



# SMU 101



# What are SMUs?

- SMU = Software Maintenance Upgrade
- Software 'patch' delivery unit which once installed and activated provides a 'point-fix' for a critical issue in a given software release
- A SMU consists of the SMU file and an accompanying README.txt which contains any associated caveats

# What are SMUs?

- SMUs are currently built on a per-image basis

An issue affecting multiple images such as 3.3.0 and 3.3.1 will require two SMUs (one for 3.3.0 and one for 3.3.1)

- Fixes delivered by SMUs 'should' be rolled-up in the next maintenance release

For example: fix for an issue delivered as a SMU for 3.4.1 should be incorporated in the next maintenance release (3.4.2)

In some circumstances, such as late delivery of the code, a fix may not be make it into the next maintenance release. A new SMU will therefore be required

# Why should I install a SMU?

- The SMUs posted on the CCO page are 'recommended' patches
- Applying these SMUs will help you avoid the identified problem
- Some SMUs are 'generic' in that they relate to parts of the operating system that are always used, others are specific to the configuration being used

For example, a SMU for OSPF does not need to be applied if you're running ISIS

# What happens if I don't install a SMU?

- You may choose not to install a 'recommended' SMU
- Even if you choose not to install a 'recommended' SMU, TAC support continues as normal
- If you encounter the issue you may be advised to load the 'recommended' SMU in order to address the problem

# What's the impact of installing a SMU?

- Many SMUs can be applied without impact to normal router operations (routing & forwarding)
- If a SMU addresses a problem within a routing protocol, applying the SMU will mean that the process running the protocol will restart

In such instances, if you are using Graceful Restart extensions with default timers, forwarding will continue without interruption and protocol sessions will be re-established

If you do not use Graceful Restart extensions, routing protocol sessions will be terminated and restarted. Traffic will be diverted away from the affected router when neighbors detect the session has terminated\*

- Some SMUs will require the router to reboot in order to safely activate the patch. Such SMUs are marked as 'reboot' and are detailed as such in the README.txt file accompanying the patch\*

# How do I install a SMU?

Use the admin-level commands to

1. 'Install add' the SMU to the router
2. 'Install activate' the SMU to apply the patch to the router

For example:

```
Install add ftp://username:password@1.2.3.4/hfr-rout-  
3.4.1.CSCsh12345.pie sync
```

```
Install activate disk0:hfr-rout-3.4.1.CSCsh12345-1.0.0  
sync
```

3. 'Install commit' to make added SMU part of the installed operating system file set

## Can I install multiple SMUs at the same time?

- Multiple SMUs can 'added' in a single command line  
This step just prepares the software on the disk but does not affect any change
- 'Activating' or 'de-activating' multiple non-reboot SMU at the same time in a single command line will result in the router performing a reload therefore 'activate / de-activate' non-reboot SMUs one at a time
- Multiple reboot SMUs CAN be activated in a single step:  
install activate disk0:hfr-reboot-SMU1 disk0:hfr-reboot-SMU2 sync
- Multiple non-reboot SMUs can be activated in a single step when applied together with a reboot SMU but the router will reboot as part of the activation
- reboot & non-reboot SMUs can be activated as part of a .PIE upgrade:  
install activate disk0:comp-hfr-mini-3.x.0 disk0:hfr-reboot-SMUx disk0:hfr-non-reboot-SMUx sync
- NOTE - Deactivating a reboot SMU also results in a router reboot



## How do I stay up to date?

- Visit the SMU download page on a regular basis
- Plan to apply SMUs that are relevant to your software release and configuration at your earliest possible convenience

