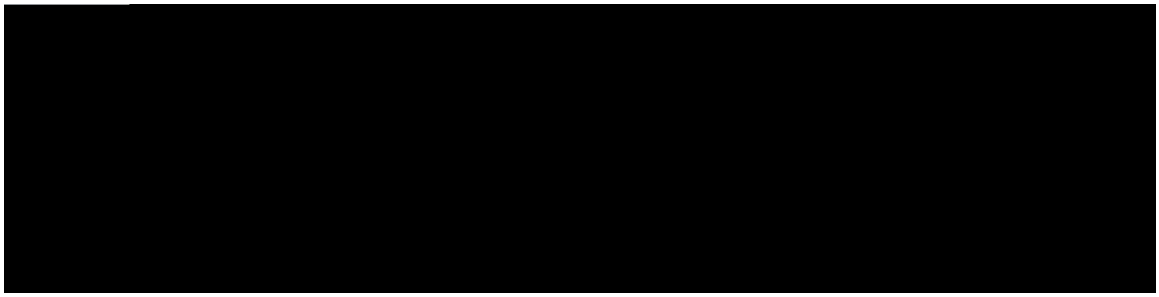


CONTENTS

Examples: Scheduling Software Image Reload

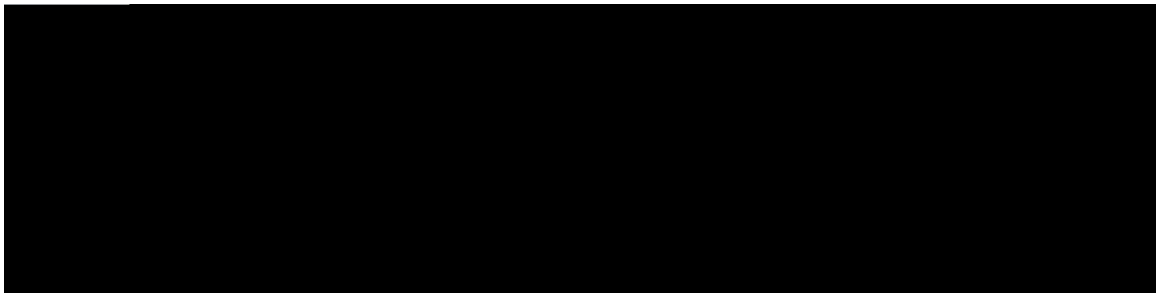
Configuring Application

CHAPTER 17

Configuring Online

onthe

Upgrading



Preface

Related Documentation

Note Before installing or upgrading the device, refer to the device release notes.

- Cisco Catalyst 3650 Switch documentation, located at:

  http://www.cisco.com/go/cat3650_

Table 1: Command Mode Summary

Table 2: Common CLI Error Messages

Error Message	Meaning	How to Get Help
		Reenter the command followed by a question mark (?) without any space between the command and the question mark. The possible

Changing the Command History Buffer Size

By default, the device records ten command lines in its history buf

	Command or Action	Purpose
Step 2	**terminal no editing** Example: `Device# terminal no editing`	Disables the enhanced editing mode for the current terminal session in privileged EXEC mode.

Editing Commands Through Keystrokes

The keystrokes help you to edit the command lines. These keystrokes are optional.

DETAILED STEPS

	Command or Action	Purpose
		Expressions

CHAPTER 2

Using the Web Graphical User Interface

wireless configuration. Start the wizard through Configuration -> Wizard and

Step 3

The **SNMP System Summary** page appears.

Step 6 On the **SNMP System Summary** page, enter the following SNMP system parameters for the device, and click

If

LAN environment, NTP can be configured to use IP broadcast messages insteeee

If the network is isolated from the

The address table lists the destination MAC address, the associated VLAN ID, and port

ARP Table Management

To communicate with a device (over Ethernet, for example), the software first must learn the 48-bit MAC address or the local data link

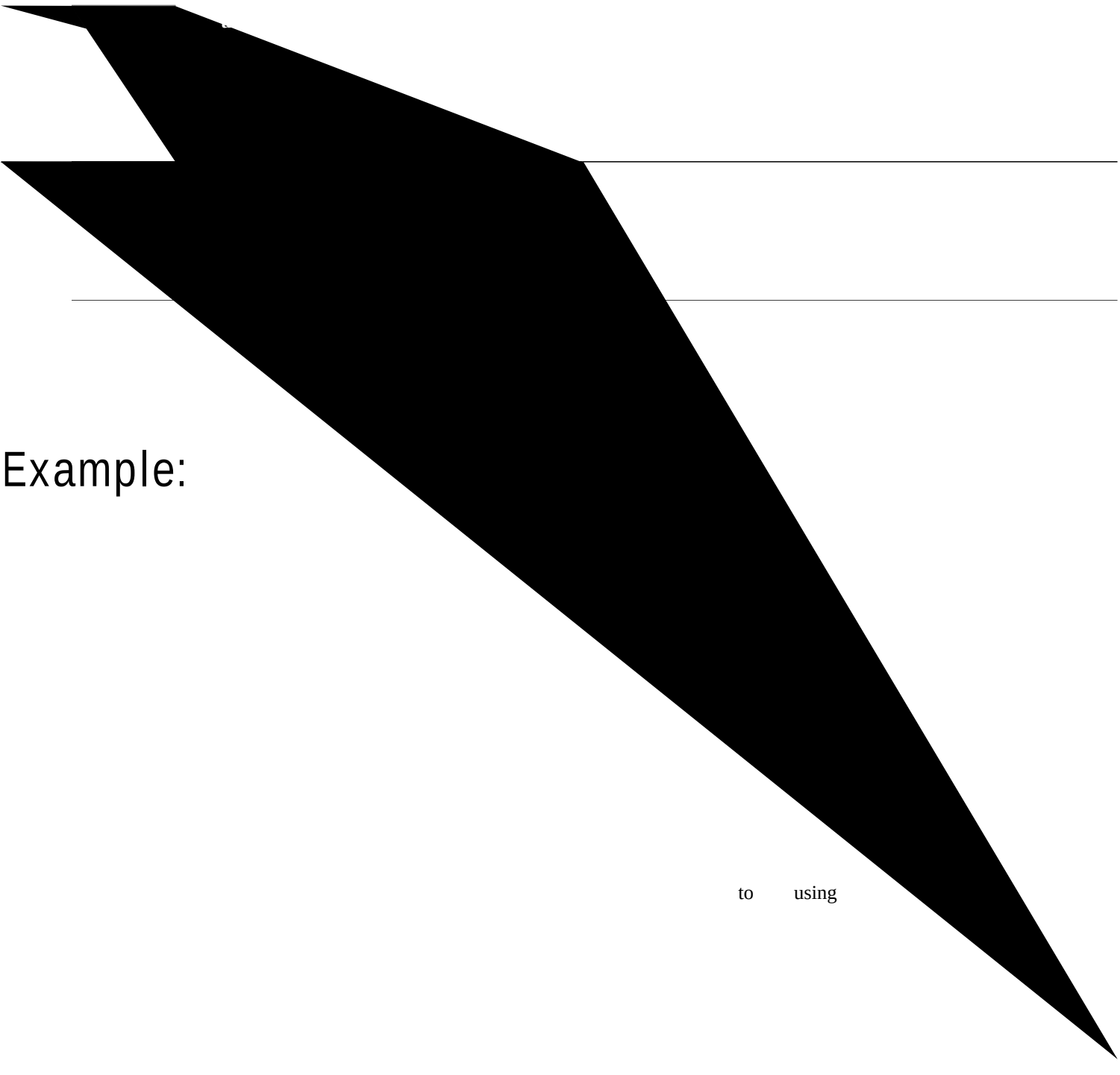
DETAILED STEPS

	Command or Action	Purpose
		Configures a system

DETAILED STEPS

	Command or Action	Purpose
	banner login *c*	Specifies the login message.

define this by the **snmp-server community** command using the **snmp-server**



Example:

to using

DETAILED STEPS

Monitoring and Maintaining Administration of the Device

Configuration Examples for Device Administration

Example: Setting the System Clock

This example shows how to manually set the system clock:

```
Device# clock set 13:32:00 23 July 2013
```

Examples: Configuring Summer Time

This example (for daylight savings time) shows how to

Example: Configuring a Login Banner

This

MIBs

CHAPTER

Performing Device Setup Configuration

Device Boot Process

To start your device, you need to follow the procedures in the hardware installation guide for

Unlike install boot mode, additional memory that is equivalent to the size of the bundle is used when booting in bundle mode.

Unlike install boot mode, bundle boot mode is available from several locations:

- flash:
- usbflash0:
- tftp:

Devices

- The auto-install process stops if a configuration file cannot be downloaded or if the configuration file is corrupted.
- The configuration file that is downloaded from TFTP is merged with the existing configuration in the running configuration but is not saved in the NVRAM unless you enter the **write memory** or **copy running-configuration startup-configuration** privileged EXEC command. If the downloaded configuration is saved to the startup configuration, the feature is not triggered during subsequent system restarts.

DHCP Autoconfiguration

DHCP autoconfiguration downloads a configuration file to one or

Hostname (optional)

- Depending on the settings of the DHCP server

You can configure the IP addresses of the

Table 7: Common Environment Variables

Variable	Description
	Specifies the IP address and the

Configuring DHCP Autoconfiguration (Only Configuration File)

This task describes how to configure DHCP autoconfiguration of the TFTP and DHCP settings on an existing device in the network so that it can support the autoconfiguration of a new device.

SUMMARY STEPS

1. **configure terminal**
2. **ip dhcp pool** *poolname*
3. **boot** *filename*

DETAILED STEPS

	Command or Action	Purpose
	copy tftp flash *filenas*	Uploads the text file to the device.

DETAILED STEPS

Manually Assigning IP Information to Multiple SVIs

This task describes how to manually assign IP information to multiple switched virtual interfaces (SVIs):

SUMMARY STEPS

1. **configur**

DETAILED STEPS

	Command or Action	Purpose
	configure terminal Example:	Enters global configuration mode.

SUMMAR

DETAILED STEPS

	Command or Action	Purpose
	configure terminal Example:	Enters global configuration mode.

SUMMARY STEPS

1. **configure terminal**
2. **copy running-config startup-config**
3. **reload in** [*hh*:]*mm* [*text*]
4. **reload at** *hh*: *mm* [*month day* | *day month*] [*text*]
5. **reload cancel**
6. **show reload**

DETAILED STEPS

	Command or Action	Purpose
	configure terminal Example:	Enters global configuration mode.

Monitoring Device Setup Configuration

Example: Verifying the Device Running Configuration

```
All packages are Digitally Signed
Starting System Services
Nov 7 09:45:49 %IOSXE-1-PLATFORM: process stack-mgr: %STACKMGR-1-DISC_START: Switch 2 is
starting stack discovery
###################################################################################################
Nov 7 09:47:50 %IOSXE-1-PLATFORM: process stack-mgr: %STACKMGR-1-DISC_DONE: Switch 2 has
finished stack discovery
Nov 7 09:47:50 %IOSXE-1-PLATFORM:
```

```
File "sda9:c3850-recovery.bin" uncompressed and
```

Example: Configuring DHCP Auto-Image Update

Related Topics

Configuring DHCP Auto-Image Update (Configuration File and Image), on page 63

Example: Configuring a Device to Download Configurations from a DHCP Server

This example uses a Layer 3 SVI interface on VLAN 99 to enable DHCP-based autoconfiguration with a saved configuration:

```
Device# configure terminal
Device(config)# boot host dhcp
Device(config)# boot host retry timeout 300
Device(config)# banner config-save ^C Caution - Saving Configuration File to NVRAM May Cause
 You to No longer Automatically
```

Additional References For Performing Device Setup

Related Documents

CHAPTER 3

Configuring Right-To-Use Licenses

To activate a permanent license, you must

ج IP Services مم Layer 2, Layer 3, and IPv6 features. (Applicable only to switches and not controllers.)

The

Mobility Controller Mode

AP-count licenses are used only when the switch is in Mobility Controller

Right-to-Use AP-Count Evaluation Licenses

If you are considering upgrading to a license with a higher access point

DETAILED STEPS

Activating an AP-Count License

SUMMARY STEPS

1.

SUMMAR

Related Topics

Right-To-Use AP-Count Licensing, on page 88

Right-to-Use AP-Count

	Command or Action	Purpose
	MobilityConty	Changes a switch in Mobility Controller mode to Mobility Agent mode.

Command	Purpose
	Displays detailed

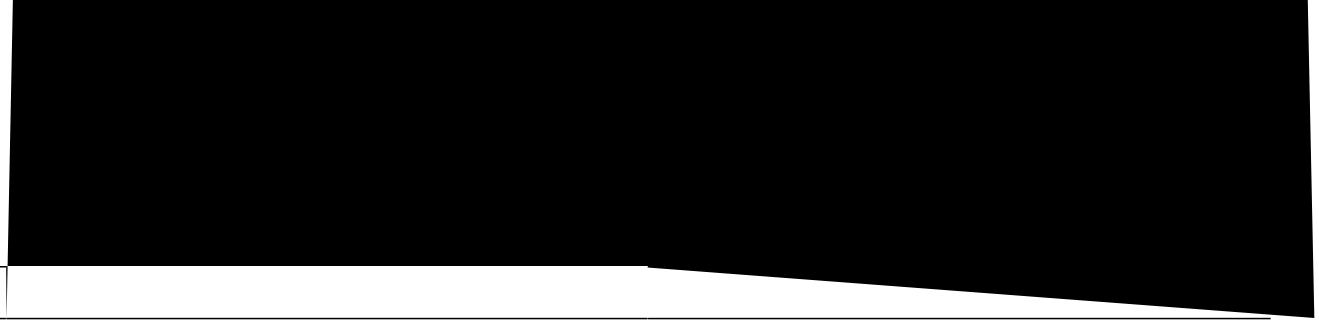
```
 License Name    Type           Count   Period left
---------------------------------------------------
  ipservices     permanent
```

To resolve the

Additional References for RTU Licensing

Related Documents

DETAILED STEPS



CHAPTER 7

Configuring 802.11 parameters and Band Selection

- Band selection operates

Monitoring Configuration Settings for Band Selection, 802.11 Bands, and Parameters

Monitoring Configuration Settings Using Band Selection and 802.11 Bands Commands

This section describes

```
  MCS 4 : Supported
  MCS 5 : Supported
  MCS 6 : Supported
  MCS 7 : Supported
  MCS 8 : Supported
  MCS 9 : Supported
  MCS 10 : Supported
  MCS 11 : Supported
  MCS 12 : Supported
  MCS 13 : Supported
  MCS 14 : Supported
  MCS 15 : Supported
  MCS 16 : Supported
  MCS 17 : Supported
  MCS 18 : Supported
  MCS 19 : Supported
  MCS 20 : Supported
  MCS 21 : Supported
  MCS 22 : Supported
  MCS 23 : Supported
802.11n Status:
  A-MPDU Tx:
    Priority 0 : Enabled
    Priority 1 : Disabled
    Priority 2 : Disabled
    Priority 3 : Disabled
    Priority 4 : Enabled
    Priority 5 : Enabled
    Priority 6 : Disabled
    Priority 7 : Disabled
  A-MSDU Tx:
    Priority 0 : Enabled
    Priority 1 : Enabled
    Priority 2 : Enabled
    Priority 3 : Enabled
    Priority 4 : Enabled
    Priority 5 : Enabled
    Priority 6 : Disabled
    Priority 7 : Disabled
Guard Interval : Any
  Rifs Rx : Enabled
Beacon Interval :
```

Beacon Interval : 100
CF Pollable Mandatory : Disabled
CF Poll Request

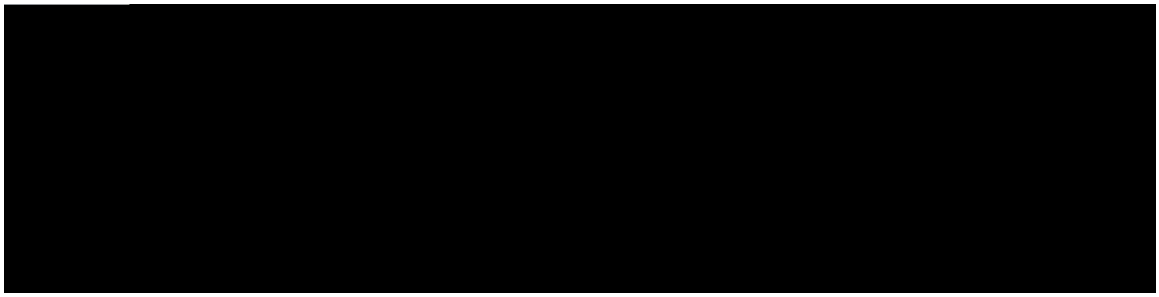
Configuration Examples for Band Selection, 802.11 Bands, and Parameters

Examples: Band Selection Configuration

This example shows how to set the probe cycle count and time threshold for a new scanning cycle

Additional References for 802.11 Parameters and Band Selection

Related Documents



CHAPTER

ৃ The load balancing uses an existing association denial mechanism based onThe

CHAPTER 9

Configuring Client Roaming

- Finding Feature Information,

Information About Client Roaming

The controllers deliver high-end wireless services to the clients roaming across wireless network. Now, the wireless services are integrated with the switches, thus delivering a

When a client joins an MA initially and its point of attachment has not changed, that MA is referred as local or associated MA. The MC to

ج Enhanced neighbor list request (E2E) مم The End-2-End specification is a Cisco and

DETAILED STEPS

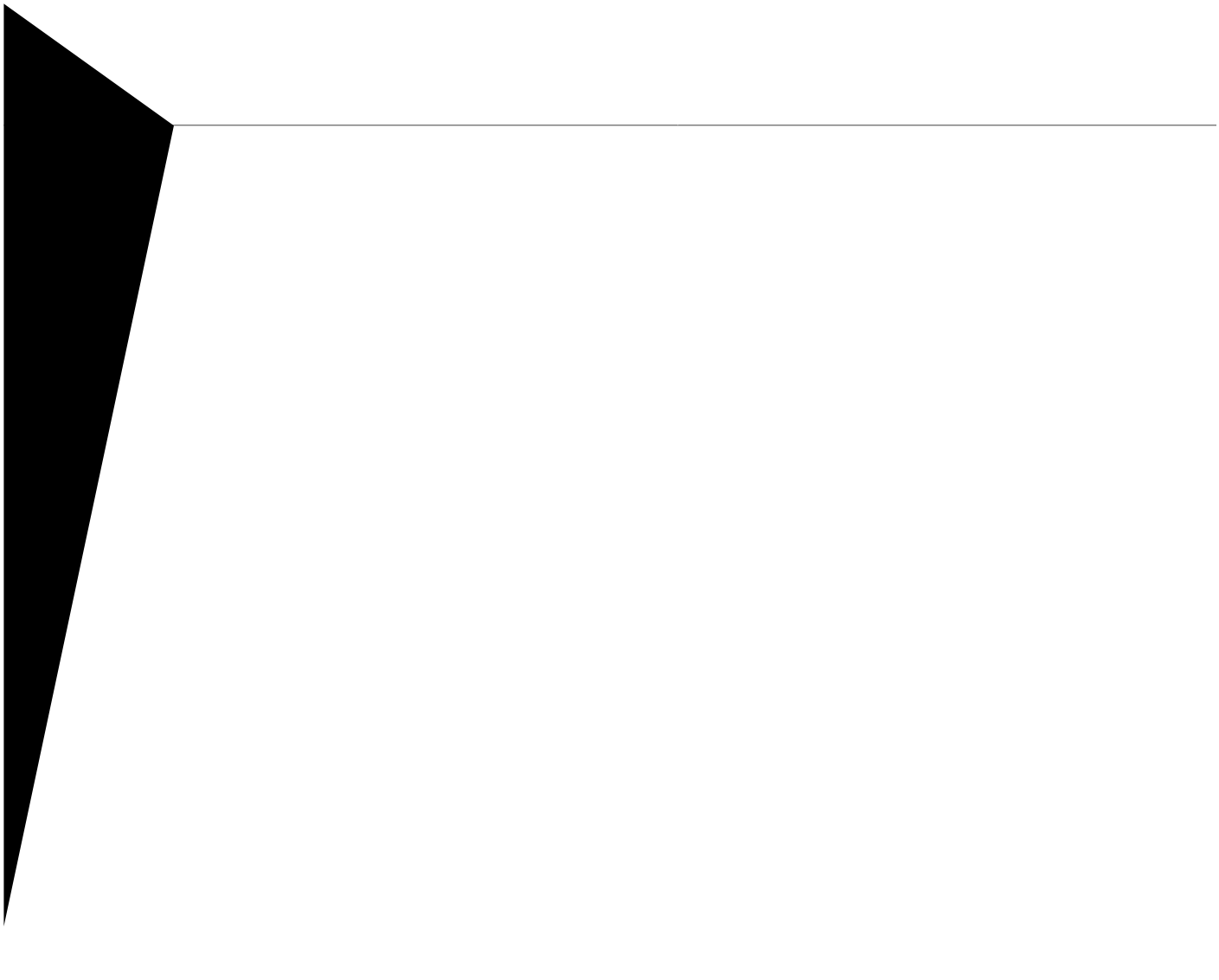
	Command or Action	Purpose
Step 1	**configure terminal** Example: `Device# configure terminal`	Enters global configuration mode.
Step 2	**wlan** *wlan_profile_name wlan_ID SSID_network_name* Example: `Device(config)#wlan wlan1`	Enters WLAN configuration mode.
Step 3	**no mobility anchor sticky** Example: `Device(config-wlan)#no mobility anchor sticky`	(Optional) Disables Layer 2 anchoring.
		R Ω

Configuring Mobility Oracle

SUMMARY STEPS

1. **configure terminal**
2. **wireless mobility oracle**
3. **end**

DETAILED STEPS



Configuring Mobility Controller

SUMMARY STEPS

1. **configure terminal**
2. **wireless mobility controller**
3. **wireless mobility controller peer-group** *switch-peer-group-name*
4. **wireless mobility controller peer-group** *switch-peer-group-name* **member ip** *ip-address* {**public-ip** *public-ip-address*}
5. **wireless**

	Command or Action	Purpose
Step 12	**wireless mobility oracle ip***mo-ip-address*	Configures the mobility oracle IP address.

The following command can be used to monitor mobility configurations on the Mobility Oracle, Mobility Controller, and Mobility Agent.

Table 14: Monitoring Mobility Configuration Commands on the Mobility Controller and Mobility Agent

Table 17: Monitoring Mobility Configuration Commands on the Mobility Agent

Command	**Purpose**
	Displays the

Technical Assistance

CHAPTER 10

Configuring Application Visibility and Control

Monitoring Application Visibility and Control

Monitoring Application Visibility and Control (CLI)

This section

a) On the Aggregate, Upstream, and Downstream tabs, you can view the application cumulative and last 90 seconds statistics and usage percent with the following fields:

- Application name
- Packet count
- Byte count
- Average packet size
- usage (%)

Step 3 Choose **Monitor** > **Clients** > **Client Details** > **Clients**.
The **Clients** page appears.

Step 4 Click

```
Device(config)#end


Device# configure terminal
Device# flow monitor fm_v4
Device(config-flow-monitor)# record fr_v4
Device(config-flow-monitor)# cache timeout active 1800
Device(config)#end


Device(config)#wlan wlan1
Device(config-wlan)#ip flow monitor fm_v4 input
Device(config-wlan)#ip flow mon fm-v4 output
Device(config)#end
```

Additional References for Application Visibility and Control

CHAPTER 11

Configuring Voice and Video Parameters

- Finding

- SIP CAC can be used for the 9971 Cisco phones that support TSPEC-based admission control. You can also

If the BSSID policer is configured for

U-APSD

Unscheduled automatic

	Command or Action	Purpose
	Example: `Device(config)# ap dot11 5ghz`	

DETAILED STEPS

	Command or Action	Purpose
Step 1	**show wlan summary** Example: `Device# show wlan summary`	Specifies all of the WLANs configured on the device.
		Specifies the WLAN that you plan

	Command or Action	Purpose
		Returns

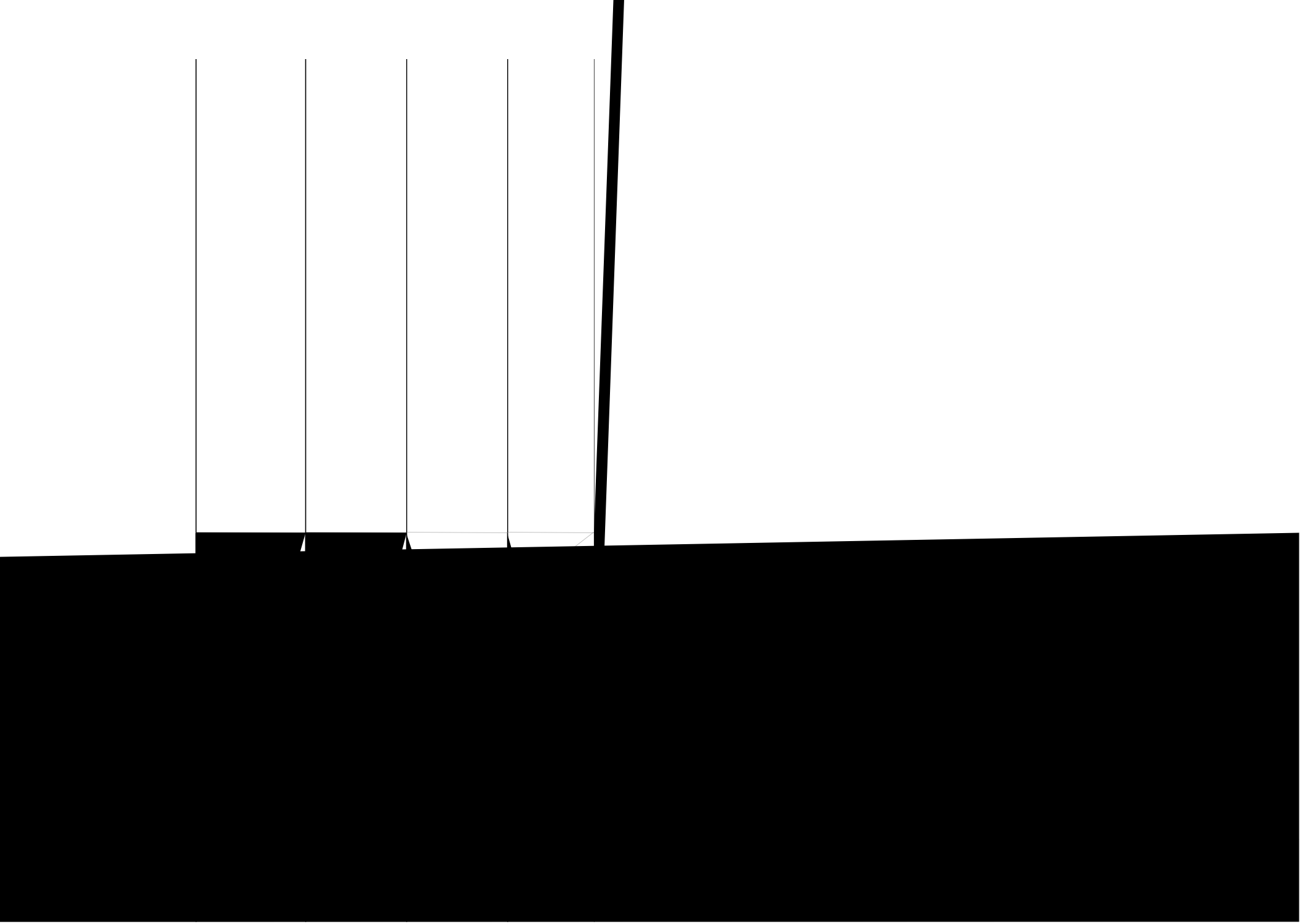
SUMMARY STEPS

1. **configure terminal**
2. **wlan** *wlan-name* **qos platinum**
3. **ap dot11 {5ghz | 24ghz} cac {voice | video} acm**
4.

Configuring EDCA Parameters (CLI)

SUMMARY STEPS

1. **configure terminal**
2. **ap dot11 {5ghz | 24ghz } shutdown**
3. **ap dot11 {5ghz | 24ghz} edca-parameters {custom-voice |**



How to Configure RFID Tag Tracking

Configuring RFID Tag Tracking (CLI)

SUMMARY STEPS

1. **location rfid status**
2. (Optional) **no location rfid**

Monitoring RFID Tag Tracking Information

This section describes the new commands for the

MIBs

CHAPTER 19

Configuring Location Settings

Finding Feature Information, page 177

How to Configure Location Settings

Configuring Location Settings (CLI)

SUMMARY STEPS

1. **configure terminal**
2. **location plm** {**calibrating** [**multiband**

DETAILED STEPS

Table 25: Monitoring NMSP Settings Commands

Technical Assistance

Description	Link
The Cisco	http://www.cisco.com/support

T

Additional References for Monitoring Flow Control

Related Documents

Related Topic	Document Title
System management commands	*System Management Command Reference Guide, Cisco IOS XE Release 3SE (Cisco WLC 5700 Series)*

Standards and RFCs

Feature History and Information For Monitoring Flow Control

Release	Feature Information
Cisco IOS XE 3.3SE	This feature was introduced.

CHAPTER 19

DETAILED STEPS

```
  Tunnels:                                  0
  Control Plane Entries:                    512
  Input Netflow flows:                      16384
  Output Netflow flows:                     8192
These numbers are typical for L2 and IPv4 features.
Some features such
```

CHAPTER 10

Configuring System Message Logs

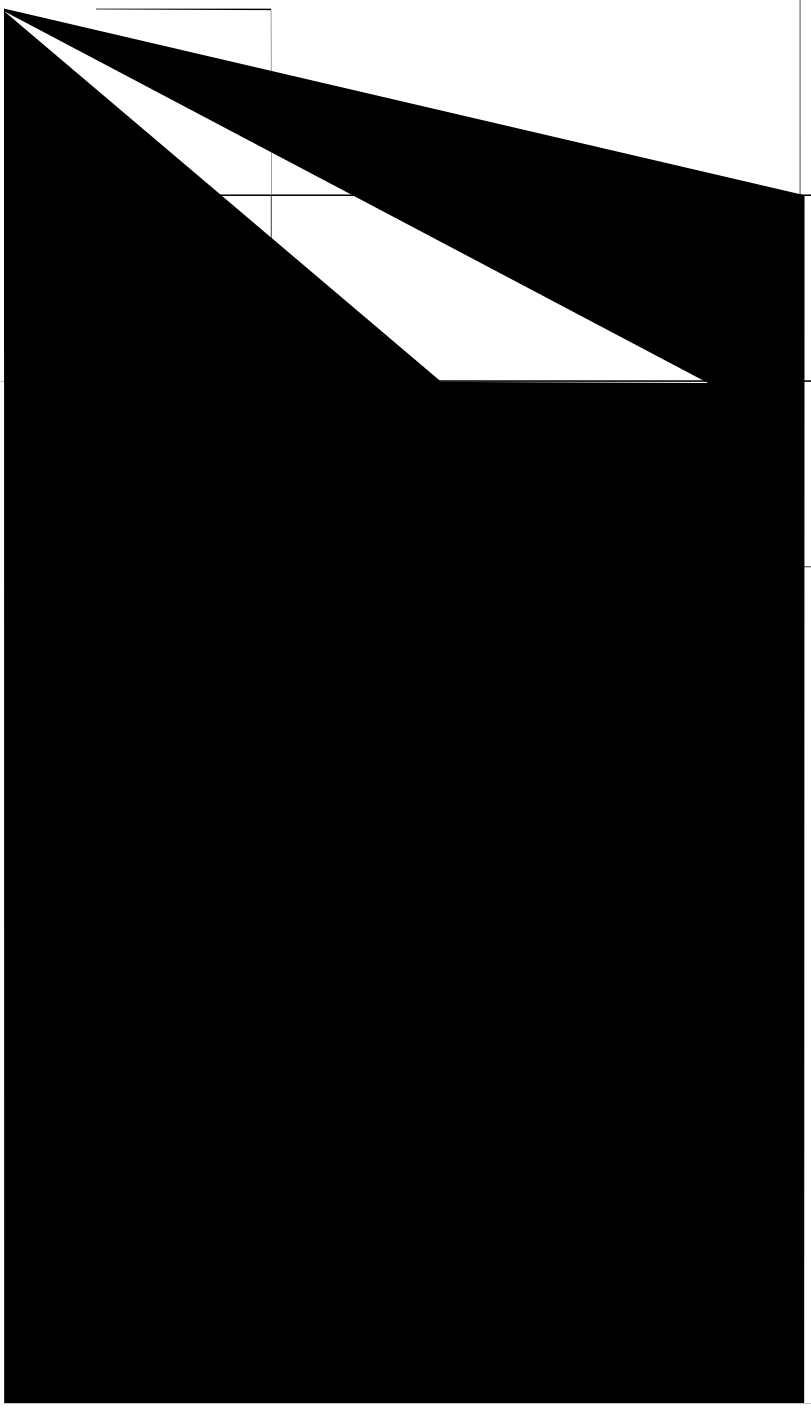
- Finding Feature

DETAILED STEPS

	Command or Action	Purpose
		Enters global configuration mode.

DETAILED STEPS

DETAILED STEPS



SUMMARY STEPS

1. Add a line to the file /etc/syslog.conf.
2. Enter these commands at the UNIX

Feature History and Information For System Message Logs

CHAPTER 17

Configuring Online Diagnostics

Finding Feature Information, page 213

	Command or Action	Purpose
		- **complete** مم Starts the complete test suite. - **minimal** مم Starts the minimal bootup test suite. - **non-disruptive** مم Starts ¤ Ω Ⴢ

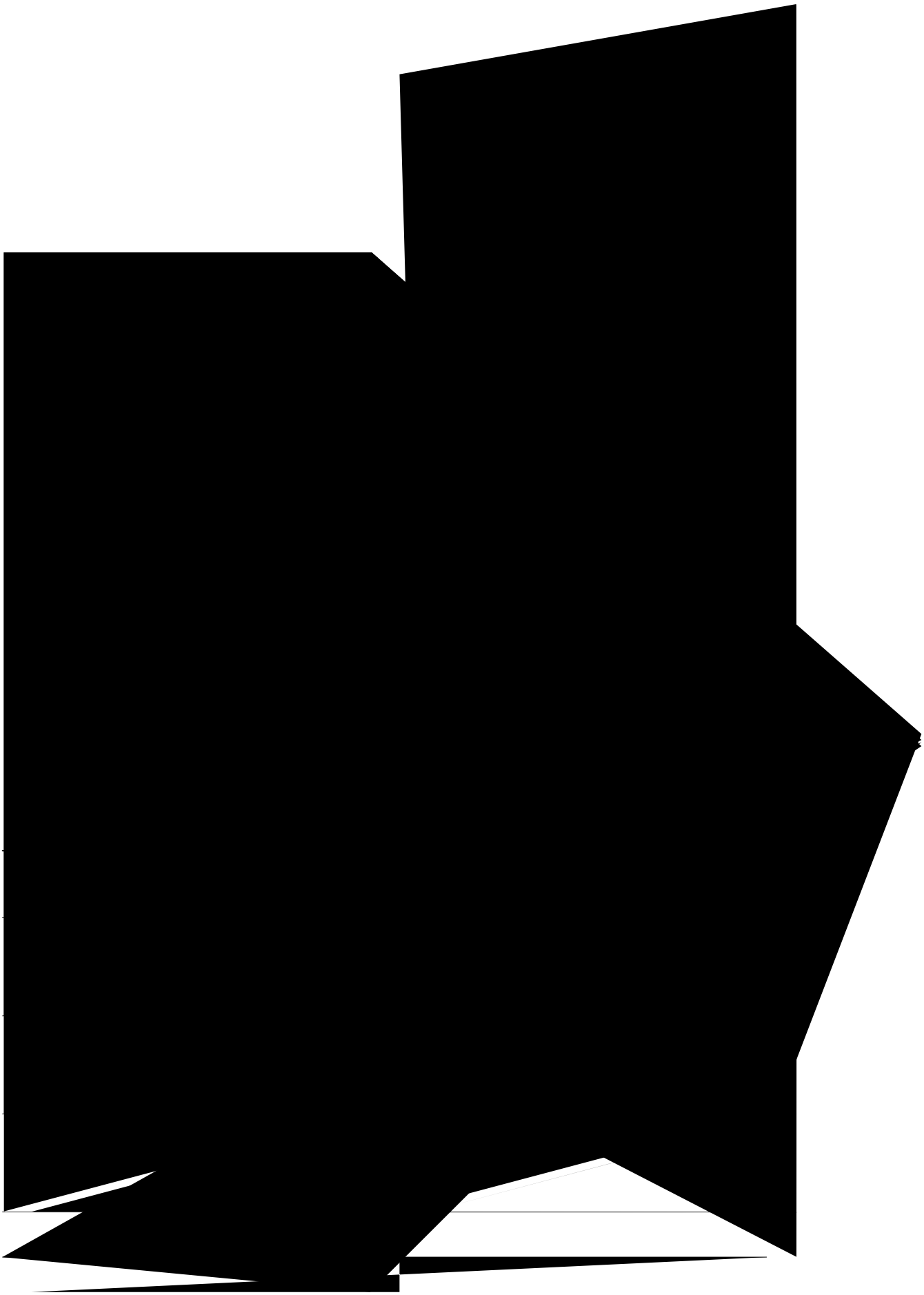
	Command or Action	Purpose

DETAILED STEPS

	Command or Action	Purpose
		Enters globalE al Ł n

nt ob aP Ł E

	Command or Action	Purpose
		ج *test-id-range* مم ID numbers of the tests that appear in the **show diagnostic**



Examples: Schedule Diagnostic Test

DiagPoETest :

CHAPTER 18

However, you can

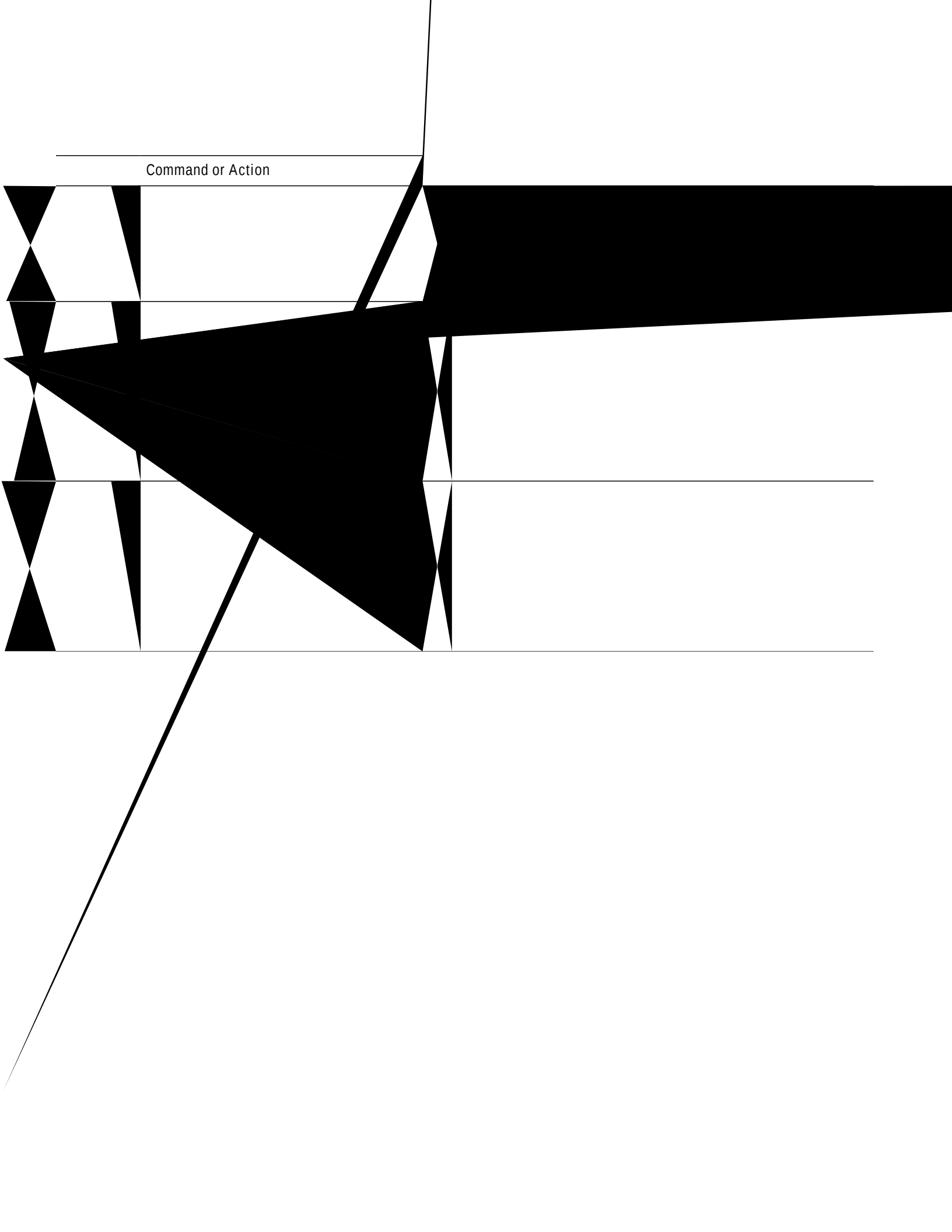
The protocol that you use

Understanding the FTP Username and Password

The FTP protocol

The **service compress-config** global configuration command

How to Manage Configuration File Information


Command or Action

Some specific commands might not get saved to NVRAM. You need to enter these commands again if you reboot the machine. These commands are noted in the

What to Do Next

After you have issued the **copy**

	Command or Action	Purpose
	end	(Optional) Exits global configuration mode.

What to Do Next

for After you have issued the **copy** EXEC command, you may be prompted for

```
Device(config)# end
Device# copy nvram:startup-config ftp:
Remote host[]? 172.16.101.101
Name of configuration file to write
```

	Command or Action	Purpose
	copy tftp: [[[*//location*	Copies a configuration file from a TFTP server to the startup configuration.

```
Configure using host1-confg from 172.16.101.101? [confirm]
Connected to 172.16.101.101
Loading 1112 byte file host1-confg:![OK]
Device#
%SYS-5-CONFIG: Configured from host1-config by rcp from 172.16.101.101
```

Copy RCP Startup-Config

The following example specifies a remote username of netadmin1. Then it copies the configuration

DETAILED STEPS

Examples

Copy FTP Running-Config

The following example

DETAILED STEPS

	Command or Action	Purpose
		When you have finished changing the running-configuration, save the new

devices. To

```
2   850
```

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** Example:	Enables privileged EXEC mode.

DETAILED STEPS

Deleting a Specified Configuration File (CLI)

To delete a specified configuration on a specific flash device, complete the task in this section:

SUMMARY STEPS

1. **enable**
2. **delete** *flash-filesystem***:***filename*

DETAILED STEPS

SUMMARY STEPS

1. **enable**
2. **copy** [*flash-url* | *ftp-url* | *rcp-url* | *tftp-url* |

If you specify a file in a flash device as the CONFIG_FILE environment variable, every time you save your configuration file with the **copy system:running-config nvram:startup-config** command, the old configuration file is marked as "deleted," and the new configuration file is saved to that device. Eventually, Flash memory fills up as the

Configuring the Device to Download the Host Configuration File (CLI)

To configure the Cisco IOS software to download a host configuration file from a server at startup, complete the tasks in this section:

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **boot**

[redacted]

CHAPTER 19

Restrictions for Configuration Replace and Configuration Rollback

If the device does not have free

You must create a configuration archive before performing this procedure. See Creating a Configuration Archive (CLI) for detailed steps. The following procedure details how to return to that archived configuration in the event of a problem with the current running configuration.

SUMMARY STEPS

```
5       flash:myconfiguration-5
6       flash:myconfiguration-6
7       flash:myconfiguration-7 <- Most Recent
8
9
```

You first save the current

Error Message Decoder

Displaying Available File Systems

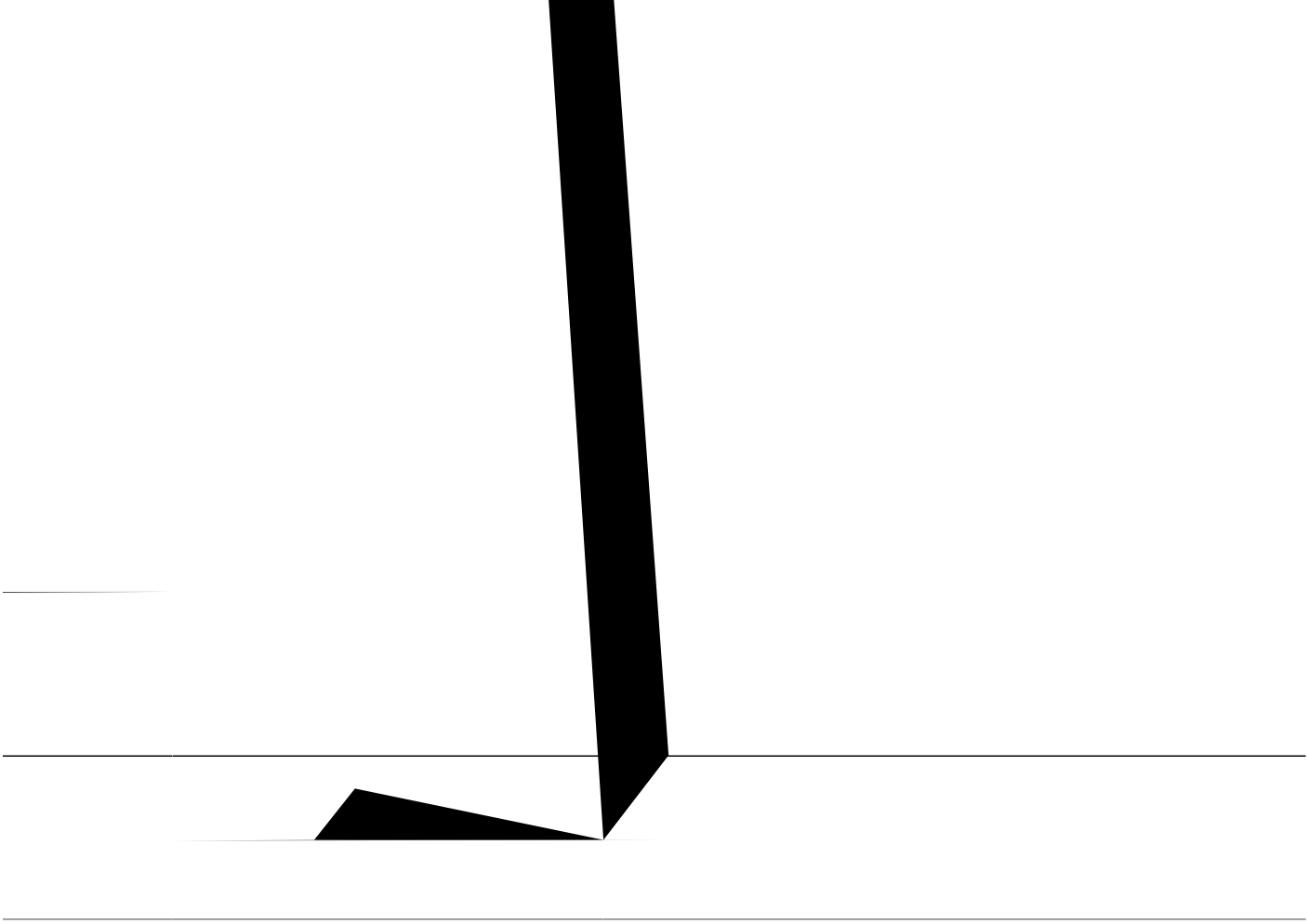
To

```
-            -   network     rw    ftp:
-            -   network     rw    scp:
-            -   network     rw    https:
-            -    opaque     ro    cns:
-            -    opaque     rw    revrcsf:
```

	Value

Table 32: Commands for Displaying Information About Files

Command	Description
	Displays a list of



Some invalid combinations of

```
  system:          Copy to system: file system
  tftp:            Copy to tftp: file system
  tmpsys:          Copy to tmpsys: file system
  usbflash0-1:     Copy to usbflash0-1: file system
  usbflash0-2:     Copy to usbflash0-2: file system
  usbflash0-3:     Copy to usbflash0-3: file system
  usbflash0-4:     Copy to usbflash0-4: file system
  usbflash0-5:     Copy to usbflash0-5: file system
  usbflash0:       Copy to usbflash0: file system

Device#
```

DETAILED STEPS

	Command or Action	Purpose
Step 1	**archive tar /create** *destination-url* **flash:** */file-url* Example: `device# archive tar /create tftp:172.20.10.30/saved. flash:/new-configs`	Creates a file and adds files to it. For destination-url, specify the destination URL alias for the local or network file system and the name of the file to create: • Local flash file system syntax: **flash:** • FTP

Standards

CHAPTER 21

W

When the device is running in installed mode, this command displays information about the set

```
[1]: Package files copied
[1]: Finished expanding bundle
cat3k_caa-universalk9.SSA.03.12.02.EZP.150-12.02.EZP.150-12.02.EZP.bin
[1]: Verify
```

*Nov 19

```
7395 -rw-    18313952 Jan 23 2013 14:16:57 +00:00
```

```
*Oct 19 07:18:50.488: %INSTALLER-6-AUTO_UPGRADE_SW: 2 installer: Setting the boot var on

*Oct 19 07:18:51.553: %INSTALLER-6-AUTO_UPGRADE_SW: 2 installer: Finished installing the
running software on        1
*Oct 19 07:18:51.553: %INSTALLER-6-AUTO_UPGRADE_SW: 2 installer: Reloading        1 ko boot
 in installed mode
```

When you use the **software auto-upgrade** command to convert an incompatible device to installed mode, the command installs the packages from the

Technical Assistance

CHAPTER 22

Troubleshooting the Software Configuration

This

Layer 2 T

- When multiple devices are attached to one port through hubs (for example, multiple CDP neighbors are detected on

System Reports

Fan Failures

By default, the feature is disabled. When more than one of the fans

This procedure uses boot loader commands and TFTP to recover from a corrupted or incorrect image file.

Step 1 From your PC,

On these switches, a system administrator can disable some of the functionality of this feature by allowing an end user to

On a switch:

```
Switch> reload
Proceed with reload? [confirm] y
```

On the active switch:

Press Return in response to the confirmation prompts. The configuration file is now reloaded, and you can change the password.

Step 7 Enter global configuration mode and

to the boot loader prompt can still be allowed.

Would

Step 5 Enter global configuration mode:

```
Device# configure terminal
```

Step 6 Change the password:

```
Device(config)# enable secret password
```

The secret

If you replace a stack member with an identical model, the new

Running TDR and Displaying the Results

When you run TDR on an interface, you can run it on

$\mathfrak{v}^{\mathrm{T}}$

Table 35: Troubleshooting CPU Utilization Problems

Scenarios for Troubleshooting the Software Configuration

Scenarios to T

Configuration Examples for Troubleshooting Software

Example: Pinging an IP Host

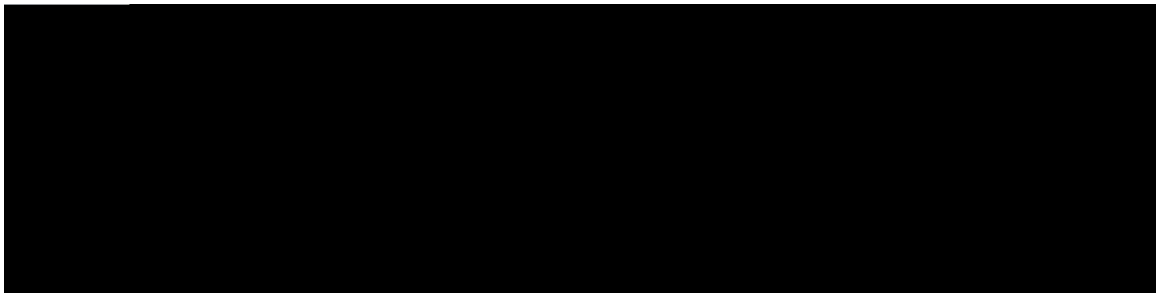
This example shows how to ping an IP

This command disables all-system diagnostics:

```
Device# debug all
```

The **no debug all** privileged EXEC command disables all diagnostic output. Using the **no debug all** command is a ' H Y X J

Technical Assistance



configuration

G

H