

# 在一种堆栈配置的Catalyst 3750软件升级与使用命令行界面

## Contents

[Introduction](#)

[Prerequisites](#)

[Requirements](#)

[Components Used](#)

[Conventions](#)

[查找软件版本和功能集](#)

[决定使用哪些文件](#)

[闪存文件系统和内存要求](#)

[3750 系列交换机堆叠 IOS 升级 - 自动 \(.tar 映像\)](#)

[逐步指导](#)

[3750 系列交换机堆叠 IOS 升级 - 手动 \(.tar 映像\)](#)

[逐步指导](#)

[3750 系列交换机堆叠 IOS 升级 - 手动 \(.bin 映像\)](#)

[逐步指导](#)

[Verify](#)

[Troubleshoot](#)

[从 TFTP 服务器传送映像失败或 IOS 映像已损坏](#)

[收到 Error Bad Mzip 错误消息](#)

[%Error opening flash:update/info \(No such file or directory\)](#)

[堆叠中的交换机不引导新映像 \(版本不匹配\)](#)

[%Tar checksum error in tftp](#)

[使用不同的功能集升级 Cisco IOS 软件](#)

[Related Information](#)

## [Introduction](#)

本文档说明使用命令行界面 (CLI) 在具有多业务交换堆叠配置的 Cisco Catalyst 3750 系列交换机上升级软件映像的分步过程。

## [Prerequisites](#)

## [Requirements](#)

下载软件之前，请参阅 [Cisco IOS 版本 12.2\(25\)SEB 及更高版本的发行版本注释](#)，[Catalyst 3750、3560 和 2970 交换机](#) 的以下部分以了解有关重要信息：

- [查找软件版本和功能集](#)
- [决定使用哪些文件](#)
- [使用设备管理器或 Network Assistant 升级交换机](#)
- [使用 CLI 升级交换机](#)
- [从软件故障中恢复](#)

## [Components Used](#)

本文档中的信息基于以下硬件版本：

- WS-C3750G-12S 交换机
- WS-C3750G-24TS 交换机

**Note:** 您可以替换任何可堆叠 Catalyst 3750 系列交换机。

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

## [Conventions](#)

有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

## [查找软件版本和功能集](#)

包含 Cisco IOS® 软件版本名称的目录以 bin 文件的形式存储 Cisco IOS 映像。该目录将映像存储在系统主板闪存设备 (flash:) 上。子目录包含 Web 管理所需的文件。

您可以使用 **show version privileged EXEC** 命令来查看交换机上运行的软件版本。显示的第二行显示版本。

**Note:** 虽然 **show version output** 总是显示交换机上运行的软件映像，但是此显示结尾出现的型号名称才是出厂配置。此映像是 IP Base 映像，以前叫作 Standard Multilayer Image (SMI) 或者 IP Service 图像，以前叫作 Enhanced Multilayer Image (EMI)。如果升级软件映像，此名称不会更改。

您也可以使用 **dir filesystem:privileged EXEC** 命令。此命令显示闪存中存储的任何其他软件映像的目录名称。

在决定要将交换机升级到的 Cisco IOS 软件版本前，您应该：

- 阅读特定 Cisco IOS 软件版本的发行版本注释。请参阅 [Cisco Catalyst 3750 系列交换机 - 发行版本注释](#)。
- 确保该 Cisco IOS 软件版本没有任何可能影响任何现有功能的缺陷。请参阅 [Bug 工具包 \(仅限注册用户\)](#) 和 [Cisco Catalyst 3750 系列交换机 - Field Notices](#)。

## [查找 Catalyst 3750 交换机的优先级值](#)

优先级值确定堆叠中的主交换机。优先级值可以从 1 到 15。默认优先级值是 1。Cisco 建议您将最高优先级值分配给作为首选堆叠主交换机的交换机。在本示例中，主交换机的优先级值为 15。有关详细信息，请参阅 [建立和管理 Catalyst 3750 交换机堆叠](#)。

```
3750#show switch detail
```

Switch#	Role	Mac Address	Priority	Current State
1	Slave	000c.30ae.4f00	9	Ready
*2	Master	000d.bd5c.1680	15	Ready

## 决定使用哪些文件

对于每个功能集和版本，Catalyst 3750 的软件下载中心都包含两组 IOS 映像。一组只包含扩展名为 .bin 的 IOS 映像文件。另一组包含 IOS 映像加上基于 Web 的设备管理器，其扩展名为 .tar。

本文档说明使用 .tar 映像以及使用 .bin 映像进行升级的过程。 .tar 文件包含 Cisco IOS 映像文件和嵌入式设备管理器所需的文件。您必须使用组合的 tar 文件来通过设备管理器升级交换机。

Cisco IOS 软件版本 12.2(25)SEA 和更低版本是指将第 2+ 层功能和基本的第 3 层路由提供为 SMI 的映像。这些软件版本是指将完整的第 3 层路由和高级服务提供为 EMI 的映像。

Cisco IOS 软件版本 12.2(25)SEB 和更高版本是指将 SMI 作为 *IP Base* 映像，并将 EMI 作为 IP Service 映像。

[表1](#)列出版本不同的文件命名惯例早于和晚于Cisco IOS Software Release 12.2(25)SEB。

Cisco IOS 软件版本 12.2(25)SEA 和更低版本	Cisco IOS 软件版本 12.2(25)SEB 和更高版本
c3750-i9-mz (SMI)	c3750-ipbase-mz
c3750-i9k91-mz (SMI)	c3750-ipbasek9-mz
c3750-i5-mz (EMI)	c3750-ipservices-mz
c3750-i5k91-mz (EMI)	c3750-ipservicesk9-mz

[表 2](#) 列出此软件版本的文件名。

文件名	说明
c3750-ipbase-tar.122-25.SE.B.tar	Catalyst 3750 IP Base 映像和设备管理器文件此映像有层2+和基本层3路由功能。
c3750-ip-services-tar.122-25.SE.B.tar	Catalyst 3750 IP Service 映像和设备管理器文件此映像有层2+和充分的第3层路由功能。
c3750-ipbasek9-tar.122-25.SE.B.tar	Catalyst 3750 IP BASE 加密映像和设备管理器文件此映像有Kerberos、SSH 1、层2+和基本层3路由功能。
c3750-ip-servicesk9-tar.122-25.SE.B.tar	Catalyst 3750 IP 服务加密映像和设备管理器文件此映像有Kerberos、SSH、层2+和充分的第3层功能。
c3750-advip-servicesk9-	Catalyst 3750 提前 IP Service 映像，密码文件，并且设备管理器文件此映像

tar.122-25.SEB.tar	有所有IP Service图像功能和功能IPv6单播路由的 <sup>2</sup> 个信息包。
--------------------	--

<sup>1</sup>↑ SSH = Secure Shell

<sup>2</sup> IPv6 = IP版本6 (IPv6)

[Software Advisor](#) ( [仅限注册用户](#) ) 工具帮助确定网络中所需功能需要的功能集。

## 闪存文件系统和内存要求

### 闪存文件系统

出厂的 3750 在 flash: 目录中随附了基于 Web 的设备管理器的安装 (.tar 文件) 目录。发生与.tar文件的提取进程创建一个Cisco IOS镜像目录。镜像目录有名字和Cisco IOS镜像(.bin文件)一样，但是，不用文件扩展。此目录存储 Cisco IOS 映像 (.bin 文件) 以及包含设备管理器文件的 HTML 子目录。

发行dir flash : 命令，以查看 3750 闪存文件系统。下面是一个命令输出示例：

```
3750#dir flash:
Directory of flash:/

 2  -rwx  5684228  Mar 12 1993 08:13:57 +00:00  c3750-ipbase-mz.122-25.SEC2.bin
 3  -rwx    2105   Mar 1 1993 00:02:16 +00:00  config.text
 4  drwx    192   Mar 12 1993 08:11:00 +00:00  c3750-ipbase-mz.122-25.SEB4
 5  -rwx     5    Mar 1 1993 00:02:16 +00:00  private-config.text
 6  -rwx    856   Mar 1 1993 00:04:40 +00:00  vlan.dat
364 -rwx    105   Mar 12 1993 08:11:00 +00:00  info
```

15998976 bytes total (3201536 bytes free)

*!--- Notice the "d" in the permissions statement. !--- It indicates that c3750-ipbase-mz.122-25.SEB4 is a directory. !--- This directory is the location of both the Cisco IOS image (.bin file) !--- and the HTML subdirectory.*

请参阅本文档中的以下部分，以将 3750 交换机升级到带有基于 Web 的设备管理器的 Cisco IOS 软件版本：

- [3750 系列交换机堆叠 IOS 升级 - 自动 \(.tar 映像\)](#)
- [3750 系列交换机堆叠 IOS 升级 - 手动 \(.tar 映像\)](#)

请参阅 [3750 系列交换机堆叠 IOS 升级 - 手动 \(.bin 映像\)](#) 部分，以仅使用 Cisco IOS 软件版本升级交换机。

### DRAM 内存

3750 系列交换机的所有型号都有 128 MB 的 DRAM 配置。没有在 3750 上升级软件之前需要考虑的最低 DRAM 要求。

### 闪存

3750 交换机随附的内部闪存是 16 MB 或 32 MB，具体取决于 Catalyst 3750 交换机的型号。有关详细信息，请参阅 [Cisco Catalyst 3750 数据表](#)。

有限制对您在闪存能存储镜像的数量。请总是在升级软件之前检查[下载 - 交换机](#) ( [仅限注册用户](#) )

) 中的映像的大小 ( 字节 ) 。发行 **dir flash** : 命令为了此映像的大小与在闪存的空闲空间比较。下面是一个命令输出示例 :

```
3750#dir flash:
Directory of flash:/

 2  -rwx  6221372  Mar 1 1993 00:23:06 +00:00  c3750-ipbase-mz.122-25.SED1.bin
 3  -rwx    2105  Mar 1 1993 00:02:16 +00:00  config.text
 4  -rwx  5684228  Mar 1 1993 01:17:34 +00:00  c3750-ipbase-mz.122-25.SEC2.bin
 5  -rwx     5    Mar 1 1993 00:02:16 +00:00  private-config.text
 6  -rwx    856   Mar 1 1993 00:04:40 +00:00  vlan.dat
```

15998976 bytes total (4087296 bytes free)

3750#

如果需要, 请发出 **delete flash:file\_name** 命令, 以删除单个 Cisco IOS 映像 ( .bin 文件 ) 。或者发出 **delete /force /recursive flash:dir\_name** 命令, 以删除目录和目录中的所有文件。

下面是一个删除 Cisco IOS 映像 ( .bin 文件 ) 的命令输出示例 :

```
3750#delete flash:c3750-ipbase-mz.122-25.SED1.bin
Delete filename [c3750-ipbase-mz.122-25.SED1.bin]?
!--- Press Return or Enter.
```

Delete flash:c3750-ipbase-mz.122-25.SED1.bin? [confirm]

!--- Press Return or Enter.

3750#dir flash:

```
Directory of flash:/

 3  -rwx    2105  Mar 1 1993 00:02:16 +00:00  config.text
 4  -rwx  5684228  Mar 1 1993 01:17:34 +00:00  c3750-ipbase-mz.122-25.SEC2.bin
 5  -rwx     5    Mar 1 1993 00:02:16 +00:00  private-config.text
 6  -rwx    856   Mar 1 1993 00:04:40 +00:00  vlan.dat
```

15998976 bytes total (10309120 bytes free)

下面是一个删除带有基于 Web 的设备管理器的 Cisco IOS 映像 ( 目录 ) 的命令输出示例 :

3750#dir flash:

```
Directory of flash:/

 2  -rwx  5684228  Mar 12 1993 08:13:57 +00:00  c3750-ipbase-mz.122-25.SEC2.bin
 3  -rwx    2105  Mar 1 1993 00:02:16 +00:00  config.text
 4  drwx    192  Mar 12 1993 08:11:00 +00:00  c3750-ipbase-mz.122-25.SEB4
 5  -rwx     5    Mar 1 1993 00:02:16 +00:00  private-config.text
 6  -rwx    856   Mar 1 1993 00:04:40 +00:00  vlan.dat
364 -rwx    105   Mar 12 1993 08:11:00 +00:00  info
```

15998976 bytes total (3201536 bytes free)

3750#delete /force /recursive flash:c3750-ipbase-mz.122-25.SEB4

Delete filename [c3750-ipbase-mz.122-25.SEB4]?

!--- Press Return or Enter.

3750#dir flash:

```
Directory of flash:/

 2  -rwx  5684228  Mar 12 1993 08:13:57 +00:00  c3750-ipbase-mz.122-25.SEC
2.bin
 3  -rwx    2105  Mar 1 1993 00:02:16 +00:00  config.text
```

```
5  -rwx          5   Mar 1 1993 00:02:16 +00:00  private-config.text
6  -rwx        856   Mar 1 1993 00:04:40 +00:00  vlan.dat
364 -rwx       105   Mar 12 1993 08:11:00 +00:00  info
```

15998976 bytes total (10308608 bytes free)

升级可能需要您释放更多的空间。需求取决于多少个镜像您在闪存存储了。您可以删除更多旧映像/目录来释放此空间。

## [3750 系列交换机堆叠 IOS 升级 - 自动 \(.tar 映像\)](#)

本部分提供有关如何配置本文档所述功能的信息。

此部分中的过程会将组合的 tar 文件复制到交换机。请将文件从 TFTP 服务器复制到交换机并提取文件。您可以下载映像文件并替换当前映像，或者保留当前映像。

**Note:** 对于交换机堆叠，`archive download-sw` 和 `archive upload-sw privileged EXEC` 命令只能通过堆叠主交换机来使用。下载到堆叠主交换机的软件映像会自动下载到其余的堆叠成员。因此，您必须登录到主交换机来执行此升级。

### [逐步指导](#)

要下载软件，请完成以下步骤：

#### [第 1 步](#)

使用本文档中的[决定使用哪些文件](#)部分，以确定要下载的映像和功能集的类型。

#### [第 2 步](#)

请参阅[软件下载 - Cisco Catalyst 3750 软件](#)（[仅限注册用户](#)），并查找您要下载的映像。

为了下载 IP Service 图像或 IP Base 镜像文件的更旧的版本 Catalyst 3750 switch 的，请点击[归档的 Catalyst 3750 软件](#)。为了获得授权和下载密码软件文件，请点击[Catalyst 3750 严格的密码\(3DES\)软件](#)。

**Note:** 早于 Cisco IOS 软件版本 12.1(19)EA1c 的 Cisco IOS 软件版本包括引导加载程序升级。引导加载程序在您第一次加载新软件时可能需要 1 分钟的时间来进行升级。在引导加载程序升级期间，不要对交换机重新通电。

#### [第 3 步](#)

将映像复制到工作站上的相应 TFTP 目录，并确保 TFTP 服务器的配置正确。

有关详细信息，请参阅此版本的软件配置指南的附录 B。

#### [第 4 步](#)

通过控制台端口或 Telnet 会话登录到交换机，并进入启用模式。

#### [步骤 5](#)

要查看当前版本，请发出 **show version** 命令。

```
3750#show version
Cisco Internetwork Operating System Software
IOS (tm) C3750 Software (C3750-I5-M), Version 12.1(19)EA1d, RELEASE SOFTWARE (fc1)
Copyright (c) 1986-2004 by cisco Systems, Inc.
Compiled Mon 05-Apr-04 22:06 by antonino
Image text-base: 0x00003000, data-base: 0x009206D8

ROM: Bootstrap program is C3750 boot loader
BOOTLDR: C3750 Boot Loader (C3750-HBOOT-M) Version 12.1(14)EA1, RELEASE SOFTWARE (fc1)

3750 uptime is 4 days, 19 hours, 43 minutes
System returned to ROM by power-on
System image file is "flash:c3750-i5-mz.121-19.EA1d.bin"

cisco WS-C3750G-12S (PowerPC405) processor (revision A0) with 118776K/12288K bytes of
memory.
Processor board ID CAT0732R0JU
Last reset from power-on
Bridging software.
5 Virtual Ethernet/IEEE 802.3 interface(s)
40 Gigabit Ethernet/IEEE 802.3 interface(s)
The password-recovery mechanism is enabled.
512K bytes of flash-simulated non-volatile configuration memory.
Base ethernet MAC Address      : 00:0D:BD:5C:16:80
Motherboard assembly number    : 73-8307-06
Power supply part number       : 341-0048-01
Motherboard serial number      : CAT073205SU
Power supply serial number     : DTH073004US
Model revision number          : A0
Motherboard revision number    : A0
Model number                    : WS-C3750G-12S-E
System serial number           : CAT0732R0JU
Top Assembly Part Number       : 800-23419-01
Top Assembly Revision Number   : A0
Hardware Board Revision Number : 0x06
```

Switch	Ports	Model	SW Version	SW Image
-----	-----	-----	-----	-----
1	28	WS-C3750G-24TS	12.1(19)EA1d	C3750-I5-M
*	2	WS-C3750G-12S	12.1(19)EA1d	C3750-I5-M

Switch 01

## **第 6 步**

发行 **dir flash** : 命令 ( 在 3750 上 ) ，以验证可用于升级的空闲内存量。

下面是一个命令输出示例：

```
3750#dir flash:
Directory of flash:/

 2  -rwx      1516  Mar 01 1993 00:01:28  vlan.dat
 3  -rwx    4050902  Mar 01 1993 00:03:32  c3750-i5-mz.121-19.EA1d.bin
 4  -rwx      4273  Mar 05 1993 19:22:44  config.text
84  -rwx         5   Mar 05 1993 19:22:44  private-config.text
```







```

extracting c3750-i5-mz.122-20.SE/html/cluster.html (2822 bytes)
extracting c3750-i5-mz.122-20.SE/html/start.html (576 bytes)
extracting c3750-i5-mz.122-20.SE/html/test.htm (2301 bytes)
extracting c3750-i5-mz.122-20.SE/html/xhome.htm (25035 bytes)
extracting c3750-i5-mz.122-20.SE/html/stylesheet.css (3364 bytes)
extracting c3750-i5-mz.122-20.SE/html/back-exp.htm (182 bytes)
extracting c3750-i5-mz.122-20.SE/html/sitewide.js (10627 bytes)
extracting c3750-i5-mz.122-20.SE/html/tools.htm (21818 bytes)
extracting c3750-i5-mz.122-20.SE/html/appsui.js (3092 bytes)
extracting c3750-i5-mz.122-20.SE/html/forms.js (11521 bytes)
extracting c3750-i5-mz.122-20.SE/html/doc.htm (22332 bytes)
extracting c3750-i5-mz.122-20.SE/html/express-setup.htm (61957 bytes)
extracting c3750-i5-mz.122-20.SE/html/troubleshooting_Browser.htm (3704 bytes)
extracting c3750-i5-mz.122-20.SE/html/troubleshooting_OS.htm (2851 bytes)
extracting c3750-i5-mz.122-20.SE/html/net_report.htm (21107 bytes)
!--- Output suppressed. Installing (renaming): `flash1:update/c3750-i5-mz.122-20.SE' ->
`flash1:c3750-i5-mz.122-20.SE' New software image
installed in flash1:c3750-i5-mz.122-20.SE Installing (renaming): `flash:update/c3750-i5-mz.122-
20.SE' -> `flash:c3750-i5-mz.122-20.SE' New software
image installed in flash:c3750-i5-mz.122-20.SE All software images installed. !--- Installation
of the image and supporting files is now complete !--- in the flash of all switches in the
stack. In this example, installation !--- is complete in both switches.

```

## 步骤 9

映像复制完成，并且已准备好重新启动。要验证交换机的当前状态是否为 Ready，请发出 **show switch detail** 命令。

示例如下：

```

3750#show switch detail

```

Switch#	Role	Mac Address	Priority	Current State
1	Slave	000c.30ae.4f00	9	Ready
*2	Master	000d.bd5c.1680	15	Ready

  

Switch#	Stack Port Status		Neighbors	
	Port 1	Port 2	Port 1	Port 2
1	Ok	Ok	2	2
2	Ok	Ok	1	1

## 步骤 10

要验证新映像是否位于堆叠成员的闪存中，请发出 **dir flash:**命令和 **dir flash 1:**命令。在本示例中，有两个交换机堆叠成员。如果堆叠配置包含堆叠中的其他交换机，请对堆叠中的每个其他交换机发出 **dir flash#:**命令。

发出 **show version** 命令，以验证旧映像是否仍然为当前操作系统映像。发出 **show boot** 命令，以验证新映像现在是否为将在下次交换机重新加载时加载的 BOOT path-list 中的映像。

```

3750#dir flash:
Directory of flash:/

 2  -rwx          1516   Mar 01 1993 00:01:28  vlan.dat

```

```
3 -rwx      4050902   Mar 01 1993 00:03:32  c3750-i5-mz.121-19.EA1d.bin
4 -rwx          4273   Mar 05 1993 19:22:44  config.text
6 drwx         192   Mar 05 1993 19:40:16  c3750-i5-mz.122-20.SE
84 -rwx         5     Mar 05 1993 19:22:44  private-config.text
```

!--- Notice the "d" in the permissions statement. The "d" indicates a directory. 15998976 bytes total (3491328 bytes free) 3750#dir flash1:

Directory of flash1:/

```
2 -rwx      4050902   Mar 01 1993 00:35:58  c3750-i5-mz.121-19.EA1d.bin
3 -rwx         1516   Mar 01 1993 00:01:33  vlan.dat
4 -rwx          4273   Mar 05 1993 19:22:44  config.text
5 -rwx         5     Mar 05 1993 19:22:44  private-config.text
7 drwx         192   Mar 05 1993 19:37:40  c3750-i5-mz.122-20.SE
```

15998976 bytes total (3491328 bytes free)

### 3750#show version

Cisco Internetwork Operating System Software  
IOS (tm) C3750 Software (C3750-I5-M), Version 12.1(19)EA1d, RELEASE SOFTWARE (fc1)  
Copyright (c) 1986-2004 by cisco Systems, Inc.  
Compiled Mon 05-Apr-04 22:06 by antonino  
Image text-base: 0x00003000, data-base: 0x009206D8

ROM: Bootstrap program is C3750 boot loader

BOOTLDR: C3750 Boot Loader (C3750-HBOOT-M) Version 12.1(14)EA1, RELEASE SOFTWARE (fc1)

3750 uptime is 4 days, 19 hours, 43 minutes

System returned to ROM by power-on

System image file is "flash:c3750-i5-mz.121-19.EA1d.bin"

cisco WS-C3750G-12S (PowerPC405) processor (revision A0) with  
118776K/12288K bytes of memory.

Processor board ID CAT0732R0JU

Last reset from power-on

Bridging software.

5 Virtual Ethernet/IEEE 802.3 interface(s)

40 Gigabit Ethernet/IEEE 802.3 interface(s)

The password-recovery mechanism is enabled.

512K bytes of flash-simulated non-volatile configuration memory.

Base ethernet MAC Address : 00:0D:BD:5C:16:80

Motherboard assembly number : 73-8307-06

Power supply part number : 341-0048-01

Motherboard serial number : CAT073205SU

Power supply serial number : DTH073004US

Model revision number : A0

Motherboard revision number : A0

Model number : WS-C3750G-12S-E

System serial number : CAT0732R0JU

Top Assembly Part Number : 800-23419-01

Top Assembly Revision Number : A0

Hardware Board Revision Number : 0x06

Switch	Ports	Model	SW Version	SW Image
-----	-----	-----	-----	-----
1	28	WS-C3750G-24TS	12.1(19)EA1d	C3750-I5-M
*	2	WS-C3750G-12S	12.1(19)EA1d	C3750-I5-M

Switch 01

!--- When you issue the show boot command, it now reads the new code revision !--- that will load at the next reboot.

```
3750#show boot
BOOT path-list      : flash:c3750-i5-mz.122-20.SE/c3750-i5-mz.122-20.SE.bin
Config file         : flash:/config.text
Private Config file : flash:/private-config.text
Enable Break        : no
Manual Boot         : no
HELPER path-list    :
Auto upgrade        : yes
3750#
3750#
```

## [步骤 11](#)

在提示符下发出 **reload** 命令并进行确认，以继续进行重新加载。新的代码修订版应该显示并按预期在堆叠中的所有交换机上运行。

下面是交换机重新加载的输出示例：

```
3750#reload
Proceed with reload? [confirm]

4d19h: %SYS-5-RELOAD: Reload requested

Base ethernet MAC Address: 00:0d:bd:5c:16:80

Xmodem file system is available.

The password-recovery mechanism is enabled.

Initializing Flash...

flashfs[0]: 86 files, 4 directories

flashfs[0]: 0 orphaned files, 0 orphaned directories

flashfs[0]: Total bytes: 15998976

flashfs[0]: Bytes used: 12507648

flashfs[0]: Bytes available: 3491328

flashfs[0]: flashfs fsck took 9 seconds.

...done Initializing Flash.

Boot Sector Filesystem (bs) installed, fsid: 3

done.

Loading "flash:c3750-i5-mz.122-20.SE/c3750-i5-mz.122-20.SE.bin"
...@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
File "flash:c3750-i5-mz.122-20.SE/c3750-i5-mz.122-20.SE.bin" uncompressed and installed,
entry point: 0x3000

executing...
```

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cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, California 95134-1706

Cisco Internetwork Operating System Software  
IOS (tm) C3750 Software (C3750-I5-M), Version 12.2(20)SE, RELEASE SOFTWARE (fc1)  
Copyright (c) 1986-2004 by cisco Systems, Inc.  
Compiled Wed 19-May-04 11:52 by yenanh  
Image text-base: 0x00003000, data-base: 0x00B53B10

Initializing flashfs...

flashfs[1]: 86 files, 4 directories  
flashfs[1]: 0 orphaned files, 0 orphaned directories  
flashfs[1]: Total bytes: 15998976  
flashfs[1]: Bytes used: 12507648  
flashfs[1]: Bytes available: 3491328  
flashfs[1]: flashfs fsck took 9 seconds.  
flashfs[1]: Initialization complete....done Initializing flashfs.

POST: CPU MIC register Tests : Begin  
POST: CPU MIC register Tests : End, Status Passed

POST: PortASIC Memory Tests : Begin  
POST: PortASIC Memory Tests : End, Status Passed

POST: CPU MIC PortASIC interface Loopback Tests : Begin  
POST: CPU MIC PortASIC interface Loopback Tests : End, Status Passed

POST: PortASIC RingLoopback Tests : Begin  
POST: PortASIC RingLoopback Tests : End, Status Passed

Waiting for Stack Master Election (around 20 seconds)...  
POST: PortASIC CAM Subsystem Tests : Begin  
POST: PortASIC CAM Subsystem Tests : End, Status Passed

POST: PortASIC Stack Port Loopback Tests : Begin  
POST: PortASIC Stack Port Loopback Tests : End, Status Passed

POST: PortASIC Port Loopback Tests : Begin  
POST: PortASIC Port Loopback Tests : End, Status Passed

Election Complete  
Switch 2 booting as Master  
Waiting for Port download...Complete

cisco WS-C3750G-12S (PowerPC405) processor (revision A0) with 118784K/12280K bytes of memory.  
Processor board ID CAT0732R0JU  
Last reset from power-on  
Bridging software.  
1 Virtual Ethernet/IEEE 802.3 interface(s)  
40 Gigabit Ethernet/IEEE 802.3 interface(s)  
The password-recovery mechanism is enabled.

512K bytes of flash-simulated non-volatile configuration memory.

Base ethernet MAC Address : 00:0D:BD:5C:16:80  
Motherboard assembly number : 73-8307-06  
Power supply part number : 341-0048-01  
Motherboard serial number : CAT073205SU  
Power supply serial number : DTH073004US  
Model revision number : A0  
Motherboard revision number : A0  
Model number : WS-C3750G-12S-E  
System serial number : CAT0732R0JU  
Top Assembly Part Number : 800-23419-01  
Top Assembly Revision Number : A0  
Hardware Board Revision Number : 0x06

Switch	Ports	Model	SW Version	SW Image
-----	-----	-----	-----	-----
* 2	12	WS-C3750G-12S	12.2(20)SE	C3750-I5-M

Press RETURN to get started!

```
00:00:57: %STACKMGR-6-SWITCH_ADDED: Switch 1 has been ADDED to the stack
00:00:57: %STACKMGR-6-SWITCH_ADDED: Switch 2 has been ADDED to the stack
00:01:27: %LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to down
00:01:27: %SPANTREE-5-EXTENDED_SYSID: Extended SysId enabled for type vlan
00:01:30: %SYS-5-CONFIG_I: Configured from memory by console
00:01:30: %STACKMGR-6-SWITCH_READY: Switch 2 is READY
00:01:30: %STACKMGR-6-STACK_LINK_CHANGE: Stack Port 1 Switch 2 has changed to st
3750>
3750>ate UP
00:01:30: %STACKMGR-6-STACK_LINK_CHANGE: Stack Port 2 Switch 2 has changed to state UP
00:01:30: %STACKMGR-6-MASTER_READY: Master Switch 2 is READY
00:01:31: %SYS-5-RESTART: System restarted --
Cisco Internetwork Operating System Software
IOS (tm) C3750 Software (C3750-I5-M), Version 12.2(20)SE, RELEASE SOFTWARE (fc1)
Copyright (c) 1986-2004 by cisco Systems, Inc.
Compiled Wed 19-May-04 11:52 by yenanh
00:01:32: %LINK-5-CHANGED: Interface GigabitEthernet2/0/1,
changed state to administratively
down
00:01:32: %LINK-5-CHANGED: Interface Vlan1, changed state to administratively down
00:01:32: %LINK-5-CHANGED: Interface Vlan2, changed state to administratively down
00:01:35: %STACKMGR-6-SWITCH_READY: Switch 1 is READY
00:01:35: %STACKMGR-6-STACK_LINK_CHANGE: Stack Port 1 Switch 1 has changed to state UP
00:01:35: %STACKMGR-6-STACK_LINK_CHANGE: Stack Port 2 Switch 1 has changed to state UP
00:01:25: %STACKMGR-6-SWITCH_ADDED: Switch 1 has been ADDED to the stack (3750-1)
00:01:25: %STACKMGR-6-SWITCH_ADDED: Switch 2 has been ADDED to the stack (3750-1)
00:01:32: %SPANTREE-5-EXTENDED_SYSID: Extended SysId enabled for type vlan (3750-1)
00:01:35: %SYS-5-CONFIG_I: Configured from memory by console (3750-1)
00:01:35: %STACKMGR-6-SWITCH_READY: Switch 2 is READY (3750-1)
00:01:35: %STACKMGR-6-MASTER_READY: Master Switch 2 is READY (3750-1)
00:01:35: %STACKMGR-6-SWITCH_READY: Switch 1 is READY (3750-1)
00:01:36: %SYS-5-RESTART: System restarted -- (3750-1)
Cisco Internetwork Operating System
3750>
3750>Software (3750-1)
IOS (tm) C3750 Software (C3750-I5-M), Version 12.2(20)SE, RELEASE SOFTWARE
(fc1) (3750-1)
Copyright (c) 1986-2004 by cisco Systems, Inc. (3750-1)
Compiled Wed 19-May-04 11:52 by yenanh (3750-1)
```

```
00:01:37: %LINK-3-UPDOWN: Interface GigabitEthernet1/0/2, changed state to up
00:01:37: %LINK-3-UPDOWN: Interface GigabitEthernet1/0/3, changed state to up
00:01:37: %LINK-3-UPDOWN: Interface GigabitEthernet1/0/4, changed state to up
00:01:38: %LINK-3-UPDOWN: Interface GigabitEthernet2/0/2, changed state to up
00:01:38: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet1/0/2, changed
state to up
00:01:38: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet1/0/3, changed
state to up
00:01:38: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet1/0/4, changed
state to up
00:01:39: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet2/0/2, changed
state to up
3750>
```

## [3750 系列交换机堆叠 IOS 升级 - 手动 \(.tar 映像\)](#)

本文档的前一部分说明如何使用 **archive download-sw** 命令升级 IOS。您也可以在不断开堆叠电缆的情况下逐个交换机手动升级 IOS。此方法中的三个主要步骤是：

1. 将 .tar 映像从 TFTP 服务器复制到主交换机。
2. 将 .tar 映像提取到交换机的所有闪存文件系统。
3. 配置引导变量。

在自动 IOS 升级期间，**archive download-sw** 命令会执行所有三个步骤。在手动 IOS 升级期间，也可以执行这三个步骤。[分步](#)部分显示了一个将 IOS 升级到 Cisco IOS 软件版本 12.2(25)SEE1 的 IOS 升级示例。此示例包含具有三个交换机的交换机堆叠。交换机 1 是主交换机，交换机 2 和 3 是成员交换机。

### [逐步指导](#)

#### [步骤 1 - 下载 .tar 映像](#)

您需要确保主交换机的闪存中有足够的可用空间。主交换机的空间量应该是 .tar 映像文件大小的两倍。需要此空间来存储 .tar 文件并存储在[步骤 2](#)中提取的 .tar 文件的内容。例如，如果 .tar 映像大小为 10Mb，您至少需要有 20Mb 的可用空间。

```
3750-stack#copy tftp: flash:
Address or name of remote host []? 10.10.10.10
Source filename []? c3750-advipservicesk9-tar.122-25.SEE1.tar
Destination filename [c3750-advipservicesk9-tar.122-25.SEE1.tar]?
Accessing tftp://10.10.10.10/c3750-advipservicesk9-tar.122-25.SEE1.tar...
Loading c3750-advipservicesk9-tar.122-25.SEE1.tar from 10.10.10.10 (via Vlan10
): !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!--- Output is suppressed.
```

#### [步骤 2 - 提取 .tar 映像](#)

将 .tar 映像提取到闪存文件系统的所有交换机。**archive tar /xtract** 命令会创建一个目录并将文件提取到新创建的目录下。

下面是命令语法的示例：

```
3750-stack#archive tar /xtract <tar file name> <Dir to extract files>
```

完成这些步骤：

### 1. 将 .tar 文件提取到交换机 1 上的闪存中。

```
3750-stack#archive tar /xtract c3750-advipservicesk9-tar.122-25.SEE1.tar
flash1:

extracting c3750-advipservicesk9-mz.122-25.SEE1/html/images/grn_vertlines_bott
.gif (957 bytes)
extracting c3750-advipservicesk9-mz.122-25.SEE1/html/images/red.gif (147 bytes
extracting c3750-advipservicesk9-mz.122-25.SEE1/html/images/print.gif (625 byt
)
!--- Output is suppressed.
```

### 2. 将 .tar 文件提取到交换机 2 上的闪存中。

```
750-stack#archive tar /xtract c3750-advipservicesk9-tar.122-25.SEE1.tar
flash2:

extracting c3750-advipservicesk9-mz.122-25.SEE1/html/images/grn_vertlines_bott
.gif (957 bytes)
extracting c3750-advipservicesk9-mz.122-25.SEE1/html/images/red.gif (147 bytes
extracting c3750-advipservicesk9-mz.122-25.SEE1/html/images/print.gif (625 byt
)
!--- Output is suppressed.
```

### 3. 将 .tar 文件提取到交换机 3 上的闪存中。

```
3750-stack#archive tar /xtract c3750-advipservicesk9-tar.122-25.SEE1.tar
flash3:

extracting c3750-advipservicesk9-mz.122-25.SEE1/html/images/grn_vertlines_bott
.gif (957 bytes)
extracting c3750-advipservicesk9-mz.122-25.SEE1/html/images/red.gif (147 bytes)
extracting c3750-advipservicesk9-mz.122-25.SEE1/html/images/print.gif (625 bytes)
!--- Output is suppressed.
```

## 步骤 3 - 配置引导变量

将 .tar 文件提取到闪存之后，需要将引导变量配置为指向新的 IOS。您需要查找 .bin 文件被提取到的路径。

```
3750-stack#dir
Directory of flash:/

 2  drwx192  Mar 11 1993 00:31:05 +00:00  c3750-advipservicesk9-mz.122-25.SEE1
!--- The archive tar /xtract command created this directory.

455  -rwx      114  Mar 11 1993 00:31:05 +00:00  info
457  -rwx     9433  Mar 1 1993 01:40:11 +00:00  config.text
458  -rwx      796  Mar 1 1993 00:02:39 +00:00  vlan.dat
459  -rwx       24  Mar 1 1993 01:40:11 +00:00  private-config.text

15998976 bytes total (5613056 bytes free)

3750-stack#dir flash:c3750-advipservicesk9-mz.122-25.SEE1
Directory of flash:/c3750-advipservicesk9-mz.122-25.SEE1/

 3  -rwx     8169055  Mar 11 1993 00:29:52 +00:00  c3750-advipservicesk9-mz.1
22-25.SEE1.bin
 4  drwx       4160  Mar 11 1993 00:30:29 +00:00  html
454  -rwx      709  Mar 11 1993 00:31:05 +00:00  info

15998976 bytes total (5613056 bytes free)
3750-stack#
```



`boot system switch all` 命令用于更改引导变量。

**Note:** 此 `boot system switch all` 已由于空间限制而分成两行。

```
3750-stack(config)#boot system switch all flash:/c3750-  
advipservicesk9-mz.122-25.SEE1/c3750-advipservicesk9-mz.122-25.SEE1.bin  
3750-stack(config)#exit  
3750-stack#write memory
```

## 步骤 4 - 重新加载并验证

重新加载交换机，并验证重新加载后交换机是否运行新的 Cisco IOS 软件版本：

```
!--- Reload the switch. Switch#reload  
Proceed with reload? [confirm]
```

```
!--- Verify the Cisco IOS software release of the switch after the reload. 3750-stack#show  
version
```

```
Cisco IOS Software, C3750 Software (C3750-ADVIPSERVICESK9-M), Version 12.2(25)S  
E1, RELEASE SOFTWARE (fc1)  
Copyright (c) 1986-2006 by Cisco Systems, Inc.  
Compiled Mon 22-May-06 08:52 by yenanh  
Image text-base: 0x00003000, data-base: 0x01255B58
```

```
!--- Output is suppressed. Switch Ports Model SW Version SW Image -----  
----- * 1 28 WS-C3750G-24PS 12.2(25)SEE1 C3750-ADVIPSERVICESK 2 52 WS-C3750G-48TS  
12.2(25)SEE1 C3750-ADVIPSERVICESK 3 26 WS-C3750-24TS 12.2(25)SEE1 C3750-ADVIPSERVICESK !---
```

```
Verify the switch master and member state: 3750-stack#show switch
```

Switch#	Role	Mac Address	Priority	Current State
*1	Master	0015.63f6.b700	5	Ready
2	Member	0015.c6c1.3000	2	Ready
3	Member	000f.f794.3d00	5	Ready

## 3750 系列交换机堆叠 IOS 升级 - 手动 (.bin 映像)

可以使用 Web 设备管理器或 CLI 管理 3750 交换机堆叠。如果使用 CLI 管理交换机，则不需要 .tar 映像。本部分说明如何使用 .bin 映像进行 IOS 升级。假设您已使用 IOS 映像配置 3750 交换机堆叠。本部分说明如何将新的 IOS 复制到 3750 交换机堆叠中并进行升级。

**Note:** 命令 `archive download-sw` 和 `archive upload-sw` 只适用于 .tar 映像文件，不适用于 .bin 映像文件。

此示例说明在 Catalyst 3750 交换机堆叠中将 IOS 升级到 Cisco IOS 软件版本 12.2(25)SEE2 的分步过程。Catalyst 3750 交换机堆叠包含两台交换机，IOS 映像位于 TFTP 服务器 172.22.1.165 上。此输出显示该堆叠中的堆叠成员和主交换机：

```
Switch#show switch  
  
Switch# Role Mac Address Priority Current State
```

```
-----
 1      Member      0015.63f6.b700      5      Ready
*2      Master      0015.c6c1.3000     10     Ready
```

## [逐步指导](#)

### [步骤 1 - 下载 .bin 映像](#)

请参阅[软件下载 - Cisco Catalyst 3750 软件 \( 仅限注册用户 \)](#)，并查找您要下载的映像。对于每个功能集和版本，Catalyst 3750 的软件下载中心都包含两组 IOS 映像。一组只包含扩展名为 .bin 的 IOS 映像文件。另一组包含 IOS 映像加上基于 Web 的设备管理器，其扩展名为 .tar。

### [步骤 2 - 验证可用的内存](#)

如此示例输出所示，您可以分别验证两个交换机的闪存文件系统中的可用内存：

```
Switch#dir flash1:
Directory of flash1:/

 2  -rwx      24   Mar 3 1993 22:02:44 +00:00 private-config.text
 3  -rwx    623744 Jan 1 1970 00:12:28 +00:00 stardust0923
 4  -rwx      796   Mar 1 1993 00:02:55 +00:00 vlan.dat
 5  -rwx    623744 Jan 1 1970 00:32:09 +00:00 diag
 6  -rwx   8169055 Mar 1 1993 00:43:34 +00:00 c3750-advipservicesk9-mz.
22-25.SEE1.bin
 8  -rwx     10192 Mar 3 1993 22:02:44 +00:00 config.text
462 -rwx      114   Mar 1 1993 00:32:19 +00:00 info
367 drwx      192   Mar 1 1993 00:32:19 +00:00 c3750-advipservicesk9-mz.
22-25.SEE1

32514048 bytes total (12754944 bytes free)
```

```
Switch#dir flash2:
Directory of flash:/

 2  -rwx    4207104 Jan 1 1970 00:14:06 +00:00 c3750-i9-mz.122-20.SE4
 3  -rwx    623744 Jan 1 1970 00:17:20 +00:00 stardust0923
 4  -rwx    4207104 Jan 1 1970 00:19:44 +00:00 ios
 5  -rwx    623744 Jan 1 1970 00:20:47 +00:00 diag
 6  -rwx   8169055 Mar 21 1993 23:29:36 +00:00 c3750-advipservicesk9-mz.1
22-25.SEE1.bin
 7  -rwx      796   Mar 1 1993 00:02:49 +00:00 vlan.dat
 8  -rwx      24   Mar 3 1993 22:02:44 +00:00 private-config.text
10  -rwx     10192 Mar 3 1993 22:02:44 +00:00 config.text
11  drwx      128   Mar 21 1993 23:25:53 +00:00 c3750-ipservicesk9-mz.122-
25.SEB1

32514048 bytes total (13071360 bytes free)
```

在 Catalyst 3750 交换机堆叠中，flash:表示主交换机的闪存文件系统。在本示例中，dir flash:命令显示了作为 flash2: 的主交换机 ( 交换机 2 ) 的内容。

### [步骤 3 - 将映像复制到闪存文件系统](#)

将 .bin 映像从 TFTP 服务器复制到两个交换机的闪存文件系统。

**Note:** 自动升级 (auto-upgrade) 功能只适用于 .tar 映像。

```

Switch#copy tftp: flash1:
Address or name of remote host [172.22.1.165]?
Source filename [c3750-advipservicesk9-mz.122-25.SEE2]? c3750-advipservicesk9-
.122-25.SEE2.bin
Destination filename [c3750-advipservicesk9-mz.122-25.SEE2.bin]?
Accessing tftp://172.22.1.165/c3750-advipservicesk9-mz.122-25.SEE2.bin...
Loading c3750-advipservicesk9-mz.122-25.SEE2.bin from 172.22.1.165 (via Vlan1)
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

!--- Output is truncated. [OK - 8172194 bytes] 8172194 bytes copied in 203.718 secs (40115
bytes/sec) Switch#copy tftp: flash2:
Address or name of remote host [172.22.1.165]?
Source filename [c3750-advipservicesk9-mz.122-25.SEE2.bin]?
Destination filename [c3750-advipservicesk9-mz.122-25.SEE2.bin]?
Accessing tftp://172.22.1.165/c3750-advipservicesk9-mz.122-25.SEE2.bin...
Loading c3750-advipservicesk9-mz.122-25.SEE2.bin from 172.22.1.165 (via Vlan1):
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

!--- Output is truncated. [OK - 8172194 bytes] 8172194 bytes copied in 186.655 secs (43782
bytes/sec)

```

#### 步骤 4 - 配置引导变量

配置引导变量以使用新复制的 IOS 引导交换机：

```

Switch(config)#boot system switch all flash:/
c3750-advipservicesk9-mz.122-25.SEE2.bin
Switch(config)#exit
Switch#write memory

```

#### 步骤 5 - 在重新加载前验证

验证引导变量：

```

Switch#show boot
BOOT path-list      : flash:/c3750-advipservicesk9-mz.122-25.SEE2.bin
!--- Master switch. Config file : flash:/config.text Private Config file : flash:/private-
config.text Enable Break : no Manual Boot : no HELPER path-list : Auto upgrade : yes -----
----- Switch 1 !--- Member switch. ----- BOOT path-list : flash:/c3750-
advipservicesk9-mz.122-25.SEE2.bin
Config file        : flash:/config.text
Private Config file : flash:/private-config.text
Enable Break       : no
Manual Boot        : no
HELPER path-list   :

Auto upgrade       : no

```

验证新的 IOS 文件是否存在于闪存中：

```

Switch#dir flash1:
Directory of flash1:/

 2  -rwx          24   Mar 3 1993 22:02:44 +00:00  private-config.text
 3  -rwx        623744  Jan 1 1970 00:12:28 +00:00  stardust0923

```

```

 4 -rwx          796   Mar 1 1993 00:02:48 +00:00  vlan.dat
 5 -rwx        623744   Jan 1 1970 00:32:09 +00:00  diag
 6 -rwx       8169055   Mar 1 1993 00:43:34 +00:00  c3750-advipservicesk9-mz.1
22-25.SEE1.bin
 7 -rwx       8172194   Mar 3 1993 22:31:35 +00:00  c3750-advipservicesk9-mz.1
22-25.SEE2.bin
 8 -rwx         10192   Mar 3 1993 22:02:44 +00:00  config.text
462 -rwx         114   Mar 1 1993 00:32:19 +00:00  info
367 drwx         192   Mar 1 1993 00:32:19 +00:00  c3750-advipservicesk9-mz.1
22-25.SEE1

32514048 bytes total (4582400 bytes free)

```

```

Switch#dir flash: or dir flash2:
Directory of flash2:/

```

```

 2 -rwx        4207104   Jan 1 1970 00:14:06 +00:00  c3750-i9-mz.122-20.SE4
 3 -rwx        623744   Jan 1 1970 00:17:20 +00:00  stardust0923
 4 -rwx        4207104   Jan 1 1970 00:19:44 +00:00  ios
 5 -rwx        623744   Jan 1 1970 00:20:47 +00:00  diag
 6 -rwx       8169055   Mar 21 1993 23:29:36 +00:00  c3750-advipservicesk9-mz.1
22-25.SEE1.bin
 7 -rwx          796   Mar 1 1993 00:02:54 +00:00  vlan.dat
 8 -rwx          24   Mar 3 1993 22:02:44 +00:00  private-config.text
 9 -rwx       8172194   Mar 3 1993 22:42:06 +00:00  c3750-advipservicesk9-mz.1
22-25.SEE2.bin
10 -rwx         10192   Mar 3 1993 22:02:44 +00:00  config.text
11 drwx         128   Mar 21 1993 23:25:53 +00:00  c3750-ipservicesk9-mz.122-
25.SEB1

32514048 bytes total (4898816 bytes free)

```

## 步骤 6 - 重新加载并验证

重新加载交换机，并验证重新加载后交换机是否运行新的 Cisco IOS 软件版本：

```

!--- Reload the switch. Switch#reload
Proceed with reload? [confirm]

!--- Verify the Cisco IOS software version of the switch after the reload. Switch#show version
Cisco IOS Software, C3750 Software (C3750-ADVIPSERVICESK9-M), Version 12.2(25)SE
E2, RELEASE SOFTWARE (fc1)
Copyright (c) 1986-2006 by Cisco Systems, Inc.
Compiled Fri 28-Jul-06 12:55 by yenanh
Image text-base: 0x00003000, data-base: 0x01256754

ROM: Bootstrap program is C3750 boot loader
BOOTLDR: C3750 Boot Loader (C3750-HBOOT-M), Version 12.2 [bkeene-flo_dsbu2 100]

Switch uptime is 33 minutes
System returned to ROM by power-on
System image file is "flash:/c3750-advipservicesk9-mz.122-25.SEE2.bin"

```

This product contains cryptographic features and is subject to United States and local country laws governing import, export, transfer and use. Delivery of Cisco cryptographic products does not imply third-party authority to import, export, distribute or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you

agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at: <http://www.cisco.com/wvl/export/crypto/tool/stqrg.html>

If you require further assistance please contact us by sending email to [export@cisco.com](mailto:export@cisco.com).

cisco WS-C3750G-48TS (PowerPC405) processor (revision 01) with 118784K/12280K bytes of memory.

Processor board ID FOC0941U2SK

Last reset from power-on

3 Virtual Ethernet interfaces

132 Gigabit Ethernet interfaces

The password-recovery mechanism is enabled.

512K bytes of flash-simulated non-volatile configuration memory.

Base ethernet MAC Address : 00:15:C6:C1:30:00

*!--- Master switch information.* Motherboard assembly number : 73-10218-04 Power supply part number : 341-0107-01 Motherboard serial number : FOC09400W9S Power supply serial number : AZS093905HN Model revision number : 01 Motherboard revision number : 02 Model number : WS-C3750G-48TS-S System serial number : FOC0941U2SK Top Assembly Part Number : 800-26857-01 Top Assembly Revision Number : 06 Version ID : V03 Hardware Board Revision Number : 0x03 *!--- Verify that all the switches run the new Cisco IOS software version:* Switch Ports Model SW Version SW Image -----  
\* 2 52 WS-C3750G-48TS 12.2(25)SEE2 C3750-ADVIPSERVICESK

Switch 01

*!--- Member switch information.* ----- Switch Uptime : 33 minutes Base ethernet MAC Address : 00:15:63:F6:B7:00 Motherboard assembly number : 73-10217-03 Power supply part number : 341-0108-02 Motherboard serial number : FOC09382V48 Power supply serial number : DCA09330W5E Model revision number : 01 Motherboard revision number : 04 Model number : WS-C3750G-24PS-E System serial number : FOC0939U17V Top assembly part number : 800-27482-01 Top assembly revision number : 01 Version ID : V03 Configuration register is 0xF *!--- Verify the switch master and member state:* Switch#**show switch**

Switch#	Role	Mac Address	Priority	Current State
1	Member	0015.63f6.b700	5	Ready
*2	Master	0015.c6c1.3000	10	Ready

## Verify

本部分提供可用于确认您的配置是否正常运行的信息。

[命令输出解释程序工具 \( 仅限注册用户 \)](#) 支持某些 **show** 命令，使用此工具可以查看对 **show** 命令输出的分析。

- **show switch detail** - 验证是否所有交换机都已就绪。
- **show version** - 验证堆叠中的所有交换机是否未运行新的代码版本。

3750#**show switch detail**

Switch#	Role	Mac Address	Priority	Current State
1	Slave	000c.30ae.4f00	9	Ready

\*2 Master 000d.bd5c.1680 15 Ready

Switch#	Stack Port Status		Neighbors	
	Port 1	Port 2	Port 1	Port 2
1	Ok	Ok	2	2
2	Ok	Ok	1	1

!--- The show version command now reflects the new code revision, as expected.

3750#show version

Cisco Internetwork Operating System Software  
IOS (tm) C3750 Software (C3750-I5-M), Version 12.2(20)SE, RELEASE SOFTWARE (fc1)  
Copyright (c) 1986-2004 by cisco Systems, Inc.  
Compiled Wed 19-May-04 11:52 by yenanh  
Image text-base: 0x00003000, data-base: 0x00B53B10

ROM: Bootstrap program is C3750 boot loader  
BOOTLDR: C3750 Boot Loader (C3750-HBOOT-M) Version 12.1(14)EA1, RELEASE SOFTWARE (fc1)

3750 uptime is 2 minutes  
System returned to ROM by power-on  
System image file is "flash:c3750-i5-mz.122-20.SE/c3750-i5-mz.122-20.SE.bin"

cisco WS-C3750G-12S (PowerPC405) processor (revision A0) with 118784K/12280K bytes of memory.  
Processor board ID CAT0732R0JU  
Last reset from power-on  
Bridging software.  
5 Virtual Ethernet/IEEE 802.3 interface(s)  
40 Gigabit Ethernet/IEEE 802.3 interface(s)  
The password-recovery mechanism is enabled.

512K bytes of flash-simulated non-volatile configuration memory.

Base ethernet MAC Address	: 00:0D:BD:5C:16:80
Motherboard assembly number	: 73-8307-06
Power supply part number	: 341-0048-01
Motherboard serial number	: CAT073205SU
Power supply serial number	: DTH073004US
Model revision number	: A0
Motherboard revision number	: A0
Model number	: WS-C3750G-12S-E
System serial number	: CAT0732R0JU
Top Assembly Part Number	: 800-23419-01
Top Assembly Revision Number	: A0
Hardware Board Revision Number	: 0x06

Switch	Ports	Model	SW Version	SW Image
1	28	WS-C3750G-24TS	12.2(20)SE	C3750-I5-M
*	2	WS-C3750G-12S	12.2(20)SE	C3750-I5-M

Switch 01

-----  
Switch Uptime : 2 minutes  
Base ethernet MAC Address : 00:0C:30:AE:4F:00  
Motherboard assembly number : 73-7058-07  
Power supply part number : 341-0045-01  
Motherboard serial number : CSJ0708020N  
Power supply serial number : LIT07050027

Model revision number : 01  
Motherboard revision number : 03  
Model number : WS-C3750G-24TS-E  
System serial number : CSJ0711U03G

Configuration register is 0xF

## [Troubleshoot](#)

本部分提供的信息可用于对配置进行故障排除。

### [从 TFTP 服务器传送映像失败或 IOS 映像已损坏](#)

如果发现从 TFTP 服务器传送映像连续失败，请参阅[使用 TFTP 或 RCP 服务器安装映像时的常见问题](#)。本文档提供 TFTP 服务器的已知问题的解决方案。

### [收到 Error Bad Mzip 错误消息](#)

您通过 Xmodem 看到此错误，当 Cisco IOS 镜像损坏时或 .tar 文件加载。要解决该问题，请完成以下步骤：

1. 通过 Xmodem 将 .bin 文件上载到交换机。
2. 设置引导程序路径为正确的文件名。
3. 重新载入交换机。
4. 检查镜像文件大小是正确一个。如果镜像文件大小不是正确的，请设法再下载图像文件。

请参阅以下文档以检查恢复过程：

- [从损坏或丢失的镜像中恢复 Catalyst 2950、2955 和 3550 系列交换机的分步恢复过程部分](#)
- [Cisco IOS 版本 12.2\(25\)SEB 及更高版本的发行版本注释，Catalyst 3750、3560 和 2970 交换机的从软件故障中恢复部分](#)

### [%Error opening flash:update/info \(No such file or directory\)](#)

在软件升级期间，交换机报告以下错误消息：

```
Stack_Switch1#archive download-sw
tftp://1.1.1.2/c3750-advipservicesk9-tar.122-25.SEE1.tar
Could not buffer tarfile...using multiple downloads
examining image...
%Error opening tftp://1.1.1.2/c3750-advipservicesk9-tar.122-25.SEE1.tar (Timed out)
%Error opening flash:update/info (No such file or directory)
ERROR: Image is not a valid IOS image archive
```

1. 请完成以下步骤来识别和解决问题：
2. 确保您可以从交换机 ping 通 TFTP 服务器 IP 地址。
3. 验证 TFTP 服务器是否工作，如果可能，请尝试不同的 TFTP 服务器。
4. 如果闪存中有任何旧的信息目录，请将其删除。
5. 如果仍显示该错误消息，请格式化闪存并重新加载交换机。格式化之后，交换机可能会引导到 ROMMON 模式。如果交换机引导到 ROMMON 模式，请使用 Xmodem 恢复交换机。

### [堆叠中的交换机不引导新映像 \(版本不匹配\)](#)

IOS 升级之后，任何一个或多个交换机无法引导新的映像。或者，当您将交换机添加到现有堆叠且新添加的交换机的 Cisco IOS 软件版本与现有交换机堆叠不同时，无法使用新的交换机。3750 交换机堆叠有一个称为 **auto-upgrade** 的功能，该功能在默认情况下已启用。此功能使交换机堆叠可以自动升级新添加的交换机上的 IOS。有时，此 auto-upgrade 功能无法升级新添加交换机的 IOS。当您将交换机添加到现有堆叠时，会看到此消息序列。

```
1w2d: %IMAGEMGR-6-AUTO_COPY_SW_INITIATED: Auto-copy-software process initiated
for switch number(s) 3
1w2d: %IMAGEMGR-6-AUTO_COPY_SW:
1w2d: %IMAGEMGR-6-AUTO_COPY_SW: Searching for stack member to act
1w2d: %IMAGEMGR-6-AUTO_COPY_SW: as software donor...
1w2d: %IMAGEMGR-6-AUTO_COPY_SW: Found donor (system #1) for
1w2d: %IMAGEMGR-6-AUTO_COPY_SW: member(s) 3
1w2d: %IMAGEMGR-6-AUTO_COPY_SW: System software to be uploaded:
1w2d: %IMAGEMGR-6-AUTO_COPY_SW: System Type:                0x00000000
1w2d: %IMAGEMGR-6-AUTO_COPY_SW: Warning: Unable to determine image running
1w2d: %IMAGEMGR-6-AUTO_COPY_SW: Software could not be copied to
1w2d: %IMAGEMGR-6-AUTO_COPY_SW: system(s) 3
1w2d: %IMAGEMGR-6-AUTO_COPY_SW: Software was not copied
1w2d: %IMAGEMGR-6-AUTO_ADVISE_SW_INITIATED: Auto-advise-software process initiated
for switch number(s) 3
1w2d: %IMAGEMGR-6-AUTO_ADVISE_SW:
1w2d: %IMAGEMGR-6-AUTO_ADVISE_SW:
1w2d: %IMAGEMGR-6-AUTO_ADVISE_SW: Systems with incompatible software
1w2d: %IMAGEMGR-6-AUTO_ADVISE_SW: have been added to the stack. The
1w2d: %IMAGEMGR-6-AUTO_ADVISE_SW: software running on all of the stack
1w2d: %IMAGEMGR-6-AUTO_ADVISE_SW: members has been scanned, and it has
1w2d: %IMAGEMGR-6-AUTO_ADVISE_SW: been determined that the stack can be
1w2d: %IMAGEMGR-6-AUTO_ADVISE_SW: repaired by issuing the following
1w2d: %IMAGEMGR-6-AUTO_ADVISE_SW: command(s):
1w2d: %IMAGEMGR-6-AUTO_ADVISE_SW:          archive copy-sw /force-reload /overwrite /
dest 3 1
1w2d: %IMAGEMGR-6-AUTO_ADVISE_SW:
```

3750-stack#**show switch**

Switch#	Role	Mac Address	Priority	Current State
*1	Master	0015.63f6.b700	5	Ready
2	Member	0015.c6c1.3000	2	Ready
3	Member	000f.f794.3d00	5	<b>Version Mismatch</b>

**Note:** 在版本不匹配(VM)模式下必须启用自动升级功能升级交换机。默认情况下，会启用 auto-upgrade。可以使用 **show boot privileged EXEC** 命令并检查显示中的自动升级行，来检查 auto-upgrade 的状态。可以在堆叠主交换机上使用 [no boot auto-copy-sw](#) 全局配置命令，来禁用 auto-upgrade。有关更多信息，请参阅[了解 Auto-Upgrade 和 Auto-Advise](#)。

有三种不同的方法可用于解决版本不匹配的问题：

- [方法1](#)
- [方法2](#)
- [方法3](#)

## [方法 1 - .tar 映像](#)

使用 [archive copy-sw](#) privileged EXEC 命令升级包含不兼容软件映像的成员交换机。此命令会将软



件映像从现有堆叠成员复制到包含不兼容软件的交换机。受影响的交换机会自动重新加载，并作为功能完全正常的成员加入堆叠。

以下输出显示 `archive copy-sw` 命令的语法：

```
3750_Stack#archive copy-sw ?
```

```
/destination-system  specify destination system to receive software
/force-reload        Unconditionally reload system after successful sw
                    upgrade
/leave-old-sw        Leave old sw installed after successful sw upgrade
/no-set-boot         do not update BOOT setting on systems after installing
                    sw
/overwrite           OK to overwrite an existing image
/reload              Reload system (if no unsaved config changes) after
                    successful sw upgrade
/safe                Always load before deleting old version
1                    copy software from system 1
2                    copy software from system 2
3                    copy software from system 3
```

- 对于 `/destination-system destination-stack-member-number`，请指定需要将运行映像文件的源复制到的堆叠成员的数量。如果不指定堆叠成员数量，默认情况下会将运行的映像文件复制到所有堆叠成员。
- 指定 `/force-reload` 可在成功下载软件映像后无条件地强制系统重新加载。如果不想使用 `/force-reload`，请使用 `reload slot switch_member_number` 手动重置更新的堆叠成员来使此配置更改生效。
- 对于 `source-stack-member-number`，请指定要从中复制运行的映像文件的堆叠成员数量。堆叠成员数量范围是 1 到 9。
- 如果在重新加载期间收到表明存在超载情况的 syslog 消息，请发出 [archive copy-sw /overwrite /destination-system](#) 命令以使用下载的映像覆盖闪存中的软件映像。

下面是 `archive copy-sw` 命令的示例：

1. 此 `archive copy-sw` 命令将当前运行的 IOS 映像从 3750 交换机堆叠中的交换机 1 复制到交换机 3。

```
archive copy-sw /overwrite /destination-system 3 1
```

2. 重新加载交换机成员 3。

```
reload slot 3
```

## [方法 2 - .tar 映像](#)

如果使用设备管理器管理交换机堆叠，可以使用此方法。将 .tar 映像提取到新添加交换机的闪存文件系统中。假设交换机上已有 .tar 映像。如果它不可用，可以从[软件下载 - Cisco Catalyst 3750 软件](#)（[仅限注册用户](#)）页进行下载，并使用 TFTP 复制到交换机。

```
3750-stack#show switch
```

Switch#	Role	Mac Address	Priority	Current State
*1	Master	0015.63f6.b700	5	Ready
2	Member	0015.c6c1.3000	2	Ready
3	Member	000f.f794.3d00	5	<b>Version Mismatch</b>

```
!--- Switch 3 is displayed as a version mismatch. !--- You need to extract the .tar image to
flash3: 3750-stack#archive tar /xtract c3750-advipservicesk9-tar.122-25.SEE1.tar
flash3:
```

```
extracting c3750-advipservicesk9-mz.122-25.SEE1/html/images/grn_vertlines_bott
.gif (957 bytes)
extracting c3750-advipservicesk9-mz.122-25.SEE1/html/images/red.gif (147 bytes
extracting c3750-advipservicesk9-mz.122-25.SEE1/html/images/print.gif (625 bytes
)
```

*!--- Output is suppressed.*

在新交换机上配置引导变量。这不是必需的步骤。但是，如果将来将此交换机与堆叠断开连接，交换机可能无法引导正确的 IOS。

**Note:** boot system switch 3 flash:命令由于空间限制而分成两行。

```
3750-stack#configure terminal
3750-stack(config)#boot system switch 3 flash:/c3750-advipservicesk9-mz.
122-25.SEE1/c3750-advipservicesk9-mz.122-25.SEE1.bin
3750-stack(config)#exit
3750-stack#write memory
```

重新加载交换机成员 3。

```
3750-stack#reload slot 3
```

### 方法 3 - .bin 映像

将 .bin 文件从主交换机复制到新添加的交换机，配置引导变量，然后重新加载交换机。

```
3750-stack#show switch
```

Switch#	Role	Mac Address	Priority	Current State
*1	Master	0015.63f6.b700	5	Ready
2	Member	0015.c6c1.3000	2	Ready
3	Member	000f.f794.3d00	5	Version Mismatch

```
!--- Switch 3 is displayed as a version mismatch. !--- You need to copy the .bin image to
flash3: 3750-stack#copy c3750-advipservicesk9-mz.122-25.SEE1.bin flash3:
3750-stack#configure terminal
3750-stack(config)#boot system switch 3 flash:/
c3750-advipservicesk9-mz.122-25.SEE1.bin
3750-stack(config)#exit
3750-stack#write memory
3750-stack#reload slot 3
```

### %Tar checksum error in tftp

使用 **archive** 命令升级软件映像时，将显示此错误消息：

**Note:** archive 命令由于空间限制而分成两行。

```
3750_switch#archive download-sw tftp://10.1.1.1/c3750-
```



```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
[OK - 5683384 bytes]
```

examining image...

```
%Tar checksum error in tftp://10.1.1.1/c3750-ipbase-mz.122-25.SEC.bin
%Error opening flash:update/info (No such file or directory)
ERROR: Image is not a valid IOS image archive.
```

要解决此问题，请在执行 archive-download-sw 命令时使用标记 allow-feature-upgrade。

```
3750_switch#archive download-sw tftp://10.1.1.1/c3750-
ipbase-mz.122-25.SEC.bin
Loading c3750-ipbase-mz.122-25.SEC.bin from 10.1.1.1 (via Vlan1):
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
[OK - 5683384 bytes]
```

```
Loading c3750-ipbase-mz.122-25.SEC.bin from 10.1.1.1 (via Vlan1):
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
[OK - 5683384 bytes]
```

examining image...

```
%Tar checksum error in tftp://10.1.1.1/c3750-ipbase-mz.122-25.SEC.bin
%Error opening flash:update/info (No such file or directory)
ERROR: Image is not a valid IOS image archive.
```

只有 Cisco IOS 版本 12.2(35)SE 或更高版本才支持此选项。

## [Related Information](#)

- [从损坏或丢失的软件镜像中恢复Cisco Catalyst 2900XL和3500XL系列交换机](#)
- [升级在Catalyst 2950的软件镜像和2955系列交换机使用Line命令请建立接口](#)
- [在Catalyst 2900XL的升级软件和3500XL交换机使用Line命令建立接口](#)
- [LAN 产品支持](#)
- [LAN 交换技术支持](#)
- [Technical Support & Documentation - Cisco Systems](#)