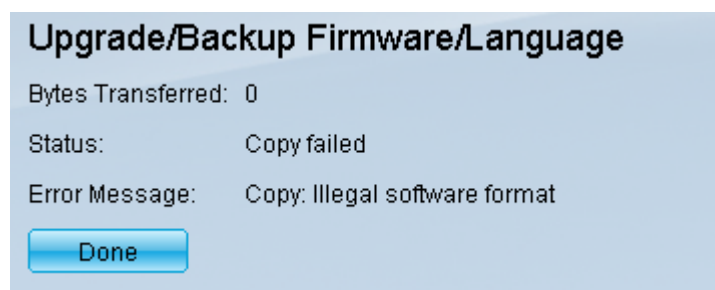
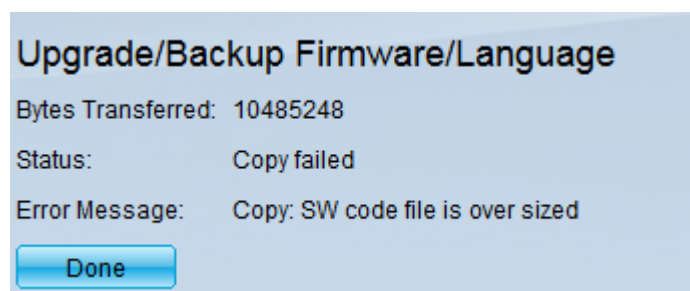


300和500系列托管交换机的固件升级故障排除

目标

固件是软件和硬件的组合，其中存储有程序代码和数据。升级设备上的固件可提供增强的安全性、新功能、漏洞修复和性能升级。

注意：当用户尝试将设备从1.3.5之前的版本升级到最新版本时，可能会遇到错误消息“SW代码文件大小过大”或“非法软件格式”。



要排除此错误，您必须升级到中间固件并升级到最新引导代码，然后才能升级到最新固件。请按照本文档中概述的步骤了解详细说明。

有关固件升级故障排除的相关文章，请[访问](#)。

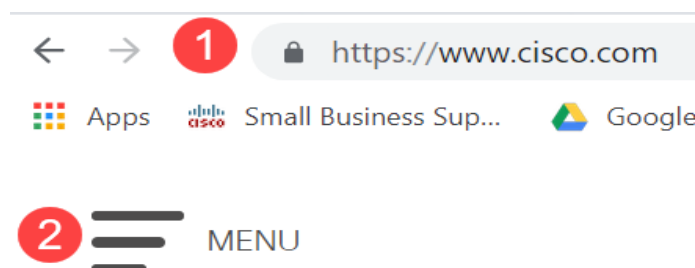
本文档旨在向您展示如何升级300和500系列托管交换机的固件，以及如何排除错误消息故障。

适用设备

- SF/SG 500系列托管交换机
- SF/SG 300系列托管交换机

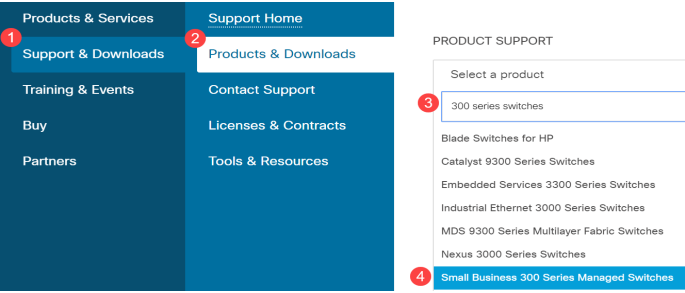
要升级设备，您需要将文件（通常称为映像）下载到计算机，然后将其传输到设备。

步骤1.转到思科网[站并单击](#)“菜单”选项卡。



步骤2.选择“支持和下载”>“产品和下载”。输入需要升级的系列的名称。应显示下拉菜单。向下滚动

并选择系列，然后选择您拥有的特定型号。



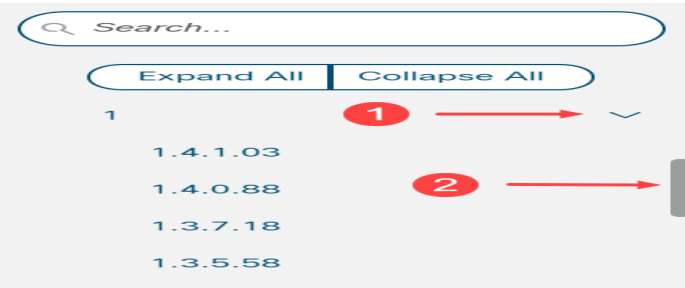
在从1.3.5之前的版本升级到最新版本之前，您首先需要将设备映像升级到映像版本1.3.5或1.3.7以及最新启动文件(1.4.0.x)。将设备升级到1.3.5/1.3.7并升级到最新的启动文件(1.4.0.x)后，您可以将设备升级到版本1.4。

如果您当前正从1.3.5或更高版本升级，您应该可以通过单击此处跳至本文的最后[一节](#)。

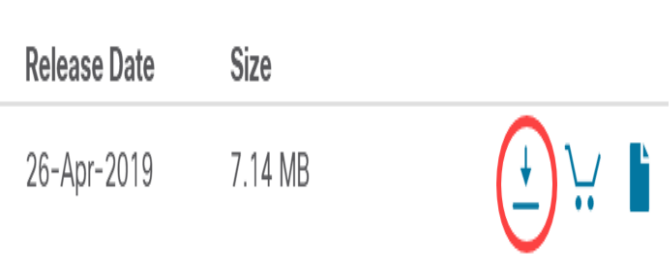
步骤3.要查找可用的不同版本，请单击“全部展开”。



步骤4.使用框右侧的滚动选项卡。如果需要展开列表，请单击右侧的脱字符号。展开列表后，您可以滚动浏览可用的固件版本。



步骤5.单击“下载”图标。记录文件的名称及保存位置。默认位置是计算机上的“下载”文件夹。

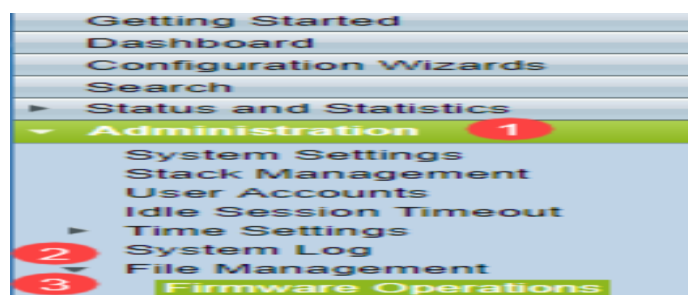


步骤6.如果文件是zip文件，则需要先解压该文件，然后升级才能正常工作。如果您不知道如何解压缩文件，请单击[此处](#)了解详细信息。

升级到中间固件

步骤1.登录Web配置实用程序，然后选择**Administration > File Management > Firmware Operations**

。根据您当前的版本，升级/备份固件/语言可能是要打开的第三个文件夹。



步骤2.将打开Upgrade/Backup Firmware/Language页面。

Upgrade/Backup Firmware/Language

Transfer Method: ☐ via TFTP ☒ via HTTP/HTTPS ☐ via SCP (Over SSH)

Save Action: ☒ Upgrade ☐ Backup

File Type: ☒ Firmware Image ☐ Boot Code ☐ Language File

File Name: No file selected.

The firmware is upgraded to the inactive image file. You must activate the firmware using the "Active Image" page.

步骤3.单击“传输方法”字段中的“通过HTTP/HTTPS”单选按钮。

Upgrade/Backup Firmware/Language

Transfer Method: ☐ via TFTP ☒ via HTTP/HTTPS ☐ via SCP (Over SSH)

Save Action: ☒ Upgrade ☐ Backup

File Type: ☒ Firmware Image ☐ Boot Code ☐ Language File

File Name: No file selected.

The firmware is upgraded to the inactive image file. You must activate the firmware using the "Active Image" page.

步骤4.单击“保存操作”字段中的“升级”单选按钮。

Upgrade/Backup Firmware/Language

Transfer Method: ☐ via TFTP
☒ via HTTP/HTTPS
☐ via SCP (Over SSH)

Save Action: ☒ Upgrade
☐ Backup

File Type: ☒ Firmware Image
☐ Boot Code
☐ Language File

File Name: No file selected.

The firmware is upgraded to the inactive image file. You must activate the firmware using the "Active Image" page.

步骤5.单击“文件类型”字段中的“固件映像”单选按钮。

Upgrade/Backup Firmware/Language

Transfer Method: ☐ via TFTP
☒ via HTTP/HTTPS
☐ via SCP (Over SSH)

Save Action: ☒ Upgrade
☐ Backup

File Type: ☒ Firmware Image
☐ Boot Code
☐ Language File

File Name: No file selected.

The firmware is upgraded to the inactive image file. You must activate the firmware using the "Active Image" page.

步骤6.在“文件名”字段中，输入文件路径或单击“浏览……”以选择从“软件”页下载的1.3.5/1.3.7固件文件。

Upgrade/Backup Firmware/Language

Transfer Method: ☐ via TFTP
☒ via HTTP/HTTPS
☐ via SCP (Over SSH)

Save Action: ☒ Upgrade
☐ Backup

File Type: ☒ Firmware Image
☐ Boot Code
☐ Language File

File Name: No file selected.

The firmware is upgraded to the inactive image file. You must activate the firmware using the "Active Image" page.

注意：固件文件是.ros文件类型，可在您下载的zip文件中找到。

步骤7.单击“应用”。

Upgrade/Backup Firmware/Language

Transfer Method: ☐ via TFTP
☒ via HTTP/HTTPS
☐ via SCP (Over SSH)

Save Action: ☒ Upgrade
☐ Backup

File Type: ☒ Firmware Image
☐ Boot Code
☐ Language File

File Name: sx500_fw-13558.ros

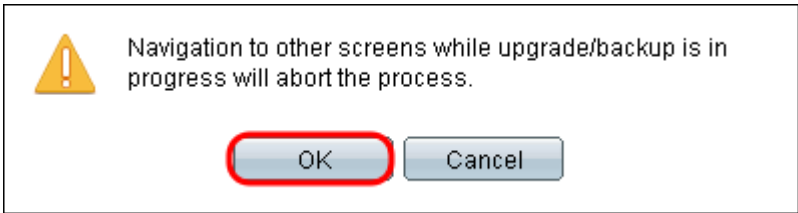
The firmware is upgraded to the inactive image file. You must activate the firmware using the "Active Image" page.

系统将显示警告窗口：

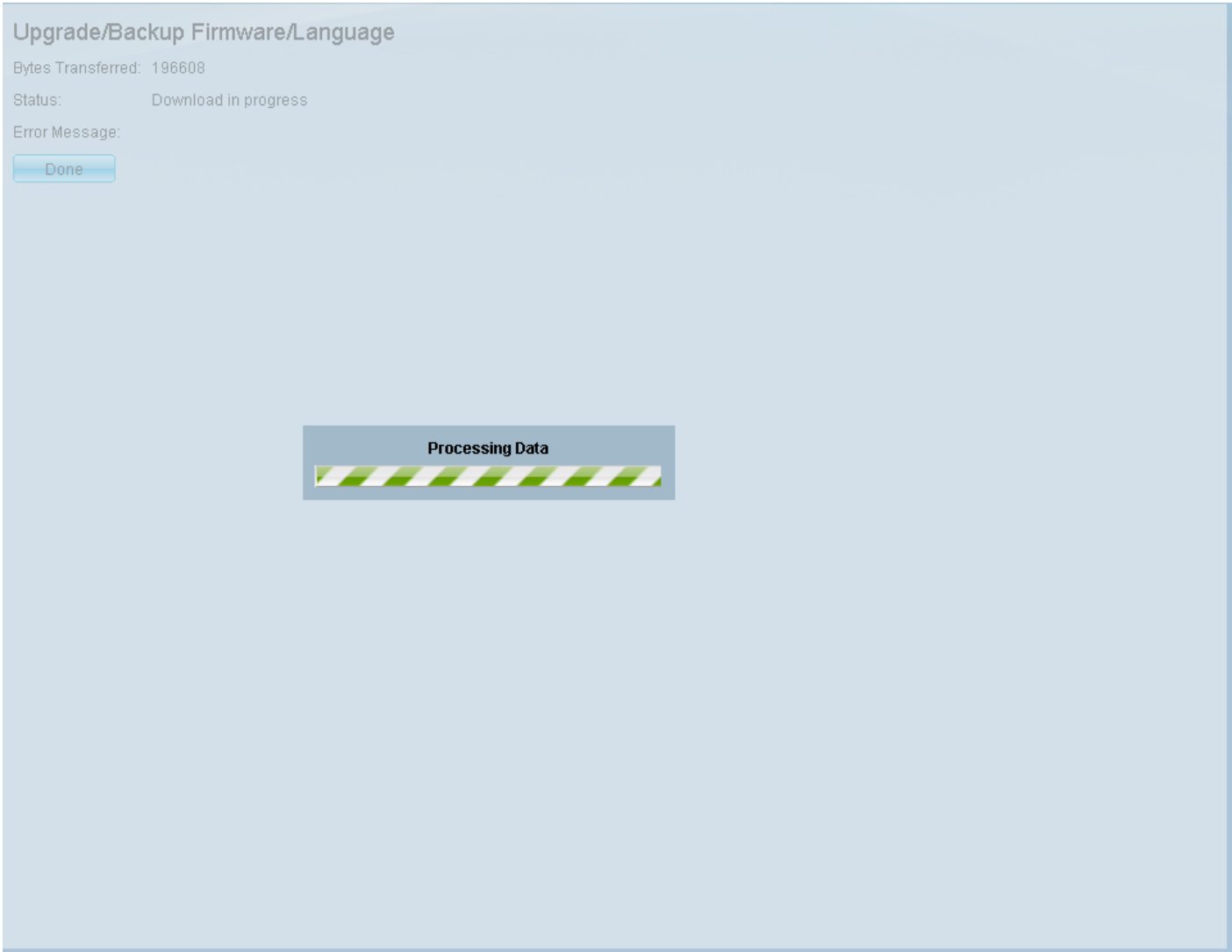


Navigation to other screens while upgrade/backup is in progress will abort the process.

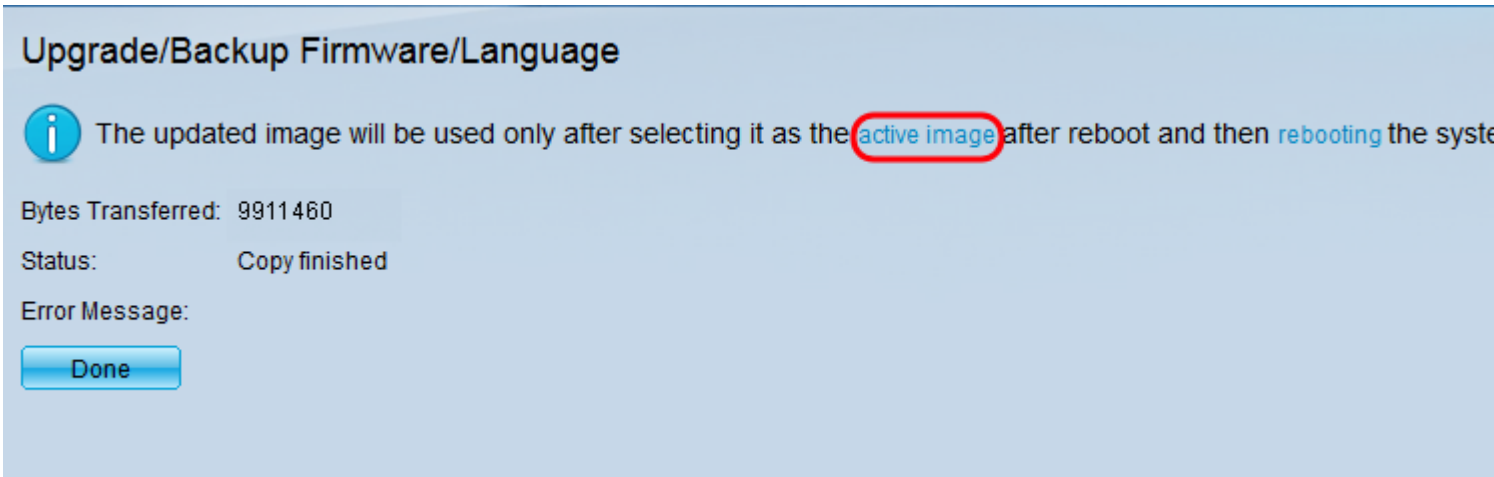
步骤8.单击OK。



进度条显示几分钟。

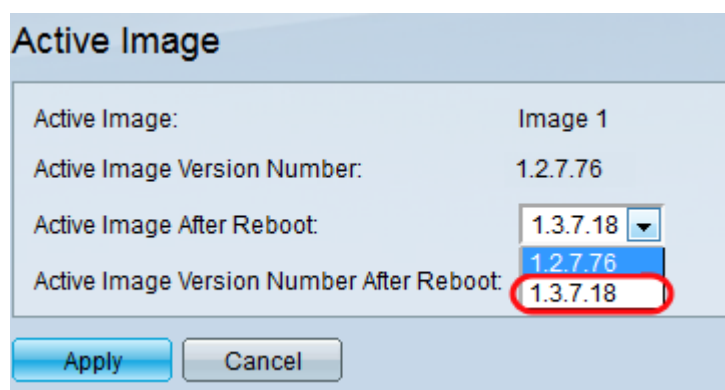


步骤9.传输完成后，进度条消失。系统将显示统计信息和传输中的任何错误。如果传输成功，请单击活动映像[超链接](#)，或导航至“管理”>“文件管理”>“活动映像”。



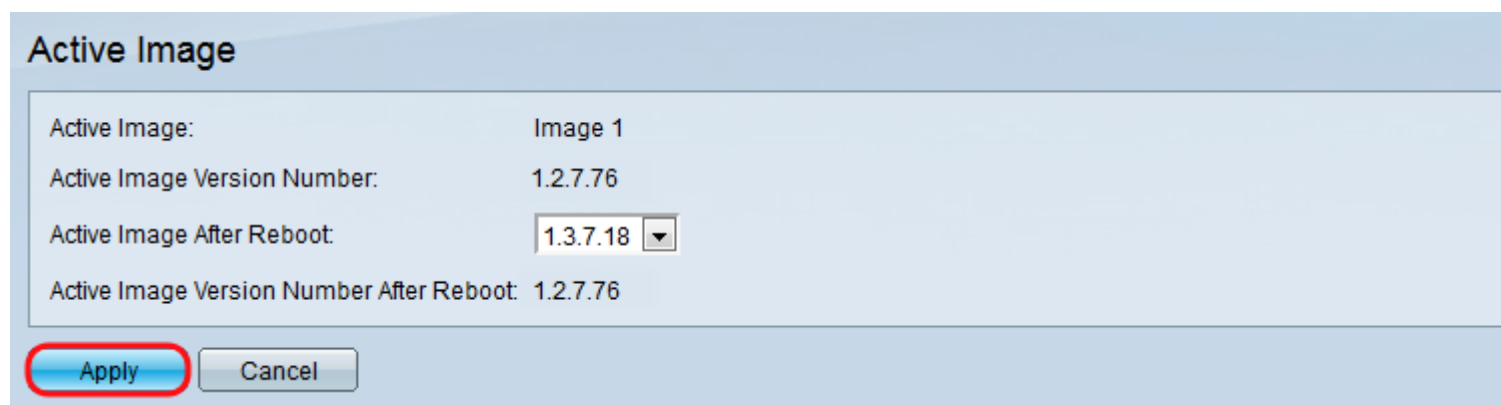
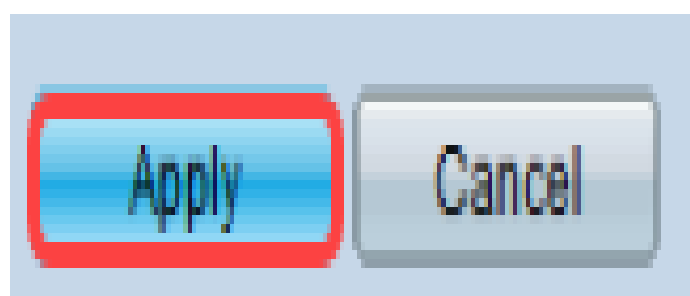
如果HTTP传输失败，您可能需要使用TFTP服务器。有关如何使用TFTP服务器的说明，请单击[此处](#)。

步骤10.从Active Image After Reboot 下拉列表中，选择更新的固件版本。



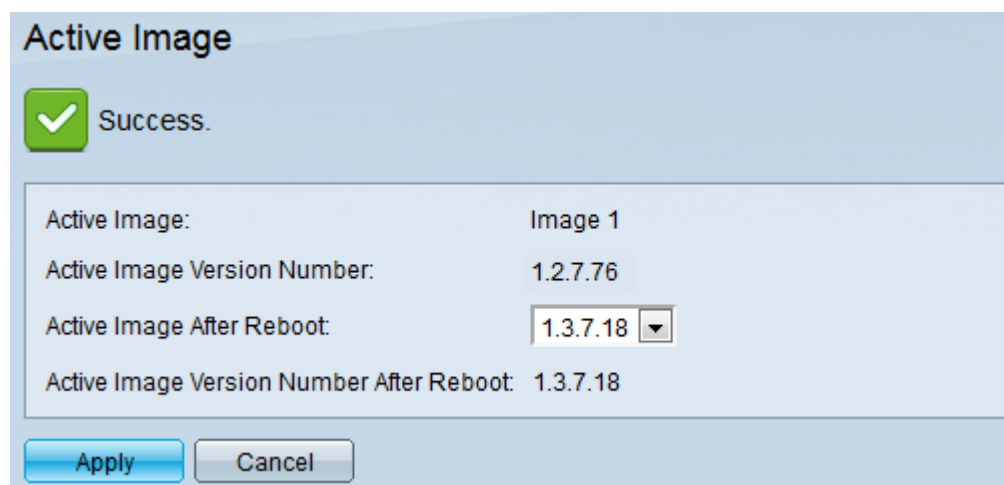
The screenshot shows the 'Active Image' configuration window. It contains four fields: 'Active Image:' with the value 'Image 1', 'Active Image Version Number:' with the value '1.2.7.76', 'Active Image After Reboot:' with a dropdown menu showing '1.3.7.18', and 'Active Image Version Number After Reboot:' with the value '1.2.7.76'. The '1.3.7.18' option in the dropdown is highlighted in blue, and the 'Active Image Version Number After Reboot:' field is circled in red. At the bottom, there are 'Apply' and 'Cancel' buttons.

步骤11.单击“应用”。



The screenshot shows the 'Active Image' configuration window after clicking 'Apply'. The 'Active Image After Reboot:' dropdown menu now shows '1.3.7.18' as the selected option. The 'Active Image Version Number After Reboot:' field now shows '1.2.7.76'. The 'Apply' button is highlighted with a red rectangular border.

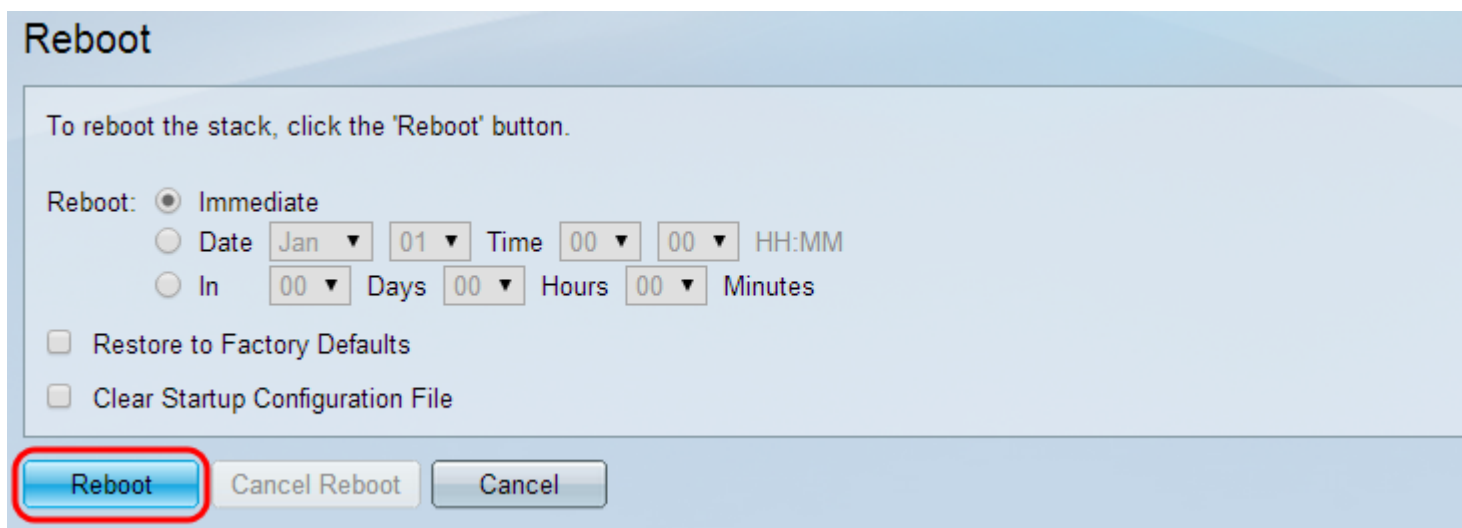
系统将显示成功消息，并更新“重新启动后的活动映像版本号”字段。



The screenshot shows the 'Active Image' configuration window with a success message. A green checkmark icon is followed by the text 'Success.'. Below the message, the 'Active Image After Reboot:' dropdown menu shows '1.3.7.18' as the selected option, and the 'Active Image Version Number After Reboot:' field shows '1.3.7.18'. At the bottom, there are 'Apply' and 'Cancel' buttons.

步骤12.重新启动交换机，使固件升级生效。导航至Administration > Reboot，然后单击Reboot按钮

o



The image shows a 'Reboot' dialog box. At the top, it says 'To reboot the stack, click the 'Reboot' button.' Below this, there are three radio buttons for 'Reboot:'. The first is 'Immediate' and is selected. The second is 'Date' with dropdowns for 'Jan', '01', and 'Time' with dropdowns for '00', '00', and 'HH:MM'. The third is 'In' with dropdowns for '00', 'Days', '00', 'Hours', '00', and 'Minutes'. Below these are two checkboxes: 'Restore to Factory Defaults' and 'Clear Startup Configuration File'. At the bottom, there are three buttons: 'Reboot' (highlighted with a red rectangle), 'Cancel Reboot', and 'Cancel'.

注意：您也可以通过断开和重新连接交换机后面的电源线来重启交换机。

步骤13. (可选) 登录Web配置实用程序，然后选择**Status and Statistics > System Summary**以查看 *Software Information*，以确认固件版本已升级。



The image shows a 'Software Information' table. The first row, 'Firmware Version (Active Image): 1.3.7.18', is highlighted with a red rectangle. The table lists various software and hardware details.

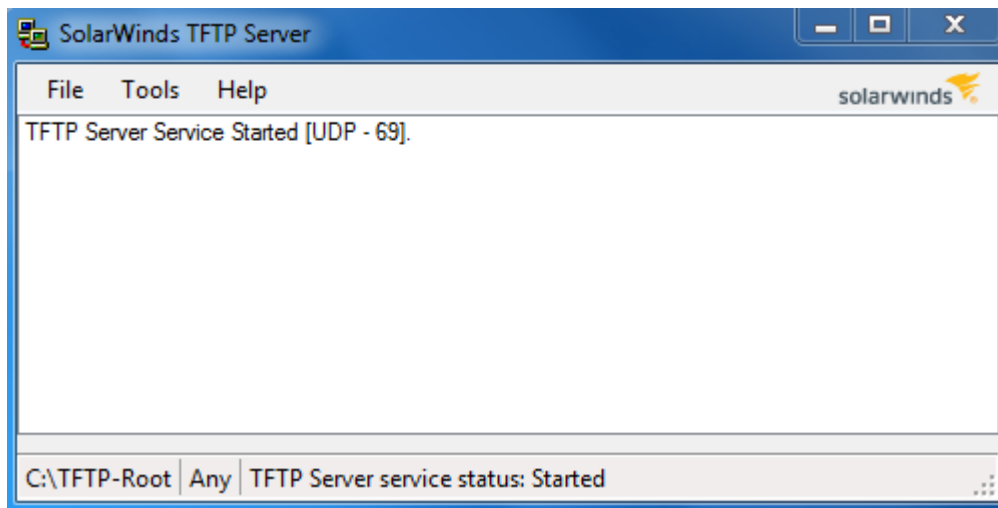
Software Information	
Firmware Version (Active Image):	1.3.7.18
Firmware MD5 Checksum (Active Image):	595c976a2f097c197111df59cec078d9
Firmware Version (Non-active):	1.2.7.76
Firmware MD5 Checksum (Non-active):	87b31e58cc35454b0fec477342613c7e
Boot Version:	1.2.0.12
Boot MD5 Checksum:	4275bacbcf4222e4f519a3271d8564bd
Locale:	en-US
Language Version:	1.3.7.18
Language MD5 Checksum:	N/A

通过TFTP升级到最新的引导代码

要升级引导代码，必须使用TFTP传输方法。要使用TFTP，PC需要运行TFTP服务器。可从以下位置下载免费TFTP服务器：<http://www.solarwinds.com/downloads/index.aspx>

注意：以下步骤假设您正在使用SolarWinds TFTP Server。如果您想要使用TFTP服务器的其他说明，请单击[此处](#)。

步骤1.打开SolarWinds TFTP Server应用程序。将显示一条消息，指示TFTP服务器已启动。



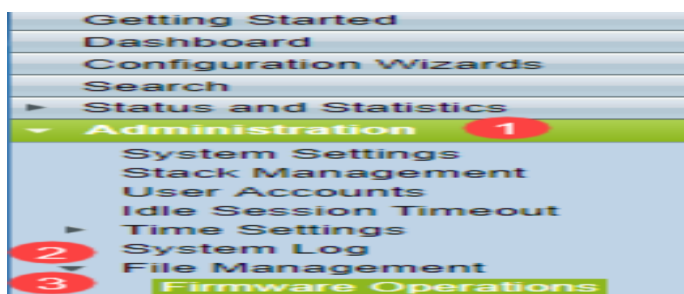
注意：如果使用Windows操作系统，请确保Windows防火墙上的入站连接允许使用TFTP或Solartroubleshooting-additional-detailswinds TFTP应用。 否则，TFTP传输将超时（即失败）。

步骤2.将最新的引导代码(.rfb)文件放入TFTP根目录(C:\TFTP-Root)中。

注意：引导代码文件是RFB文件类型，可在您下载的zip文件中找到。

步骤3.登录Web配置实用程序，然后选择Administration > File Management > **Firmware Operations**。根据您当前的版本，升级/备份固件/语言可能是要打开的第三个文件夹。

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步骤4.将打开Upgrade/Backup Firmware/Language页面。

Upgrade/Backup Firmware/Language

Transfer Method: ☐ via TFTP
☒ via HTTP/HTTPS
☐ via SCP (Over SSH)

Save Action: ☒ Upgrade
☐ Backup

File Type: ☒ Firmware Image
☐ Boot Code
☐ Language File

File Name: No file selected.

The firmware is upgraded to the inactive image file. You must activate the firmware using the "Active Image" page.

步骤5.单击“传输方法”字段中的“通过 TFTP”单选按钮。

Upgrade/Backup Firmware/Language

Transfer Method: ☒ via TFTP
☐ via HTTP/HTTPS
☐ via SCP (Over SSH)

Save Action: ☒ Upgrade
☐ Backup

File Type: ☐ Firmware Image
☒ Boot Code
☐ Language File

TFTP Server Definition: ☒ By IP address ☐ By name

IP Version: ☐ Version 6 ☒ Version 4

IPv6 Address Type: ☒ Link Local ☐ Global

Link Local Interface:

TFTP Server IP Address/Name:

Source File Name: (43/160 Characters Used)

The firmware is upgraded to the inactive image file. You must activate the firmware using the "Active Image" page.

步骤6.单击“保存操作”字段中的“升级”单选按钮。

Upgrade/Backup Firmware/Language

Transfer Method: ☒ via TFTP ☐ via HTTP/HTTPS ☐ via SCP (Over SSH)

Save Action: ☒ Upgrade ☐ Backup

File Type: ☐ Firmware Image ☒ Boot Code ☐ Language File

TFTP Server Definition: ☒ By IP address ☐ By name

IP Version: ☐ Version 6 ☒ Version 4

IPv6 Address Type: ☒ Link Local ☐ Global

Link Local Interface:

✱ TFTP Server IP Address/Name:

✱ Source File Name: (43/160 Characters Used)

The firmware is upgraded to the inactive image file. You must activate the firmware using the "Active Image" page.

步骤7.单击“文件类型”字段中的“引导代码”单选按钮。

Upgrade/Backup Firmware/Language

Transfer Method: ☒ via TFTP ☐ via HTTP/HTTPS ☐ via SCP (Over SSH)

Save Action: ☒ Upgrade ☐ Backup

File Type: ☐ Firmware Image ☒ Boot Code ☐ Language File

TFTP Server Definition: ☒ By IP address ☐ By name

IP Version: ☐ Version 6 ☒ Version 4

IPv6 Address Type: ☒ Link Local ☐ Global

Link Local Interface:

✱ TFTP Server IP Address/Name:

✱ Source File Name: (43/160 Characters Used)

The firmware is upgraded to the inactive image file. You must activate the firmware using the "Active Image" page.

步骤8.在 *TFTP Server IP Address/Name* 字段中，输入在步骤1中打开SolarWinds TFTP Server应用

程序的计算机的IP地址。

Upgrade/Backup Firmware/Language

Transfer Method:

☒ via TFTP
☐ via HTTP/HTTPS
☐ via SCP (Over SSH)

Save Action:

☒ Upgrade
☐ Backup

File Type:

☐ Firmware Image
☒ Boot Code
☐ Language File

TFTP Server Definition:

☒ By IP address ☐ By name

IP Version:

☐ Version 6 ☒ Version 4

IPv6 Address Type:

☒ Link Local ☐ Global

Link Local Interface:

VLAN 1

TFTP Server IP Address/Name:

192.168.1.104

Source File Name:

(43/160 Characters Used)

The firmware is upgraded to the inactive image file. You must activate the firmware using the "Active Image" page.

Apply

Cancel

步骤9.在Source File Name字段中输入引导代码(.rfb)文件的文件名。例如，如果文件的确切路径是C:\TFTP-Root\sx500_boot-14002.rfb，则在字段中输入sx500_boot-14002.rfb。

Upgrade/Backup Firmware/Language

Transfer Method: ☒ via TFTP ☐ via HTTP/HTTPS ☐ via SCP (Over SSH)

Save Action: ☒ Upgrade ☐ Backup

File Type: ☐ Firmware Image ☒ Boot Code ☐ Language File

TFTP Server Definition: ☒ By IP address ☐ By name

IP Version: ☐ Version 6 ☒ Version 4

IPv6 Address Type: ☒ Link Local ☐ Global

Link Local Interface:

⚠ TFTP Server IP Address/Name:

⚠ Source File Name: (43/160 Characters Used)

The firmware is upgraded to the inactive image file. You must activate the firmware using the "Active Image" page.

注意：源文件必须位于TFTP根目录中，TFTP传输才能正常工作。

步骤10.单击“应用”。

系统将显示警告窗口。



Navigation to other screens while upgrade/backup is in progress will abort the process.

步骤11.单击OK。



Navigation to other screens while upgrade/backup is in progress will abort the process.

进度条显示几分钟。

Upgrade/Backup Firmware/Language

Bytes Transferred: 196608

Status: Download in progress

Error Message:

Done

Processing Data

传输完成后，进度条消失。系统将显示统计信息和传输中的任何错误。

Upgrade/Backup Firmware/Language



The file upgrade will take effect only after the switch has been rebooted.

Bytes Transferred: 524304

Status: Copy finished

Error Message:

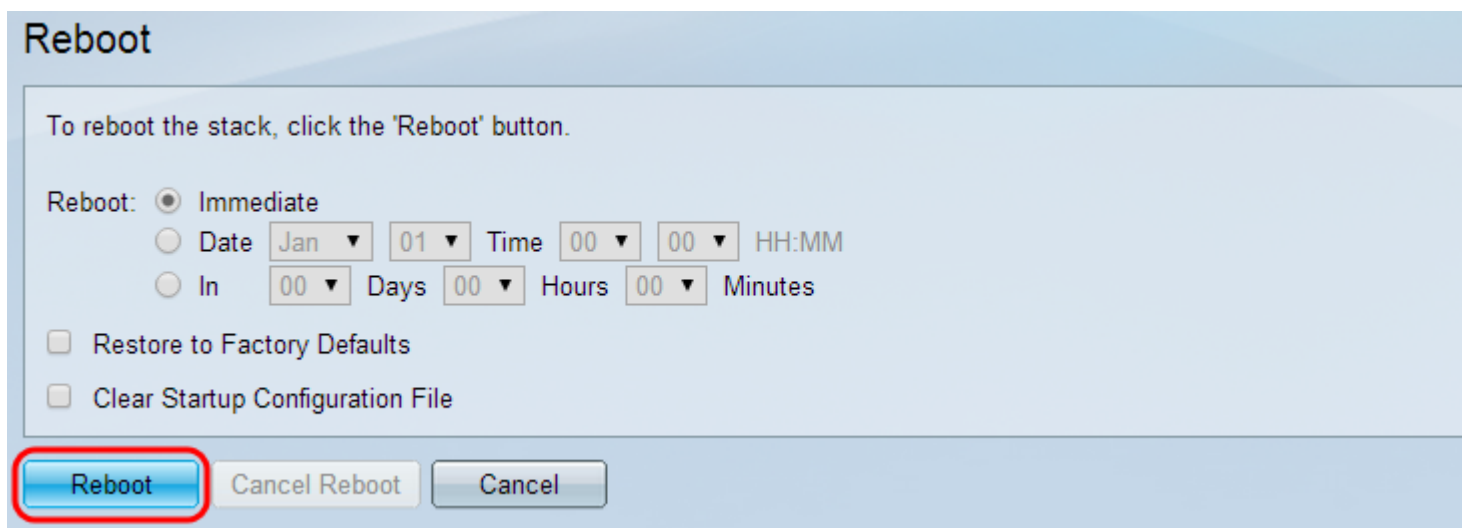
Done

步骤12.单击“完成”。

Done

步骤13.重新启动交换机，使引导升级生效。导航至**Administration > Reboot**，然后单击Reboot按钮

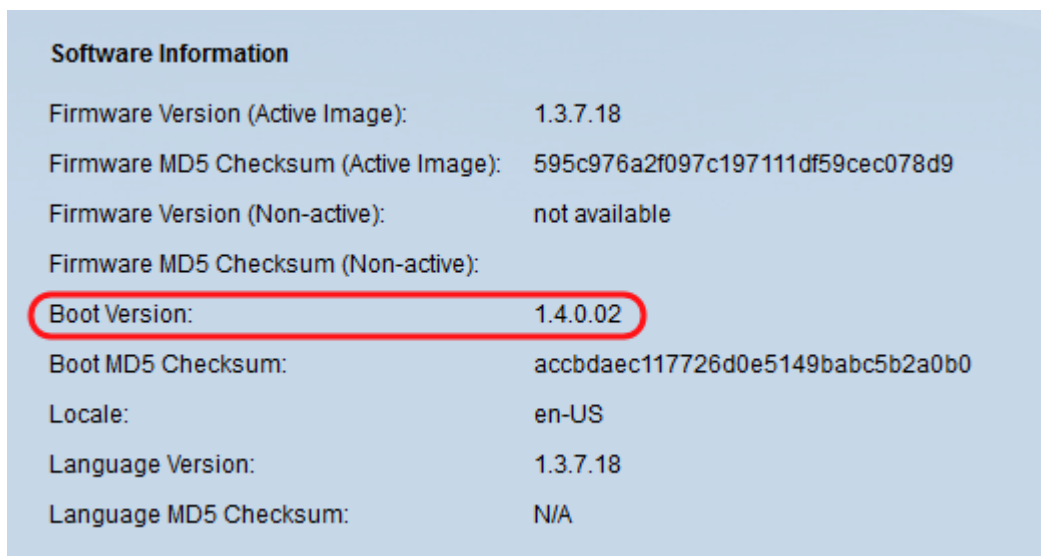
。



The image shows a 'Reboot' dialog box. At the top, it says 'To reboot the stack, click the 'Reboot' button.' Below this, there are three radio buttons for 'Reboot:'. The first is 'Immediate', which is selected. The second is 'Date', followed by a dropdown menu showing 'Jan', a dropdown showing '01', and the word 'Time'. The third is 'In', followed by a dropdown showing '00', the word 'Days', a dropdown showing '00', the word 'Hours', a dropdown showing '00', and the word 'Minutes'. Below these are two checkboxes: 'Restore to Factory Defaults' and 'Clear Startup Configuration File'. At the bottom, there are three buttons: 'Reboot' (highlighted with a red rectangle), 'Cancel Reboot', and 'Cancel'.

注意：您也可以通过断开和重新连接交换机后面的电源线来重启交换机。

步骤14. (可选) 登录Web配置实用程序，然后选择**Status and Statistics > System Summary**以查看 *Software Information*，以确认Boot Version已升级。



The image shows a 'Software Information' table. The table has two columns. The first column lists various software components, and the second column shows their current versions or status. The 'Boot Version' row is highlighted with a red rectangle.

Software Information	
Firmware Version (Active Image):	1.3.7.18
Firmware MD5 Checksum (Active Image):	595c976a2f097c197111df59cec078d9
Firmware Version (Non-active):	not available
Firmware MD5 Checksum (Non-active):	
Boot Version:	1.4.0.02
Boot MD5 Checksum:	accbdaec117726d0e5149bab5b2a0b0
Locale:	en-US
Language Version:	1.3.7.18
Language MD5 Checksum:	N/A

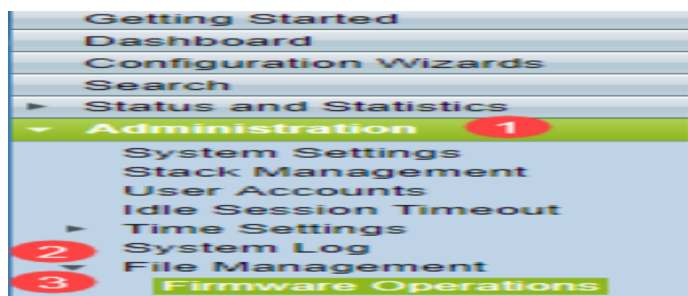
步骤15.继续下一节“从1.3.5版或更高版本升级”，以便升级到最新版本。

从版本1.3.5或更高版本升级

注意：在继续本部分之前，请确保已升级到最新的引导文件。有关详细信息，请参阅上一节。

步骤1.登录Web配置实用程序，然后选择**Administration > File Management > Firmware Operations**。根据您当前的版本，**升级/备份固件/语言**可能是要打开的第三个文件夹。

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步骤2.将打开*Upgrade/Backup Firmware/Language*页面。

Upgrade/Backup Firmware/Language

Transfer Method:

☐ via TFTP
☒ via HTTP/HTTPS
☐ via SCP (Over SSH)

Save Action:

☒ Upgrade
☐ Backup

File Type:

☒ Firmware Image
☐ Boot Code
☐ Language File

File Name:

No file selected.

The firmware is upgraded to the inactive image file. You must activate the firmware using the "Active Image" page.

步骤3.单击“传输方法”字段中的“通过HTTP/HTTPS”单选按钮。

Upgrade/Backup Firmware/Language

Transfer Method:

☐ via TFTP
☒ via HTTP/HTTPS
☐ via SCP (Over SSH)

Save Action:

☒ Upgrade
☐ Backup

File Type:

☒ Firmware Image
☐ Boot Code
☐ Language File

File Name:

No file selected.

The firmware is upgraded to the inactive image file. You must activate the firmware using the "Active Image" page.

步骤4.单击“保存操作”字段中的“升级”单选按钮。

Upgrade/Backup Firmware/Language

Transfer Method: ☐ via TFTP
☒ via HTTP/HTTPS
☐ via SCP (Over SSH)

Save Action: ☒ Upgrade
☐ Backup

File Type: ☒ Firmware Image
☐ Boot Code
☐ Language File

File Name: No file selected.

The firmware is upgraded to the inactive image file. You must activate the firmware using the "Active Image" page.

步骤5.单击“文件类型”字段中的“固件映像”单选按钮。

Upgrade/Backup Firmware/Language

Transfer Method: ☐ via TFTP
☒ via HTTP/HTTPS
☐ via SCP (Over SSH)

Save Action: ☒ Upgrade
☐ Backup

File Type: ☒ Firmware Image
☐ Boot Code
☐ Language File

File Name: No file selected.

The firmware is upgraded to the inactive image file. You must activate the firmware using the "Active Image" page.

步骤6.在“文件名”字段中，输入文件路径或单击“浏览……”以选择您从“软件”页下载的最新固件文件。

Upgrade/Backup Firmware/Language

Transfer Method: ☐ via TFTP
☒ via HTTP/HTTPS
☐ via SCP (Over SSH)

Save Action: ☒ Upgrade
☐ Backup

File Type: ☒ Firmware Image
☐ Boot Code
☐ Language File

File Name: No file selected.

The firmware is upgraded to the inactive image file. You must activate the firmware using the "Active Image" page.

注意：固件文件是.ros文件类型，可在您下载的zip文件中找到。

步骤7.单击“应用”。

Upgrade/Backup Firmware/Language

Transfer Method: ☐ via TFTP
☒ via HTTP/HTTPS
☐ via SCP (Over SSH)

Save Action: ☒ Upgrade
☐ Backup

File Type: ☒ Firmware Image
☐ Boot Code
☐ Language File

File Name: sx500_fw-14088.ros

The firmware is upgraded to the inactive image file. You must activate the firmware using the "Active Image" page.

系统将显示警告窗口。



Navigation to other screens while upgrade/backup is in progress will abort the process.

步骤8.单击OK。



Navigation to other screens while upgrade/backup is in progress will abort the process.

OK

Cancel

进度条显示几分钟。

Upgrade/Backup Firmware/Language

Bytes Transferred: 196608

Status: Download in progress

Error Message:

Done

Processing Data



步骤9.传输完成后，进度条消失。系统将显示统计信息和传输中的任何错误。如果传输成功，请单击活动图像超链接以打开“活动图像”页。

Upgrade/Backup Firmware/Language



The updated image will be used only after selecting it as the **active image** after reboot and then **rebooting** the system.

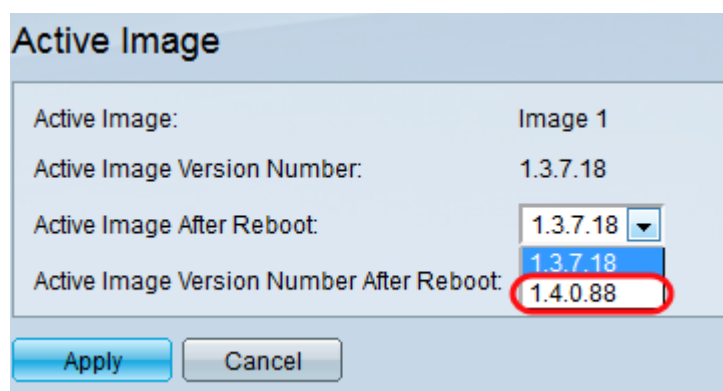
Bytes Transferred: 10497377

Status: Copy finished

Error Message:

Done

步骤10.从Active Image After Reboot 下拉列表中，选择最新的固件版本。

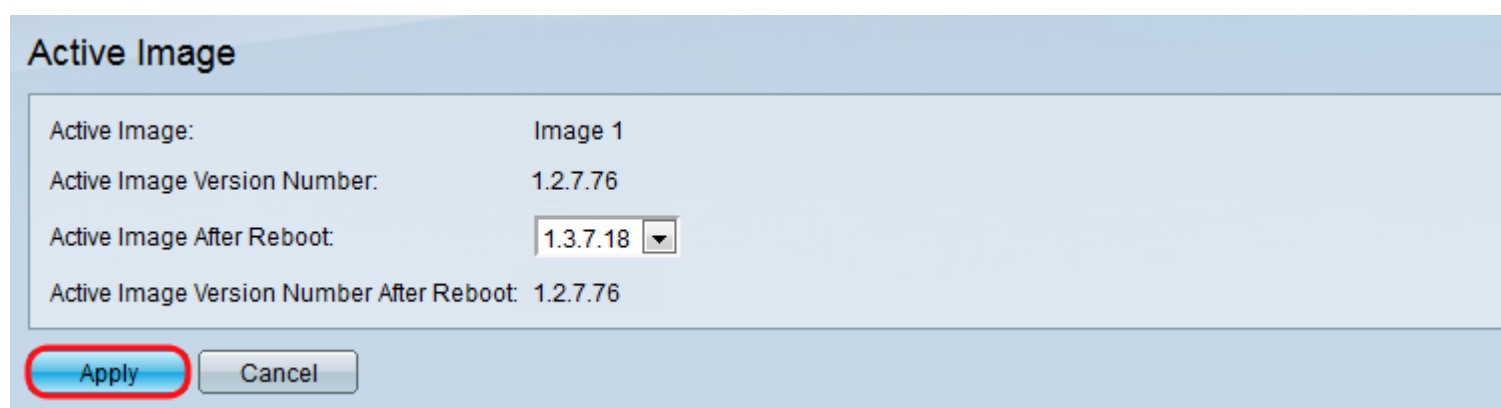


The 'Active Image' dialog box displays the following information:

Active Image:	Image 1
Active Image Version Number:	1.3.7.18
Active Image After Reboot:	1.3.7.18 (dropdown menu)
Active Image Version Number After Reboot:	1.4.0.88 (highlighted with a red circle)

Buttons: Apply, Cancel

步骤11.单击“应用”。

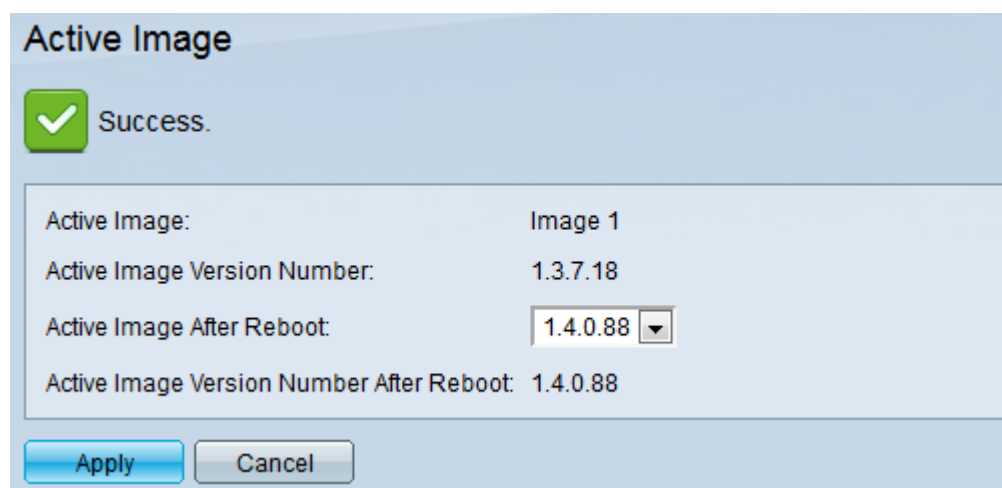


The 'Active Image' dialog box displays the following information:

Active Image:	Image 1
Active Image Version Number:	1.2.7.76
Active Image After Reboot:	1.3.7.18 (dropdown menu)
Active Image Version Number After Reboot:	1.2.7.76

Buttons: Apply (highlighted with a red circle), Cancel

系统将显示成功消息，并更新“重新启动后的活动映像版本号”字段。



The 'Active Image' dialog box displays a success message and updated version information:

✓ Success.

Active Image:	Image 1
Active Image Version Number:	1.3.7.18
Active Image After Reboot:	1.4.0.88 (dropdown menu)
Active Image Version Number After Reboot:	1.4.0.88

Buttons: Apply, Cancel

步骤12.重新启动交换机，使固件升级生效。导航至Administration > Reboot，然后单击Reboot按钮。

Reboot

To reboot the stack, click the 'Reboot' button.

Reboot: ☒ Immediate

☐ Date Jan ▼ 01 ▼ Time 00 ▼ 00 ▼ HH:MM

☐ In 00 ▼ Days 00 ▼ Hours 00 ▼ Minutes

☐ Restore to Factory Defaults

☐ Clear Startup Configuration File

Reboot

Cancel Reboot

Cancel

注意：您也可以通过断开和重新连接交换机后面的电源线来重启交换机。

步骤13. (可选) 登录Web配置实用程序，然后选择**Status and Statistics > System Summary**以查看 *Software Information*，以确认固件版本已升级。

Software Information

Firmware Version (Active Image):	1.4.0.88
Firmware MD5 Checksum (Active Image):	40a07847eb11a806694ee46c790d483a
Firmware Version (Non-active):	1.3.7.18
Firmware MD5 Checksum (Non-active):	595c976a2f097c197111df59cec078d9
Boot Version:	1.4.0.02
Boot MD5 Checksum:	accbdaec117726d0e5149bab5b2a0b0
Locale:	en-US
Language Version:	1.4.0.88
Language MD5 Checksum:	N/A