



Upgrading the Images

The compact Flash on the SSL Services Module has two bootable partitions: application partition (AP) and maintenance partition (MP). By default, the application partition boots every time. The application partition contains the binaries necessary to run the SSL image. The maintenance partition is booted if you need to upgrade the application partition.

You can upgrade both the application software and the maintenance software. However, you are not required to upgrade both images at the same time. Refer to the release notes for the SSL Services Module for the latest application partition and maintenance partition software versions.

The entire application and maintenance partitions are stored on the FTP or TFTP server. The images are downloaded and extracted to the application partition or maintenance partition, depending on which image is being upgraded.

To upgrade the application partition, change the boot sequence to boot the module from the maintenance partition. To upgrade the maintenance partition, change the boot sequence to boot the module from the application partition. Set the boot sequence for the module by using the supervisor engine CLI commands. The maintenance partition downloads and installs the application image. The supervisor engine must be executing the run-time image to provide network access to the maintenance partition.

Before starting the upgrade process, you will need to download the application partition image or maintenance partition image to the TFTP server.

A TFTP or FTP server is required to copy the images. The TFTP server should be connected to the switch, and the port connecting to the TFTP server should be included in any VLAN on the switch.

These sections describe how to upgrade the images:

- [Upgrading the Application Software, page B-1.](#)
- [Upgrading the Maintenance Software, page B-5.](#)

Upgrading the Application Software

How you upgrade the application software depends on whether you are using Cisco IOS software or the Catalyst operating system software.

The following sections describe how to upgrade the application software from the CLI for each switch operating system:

- [Cisco IOS Software, page B-2](#)
- [Catalyst Operating System Software, page B-4](#)

Cisco IOS Software



Note Do not reset the module until the image is upgraded. The total time to upgrade the image takes up to eight minutes.

To upgrade the application partition software, perform this task:

	Command	Purpose
Step 1	Router# hw-module module mod reset cf:1	Reboots the module from the maintenance partition. Note It is normal to see messages such as “Press Key” on the module console after entering this command.
Step 2	Router# show module	Displays that the maintenance partition for the module has booted.
Step 3	Router# copy tftp: pcl#mod-fs:	Downloads the image.
Step 4	Router# hw-module module mod reset	Resets the module. Note Do not reset the module until the “You can now reset the module” message displays on the console. Resetting the module before this message displays will cause the upgrade to fail.
Step 5	Router# show module	Verifies that the application partition for the module has booted.

This example shows how to upgrade the application partition software:

```
Router# hw-module module 6 reset cf:1
hw mod 6 reset cf:1
Device BOOT variable for reset = <cf:1>
Warning: Device list is not verified.

Proceed with reload of module? [confirm]y

% reset issued for module 6

02:11:18: SP: The PC in slot 6 is shutting down. Please wait ...
02:11:31: SP: PC shutdown completed for module 6
02:11:31: %C6KPWR-SP-4-DISABLED: power to module in slot 6 set off (Reset)
02:14:21: SP: OS_BOOT_STATUS(6) MP OS Boot Status: finished booting
02:14:28: %DIAG-SP-6-RUN_MINIMUM: Module 6: Running Minimum Online Diagnostics...
02:14:34: %DIAG-SP-6-DIAG_OK: Module 6: Passed Online Diagnostics
02:14:34: %OIR-SP-6-INSCARD: Card inserted in slot 6, interfaces are now online

Router# show module
Mod Ports Card Type                               Model                               Serial No.
-----
  1    2  Catalyst 6000 supervisor 2 (Active)    WS-X6K-S2U-MSFC2                    SAD055006RZ
  2   48  48 port 10/100 mb RJ45                 WS-X6348-RJ-45                      SAL052794UW
  6    1  SSL Module (MP)                         WS-SVC-SSL-1                        SAD060702VK

...<output truncated>...

Router# copy tftp: pcl#6-fs:
copy tftp: pcl#6-fs:
Address or name of remote host []? 10.1.1.1
```

```

Source filename []? c6svc-ssl-k9y9.1-x-y.bin

Destination filename [c6svc-ssl-k9y9.1-x-y.bin]?

Accessing tftp://10.1.1.1/c6svc-ssl-k9y9.1-x-y.bin...
Loading c6svc-ssl-k9y9.1-x-y.bin from 10.1.1.1 (via Vlan2):
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
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<output truncated>

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
[OK - 14918353 bytes]

14918353 bytes copied in 643.232 secs (23193 bytes/sec)
Router#
02:29:23: %SVCLC-SP-5-STRRECVD: mod 6: <Application upgrade has started>
02:29:23: %SVCLC-SP-5-STRRECVD: mod 6: <Do not reset the module till upgrade completes!!>
02:36:07: %SVCLC-SP-5-STRRECVD: mod 6: <Application upgrade has succeeded>
02:36:07: %SVCLC-SP-5-STRRECVD: mod 6: <You can now reset the module>>

Router# hw-module module 6 reset
Device BOOT variable for reset = <empty>
Warning:Device list is not verified.

Proceed with reload of module? [confirm]y
% reset issued for module 6
Router#
02:36:57:SP:The PC in slot 6 is shutting down. Please wait ...
02:37:17:SP:PC shutdown completed for module 6
02:37:17:%C6KPWR-SP-4-DISABLED:power to module in slot 6 set off (Reset)
02:38:39:SP:OS_BOOT_STATUS(6) AP OS Boot Status:finished booting
02:39:27:%DIAG-SP-6-RUN_COMPLETE:Module 6:Running Complete Online Diagnostics...
02:39:29:%DIAG-SP-6-DIAG_OK:Module 6:Passed Online Diagnostics
02:39:29:%OIR-SP-6-INSCARD:Card inserted in slot 6, interfaces are now online

Router# show module

Mod Ports Card Type                               Model                               Serial No.
-----
  1    2  Catalyst 6000 supervisor 2 (Active)  WS-X6K-S2U-MSFC2                   SAD055006RZ
  2   48  48 port 10/100 mb RJ45                WS-X6348-RJ-45                     SAL052794UW
  6    1   SSL Module                               WS-SVC-SSL-1                       SAD060702VK

...<output truncated>...

```

Catalyst Operating System Software



Note Do not reset the module until the image is upgraded. The total time to upgrade the image takes up to eight minutes.

To upgrade the application partition software, perform this task:

	Command	Purpose
Step 1	Console (enable) set boot device cf:1 mod	Sets the module to boot the maintenance partition.
Step 2	Console (enable) reset mod	Resets the module to the maintenance partition. Note The SUP_OSBOOTSTATUS system message shows that the maintenance partition (MP) has booted.
Step 3	Console (enable) session [mod]	Access the MSFC from the switch CLI using a Telnet session ¹ .
Step 4	Router# copy tftp: pcl#mod-fs:	Downloads the image.
Step 5	Router# exit	Exits the MSFC CLI and returns to the switch CLI.
Step 6	Console (enable) set boot device cf:4 mod	Sets the module to boot the application partition.
Step 7	Console (enable) reset mod	Resets the module to the application partition. Note Do not reset the module until the “You can now reset the module” message displays on the console. Resetting the module before this message displays will cause the upgrade to fail. Note The SUP_OSBOOTSTATUS system message shows that the application partition (AP) has booted.

1. To access the MSFC from the switch CLI directly connected to the supervisor engine console port, enter the **switch console mod** command. To exit from the MSFC CLI and return to the switch CLI, press **Ctrl-C** three times at the Router> prompt.

This example shows how to upgrade the application partition software:

```

Console> (enable) set boot device cf:1 6
Device BOOT variable = cf:1
Memory-test set to PARTIAL
Warning:Device list is not verified but still set in the boot string.
Console> (enable)
Console> (enable) reset 6 cf:1
This command will reset module 6.
Unsaved configuration on module 6 will be lost
Do you want to continue (y/n) [n]? y
Module 6 shut down in progress, please don't remove module until shutdown completed.
Console> (enable) Module 6 shutdown completed. Module resetting...
2003 Jan 17 08:34:07 %SYS-3-SUP_OSBOOTSTATUS:MP OS Boot Status:finished booting
2003 Jan 17 08:34:23 %SYS-5-MOD_OK:Module 6 is online
2003 Jan 17 08:34:23 %DTP-5-TRUNKPORTON:Port 6/1 has become dot1q trunk

```

```

Console> (enable) session 15
Trying Router-15...
Connected to Router-15.
Type ^C^C to switch back...
Router>

Router# copy tftp: p1c#6-fs:
copy tftp: p1c#6-fs:
Address or name of remote host []? 10.1.1.1

Source filename []? c6svc-ssl-k9y9.1-x-y.bin

Destination filename [c6svc-ssl-k9y9.1-x-y.bin]?

Accessing tftp://10.1.1.1/c6svc-ssl-k9y9.1-x-y.bin...
Loading c6svc-ssl-k9y9.1-x-y.bin from 10.1.1.1 (via Vlan2):
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
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[OK - 14918353 bytes]

14918353 bytes copied in 643.232 secs (23193 bytes/sec)
Router#
02:29:23: %SVCLC-SP-5-STRRECVD: mod 6: <Application upgrade has started>
02:29:23: %SVCLC-SP-5-STRRECVD: mod 6: <Do not reset the module till upgrade completes!!>
02:36:07: %SVCLC-SP-5-STRRECVD: mod 6: <Application upgrade has succeeded>
02:36:07: %SVCLC-SP-5-STRRECVD: mod 6: <You can now reset the module>>
Router# exit
Console> (enable) set boot device cf:4 6
Device BOOT variable = cf:4
Memory-test set to PARTIAL
Warning:Device list is not verified but still set in the boot string.
Console> (enable) reset 6
This command will reset module 6.
Unsaved configuration on module 6 will be lost
Do you want to continue (y/n) [n]? y
Module 6 shut down in progress, please don't remove module until shutdown completed.
Console> (enable) Module 6 shutdown completed. Module resetting...
2003 Jan 17 08:36:58 %SYS-3-SUP_OSBOOTSTATUS:AP OS Boot Status:finished booting
2003 Jan 17 08:37:51 %SYS-5-MOD_OK:Module 6 is online
2003 Jan 17 08:37:51 %DTP-5-TRUNKPORTON:Port 6/1 has become dot1q trunk

```

Upgrading the Maintenance Software

How you upgrade the maintenance software depends on whether you are using Cisco IOS software or the Catalyst operating system software.

The following sections describe how to upgrade the maintenance software from the CLI for each switch operating system:

- [Cisco IOS Software, page B-6](#)
- [Catalyst OS Software, page B-7](#)

Cisco IOS Software



Note Do not reset the module until the image is upgraded. The total time to upgrade the image takes up to eight minutes.

To upgrade the maintenance partition software, perform this task:

	Command	Purpose
Step 1	Router# hw-module module mod reset	Reboots the module from the application partition.
Step 2	Router# copy tftp: pcli#mod-fs:	Downloads the image.
Step 3	Router# hw-module module mod reset cf:1	Resets the module in the maintenance partition. Note Do not reset the module until the “Upgrade of MP was successful. You can now boot MP” message displays on the console. Resetting the module before this message displays will cause the upgrade to fail.
Step 4	Router# show module	Verifies that the maintenance partition for the module has booted.

This example shows how to upgrade the maintenance partition software:

```
Router# hw module 6 reset
Device BOOT variable for reset = <empty>
Warning:Device list is not verified.
Proceed with reload of module? [confirm]y
% reset issued for module 6
Router#
02:36:57:SP:The PC in slot 6 is shutting down. Please wait ...
02:37:17:SP:PC shutdown completed for module 6
02:37:17:%C6KPWR-SP-4-DISABLED:power to module in slot 6 set off (Reset)
1w0d:SP:OS_BOOT_STATUS(6) AP OS Boot Status:finished booting
1w0d:%OIR-SP-6-INSCARD:Card inserted in slot 6, interfaces are now online
Router# copy tftp:pcli#6-fs:
Address or name of remote host []? 10.1.1.1
Source filename []? mp.1-2-0-16.bin.gz
Destination filename [mp.1-2-0-16.bin.gz]?
Accessing tftp://10.1.1.1/mp.1-2-0-16.bin.gz...
Loading mp.1-2-0-16.bin.gz from 10.1.1.1 (via Vlan2):
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
<output truncated>
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
[OK - 9818951 bytes]
9818951 bytes copied in 164.388 secs (59730 bytes/sec)
ssl-proxy>
1w0d:%SVCLC-SP-6-STRRECVD:mod 6:<MP upgrade started. Do not reset the card.>
1w0d:%SVCLC-SP-6-STRRECVD:mod 6:<Upgrade of MP was successful. You can now boot MP.>
Router# hw mod 6 reset cf:1
Device BOOT variable for reset = <cf:1>
Warning:Device list is not verified.
Proceed with reload of module? [confirm]y
% reset issued for module 6
```

```

Router# show module
Mod Ports Card Type                               Model                               Serial No.
-----
1    2    Catalyst 6000 supervisor 2 (Active)    WS-X6K-S2U-MSFC2                    SAD055006RZ
2    48    48 port 10/100 mb RJ45                 WS-X6348-RJ-45                      SAL052794UW
6    1    SSL Module (MP)                         WS-SVC-SSL-1                        SAD060702VK

...<output truncated>...

```

Catalyst OS Software



Note Do not reset the module until the image is upgraded. The total time to upgrade the image takes up to 8 minutes.

To upgrade the maintenance partition software, perform this task:

	Command	Purpose
Step 1	Console (enable) set boot device cf:4 mod	Sets the module to boot the application partition.
Step 2	Console (enable) reset mod	Resets the module to the application partition. Note The SUP_OSBOOTSTATUS system message shows that the application partition (AP) has booted.
Step 3	Console (enable) session [mod]	Access the MSFC from the switch CLI using a Telnet session ¹ .
Step 4	Router# copy tftp: pclc#mod-fs:	Downloads the image.
Step 5	Router# exit	Exits the MSFC CLI and returns to the switch CLI.
Step 6	Console (enable) set boot device cf:1 mod	Sets the module to boot the maintenance partition.
Step 7	Console (enable) reset mod	Resets the module to the maintenance partition. Note Do not reset the module until the “Upgrade of MP was successful. You can now boot MP” message displays on the console. Resetting the module before this message displays will cause the upgrade to fail. Note The SUP_OSBOOTSTATUS system message shows that the maintenance partition (MP) has booted.

- To access the MSFC from the console that is directly connected to the supervisor engine console port, enter the **switch console mod** command. To exit from the MSFC CLI and return to the switch console, press **Ctrl-C** three times at the Router> prompt.

This example shows how to upgrade the maintenance partition software:

```

Console> (enable) set boot device cf:4 6
Device BOOT variable = cf:4
Memory-test set to PARTIAL
Warning:Device list is not verified but still set in the boot string.
Console> (enable) reset 6
This command will reset module 6.
Unsaved configuration on module 6 will be lost
Do you want to continue (y/n) [n]? y
Module 6 shut down in progress, please don't remove module until shutdown completed.
Console> (enable) Module 6 shutdown completed. Module resetting...

```

```

2003 Jan 17 08:36:58 %SYS-3-SUP_OSBOOTSTATUS:AP OS Boot Status:finished booting
2003 Jan 17 08:37:51 %SYS-5-MOD_OK:Module 6 is online
2003 Jan 17 08:37:51 %DTP-5-TRUNKPORTON:Port 6/1 has become dot1q trunk
Console> (enable) session 15
Trying Router-15...
Connected to Router-15.
Type ^C^C to switch back...
Router>
Router# copy tftp:plc#6-fs:
Address or name of remote host []? 10.1.1.1
Source filename []? mp.1-2-0-16.bin.gz
Destination filename [mp.1-2-0-16.bin.gz]?
Accessing tftp://10.1.1.1/mp.1-2-0-16.bin.gz...
Loading mp.1-2-0-16.bin.gz from 10.1.1.1 (via Vlan2):
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

<output truncated>

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
[OK - 9818951 bytes]

9818951 bytes copied in 164.388 secs (59730 bytes/sec)
ssl-proxy>
1w0d:%SVCLC-SP-6-STRECVd:mod 6:<MP upgrade started. Do not reset the card.>
1w0d:%SVCLC-SP-6-STRECVd:mod 6:<Upgrade of MP was successful. You can now boot MP.>
Router# exit
Console> (enable) set boot device cf:1 6
Device BOOT variable = cf:1
Memory-test set to PARTIAL
Warning:Device list is not verified but still set in the boot string.
Console> (enable)
Console> (enable) reset 6 cf:1
This command will reset module 6.
Unsaved configuration on module 6 will be lost
Do you want to continue (y/n) [n]? y
Module 6 shut down in progress, please don't remove module until shutdown completed.
Console> (enable) Module 6 shutdown completed. Module resetting...
2003 Jan 17 08:34:07 %SYS-3-SUP_OSBOOTSTATUS:MP OS Boot Status:finished booting
2003 Jan 17 08:34:23 %SYS-5-MOD_OK:Module 6 is online
2003 Jan 17 08:34:23 %DTP-5-TRUNKPORTON:Port 6/1 has become dot1q trunk

```