



Troubleshooting

General Troubleshooting

If there are problems with a Cisco Edge 300 series switch in the Smart Install network (for example, a failed upgrade), press and hold the switch Reset button. The switch starts up in factory-default mode, connects to the director, and downloads and installs the latest images.

If problems persist, follow these troubleshooting guidelines:

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- Step 1** Connect to the Cisco Edge 300 series switch (see the *Cisco Edge 300 Series Switch Installation Guide*):
- Use the **ping** *[options]* **host** Linux command to ping the director to verify connectivity.
 - Use the **ls** *[options]* *[names]* Linux command on the Cisco Edge 300 series switch to make sure that:
 - The smistart.sh script exists in the scripts directory: /scripts/smistart.sh.
 - The smi.lease file exists in the tmp directory: /tmp/smi.lease.
 - The dhclient-enter-hooks script exists in a directory.
 - If the dhclient-enter-hooks exists but the smi.lease file does not exist in the tmp directory, verify that:
 - The DHCP client is running, that is, the **dhclient** Linux command is defined.
 - The DHCP server is running.
 - The switch can obtain the IP address of the DHCP server.
 - If the switch cannot obtain the IP address of the DHCP server, use the **ifconfig** *[interface]* **ifconfig** *[interface address_family parameters addresses]* Linux command to define the IP address of the DHCP server.
- Step 2** On the Smart Install director:
- Make sure that the switch has not lost its director configuration.
 - Make sure that the image list file and switch configuration file are configured on the director.
 - Enter the **show ip dhcp snooping binding** *[ip-address]* *[mac-address]* user EXEC command to display the DHCP snooping bindings database and configuration information for the switch.
- Step 3** On the TFTP server, make sure that:
- The image list file that is configured on the director exists on the TFTP server.
 - The images that are defined in the image list file exist on the TFTP server.
 - The director configuration file exists on the TFTP server.

- A new image that must replace an old image in an upgrade has a different version number than the old image, and the new image is defined in the image list file.
- The correct hardware parameters, including keywords and values, are defined in the image list file of a new image that must replace an old image in an upgrade.

Step 4 On the switch, use the **vi** *[options] [files]*, **cat** *[options] [files]*, or **more** *[options] [files]* Linux command to retrieve the syslog (smi_log) file from the tmp directory. Send the file to technical support.



Note The Cisco Edge 300 series switch records all necessary information in the logging system with the syslog feature of Linux to an internal USB disk, and uploads the log to Smart Install server when its size is bigger than the threshold size.

Troubleshooting Software Upgrades

After a software download, the switch reboots to upgrade the software. If the software download fails, the switch does not reboot, and an error message is saved in the syslog file. If a monitor is attached to the switch, the error message also appears on the monitor.

If the software download succeeds but the downloaded image or configuration file is defective, reassociate the switches in the group to working image and configuration files. Instruct the end users to upgrade the switch again by restarting the switch or pressing the Reset button.

If a software upgrade fails, for example, because of a power failure or loss of network connectivity, the switch remains in factory default mode, and an error message is saved in the syslog file. If a monitor is attached to the switch, the error message also appears on the monitor. To recover from the failed software upgrade, the end user needs to restart the switch or press the Reset button.

Manually Upgrading the Software Using the USB Port



Caution

Before upgrading from software release 1.5 to release 1.6, remove the Factory Mode OS Version and Fonts selections from the GUI and apply the changes. See the [“Managing Cisco Edge Configuration Files”](#) section on page 2-25.



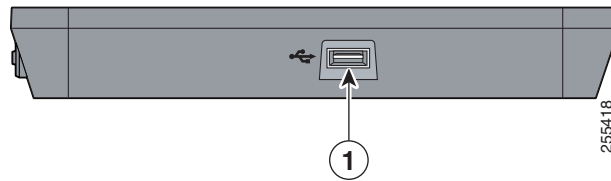
Caution

If the device was originally installed with software release 1.5 and higher, do not downgrade the software release to 1.4 or lower via USB manual upgrading. Otherwise, the device may be seriously damaged.

If the Cisco Edge 300 is unable to connect to the Smart Install director, you can use the Cisco Edge USB Smart Install tool to upgrade or restore the system firmware using a USB flash drive.

Use the USB port on the side of the Cisco Edge 300 to perform the USB Smart Install upgrade.

Figure D-1 Cisco Edge 300 Series Switch



1	USB port
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Formatting a USB Smart Install Flash Drive

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- Step 1** Format the USB flash drive with at least 1 GB of storage capability to the ext3 file system:
- ```
mkfs.ext3 /dev/sdb1
```
- Step 2** Mount the USB flash drive and unpackage the smi-usb image into it:
- ```
sudo tar -zpxvf smi-usb-sunbird-1.1.0-delivery.tar.gz -C /media/sdb1
```
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Using the USB Smart Install on Cisco Edge OS Version 1.1.0 and Later

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- Step 1** Detach all of the USB flash devices from the Cisco Edge 300 switch. Unplug the Ethernet cable from the Gigabit Ethernet (uplink) port.
- Step 2** Start the Cisco Edge 300 switch and enter the user desktop.
- Step 3** Plug in the USB Smart Install flash drive at the side USB port.
- Step 4** Double-click the SmartInstall icon on the desktop.
- Step 5** Enter the root password in the pop-up window and click **OK**.



Note Ask the system administrator if you do not know the password.

The main window displays the firmware version currently running on the Cisco Edge 300 switch and the firmware image version to be upgraded from the USB flash drive.

- Step 6** Do one of the following:
- Select Normal Upgrade to upgrade the system.
 - Select Force Upgrade to restore the system to the version provided by the USB flash drive.



Note When you are going to upgrade the system from release 1.x to release 1.6RB1_1 or release 1.6RB2, you can use only the Force Upgrade option.

Step 7 Click **OK** in the Warning window.



Note If you do not click OK, the system reboots in 10 seconds.

During the upgrade, the power LED blinks green. After 20 to 40 minutes, the system reboots normally with the new firmware installed.



Note An amber power LED indicates upgrade failure.

Step 8 Detach the USB Smart Install flash drive. Plug the Ethernet cable into the Gigabit Ethernet (uplink) port.

Force Upgrading the Software in Factory Mode

To force upgrade the software in factory mode, perform the following steps:

- Step 1** Detach all the USB flash drivers on the Cisco Edge 300 Series switches if there are any.
- Step 2** Plug in the USB flash drive at the USB port side of the Cisco Edge 300 Series switch.
- Step 3** Make sure that the USB port you plug in is the only port at the side panel, not the front panel with a lot of ports.
- Step 4** Press the Reset button for 4 seconds to enter factory mode.
- Step 5** Wait for the system to reboot from the USB flash drive to upgrade.
- Step 6** During the upgrade, the power LED will be green and be flashing. Wait about 10 minutes, the system will reboot with a new firmware installed. If the color of the power LED turns yellow, it indicates the upgrade failure.

Using the USB Smart Install on Cisco Edge OS Version 1.0.0

- Step 1** Detach all the USB flash devices from the Cisco Edge 300 switch. Unplug the Ethernet cable from the Gigabit Ethernet (uplink) port.
- Step 2** Start the Cisco Edge 300 switch and enter the user desktop.
- Step 3** Plug in the USB flash drive at the side USB port.
- Step 4** When the USB flash drive icon appears on the desktop, double-click the icon to view the contents of the USB flash drive.
- Step 5** Find the SmartInstall icon and double-click it.
- Step 6** Enter the root password in the pop-up window and click **OK**.



Note Ask the system administrator if you do not know the password.

The main window displays the firmware version currently running on the Cisco Edge 300 switch and the firmware image version to be upgraded from USB flash drive.

Step 7 Do one of the following:

- Select Normal Upgrade to upgrade the system.
- Select Force Upgrade to restore the system to the version provided by USB flash drive.

Step 8 Click **OK** in the Warning window.



Note If you do not click OK, the system reboots in 10 seconds.

During the upgrade, the power LED blinks green. After 20 to 40 minutes, the system reboots normally with the new firmware installed.



Note An amber power LED indicates upgrade failure.

Step 9 Detach the USB Smart Install flash drive. Plug the Ethernet cable into the Gigabit Ethernet (uplink) port.



Note If the SmartInstall window displays “PIC version too old,” your Cisco Edge 300 hardware version is too old to support the USB SmartInstall tool.
