in 13.300 secs (129 bytes/sec)

RouterX#copy tftp: running-config:
Address or name of remote host []? 10.1.1.1
Source filename []? wgroa.cfg
Destination filename [running-config]?
Accessing tftp://10.1.1.1/wgroa.cfg...
Loading wgroa.cfg from 10.1.1.1 (via Ethernet0): !
[OK - 1684/3072 bytes]

1684 bytes copied in 17.692 secs (99 bytes/sec)
```



