Cisco Wireless LAN Controller VideoStream Command Reference, Release 7.4

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Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
http://www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

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Preface

This preface describes the audience, organization, and conventions of the Cisco Wireless LAN Controller Command Reference Guide. It also provides information on how to obtain other documentation. This chapter includes the following sections:

- Audience, page v
- Document Organization, page v
- Document Conventions, page v
- Related Documentation, page viii
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Audience

This publication is for experienced network administrators who configure and maintain Cisco wireless LAN controllers and Cisco lightweight access points.

Document Organization

This document is organized into the following chapters:

Chapter	Description
Overview	Describes how to use the command-line interface (CLI) on the controller.
CLI Commands	Provides detailed information about the CLI commands for the controller.

Document Conventions

This document uses the following conventions:

Convention	Indication
bold font	Commands and keywords and user-entered text appear in **bold** font.
italic font	Document titles, new or emphasized terms, and arguments for which you supply values are in *italic* font.
[ ]	Elements in square brackets are optional.
{x | y | z }	Required alternative keywords are grouped in braces and separated by vertical bars.
[x | y | z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
`courier` font	Terminal sessions and information the system displays appear in `courier` font.
<>	Nonprinting characters such as passwords are in angle brackets.
[]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

Note Means reader take note. Notes contain helpful suggestions or references to material not covered in the manual.

Tip Means the following information will help you solve a problem.

Caution Means reader be careful. In this situation, you might perform an action that could result in equipment damage or loss of data.

Warning This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. (To see translations of the warnings that appear in this publication, refer to the appendix "Translated Safety Warnings.")

Warning Title	Description
Waarschuwing	Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van standaard maatregelen om ongelukken te voorkomen. (Voor vertalingen van de waarschuwingen die in deze publicatie verschijnen, kunt u het aanhangsel "Translated Safety Warnings" (Vertalingen van veiligheidsvoorschriften) raadplegen.)
Varoitus	Tämä varoitusmerkki merkitsee vaaraa. Olet tilanteessa, joka voi johtaa ruumiinvammaan. Ennen kuin työskentelet minkään laitteiston parissa, ota selvää sähkökytkentöihin liittyvistä vaaroista ja tavanomaisista onnettomuuksien ehkäisykeinoista. (Tässä julkaisussa esiintyvien varoitusten käännökset löydät liitteestä "Translated Safety Warnings" (käännetyt turvallisuutta koskevat varoitukset).)
Attention	Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant entraîner des blessures. Avant d'accéder à cet équipement, soyez conscient des dangers posés par les circuits électriques et familiarisez-vous avec les procédures courantes de prévention des accidents. Pour obtenir les traductions des mises en garde figurant dans cette publication, veuillez consulter l'annexe intitulée « Translated Safety Warnings » (Traduction des avis de sécurité).
Warnung	Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu einer Körperverletzung führen könnte. Bevor Sie mit der Arbeit an irgendeinem Gerät beginnen, seien Sie sich der mit elektrischen Stromkreisen verbundenen Gefahren und der Standardpraktiken zur Vermeidung von Unfällen bewußt. (Übersetzungen der in dieser Veröffentlichung enthaltenen Warnhinweise finden Sie im Anhang mit dem Titel "Translated Safety Warnings" (Übersetzung der Warnhinweise).)
Avvertenza	Questo simbolo di avvertenza indica un pericolo. Si è in una situazione che può causare infortuni. Prima di lavorare su qualsiasi apparecchiatura, occorre conoscere i pericoli relativi ai circuiti elettrici ed essere al corrente delle pratiche standard per la prevenzione di incidenti. La traduzione delle avvertenze riportate in questa pubblicazione si trova nell'appendice, "Translated Safety Warnings" (Traduzione delle avvertenze di sicurezza).
Advarsel	Dette varselsymbolet betyr fare. Du befinner deg i en situasjon som kan føre til personskade. Før du utfører arbeid på utstyr, må du være oppmerksom på de faremomentene som elektriske kretser innebærer, samt gjøre deg kjent med vanlig praksis når det gjelder å unngå ulykker. (Hvis du vil se oversettelser av de advarslene som finnes i denne publikasjonen, kan du se i vedlegget "Translated Safety Warnings" [Oversatte sikkerhetsadvarsler].)
Aviso	Este símbolo de aviso indica perigo. Encontra-se numa situação que lhe poderá causar danos fisicos. Antes de começar a trabalhar com qualquer equipamento, familiarize-se com os perigos relacionados com circuitos eléctricos, e com quaisquer práticas comuns que possam prevenir possíveis acidentes. (Para ver as traduções dos avisos que constam desta publicação, consulte o apêndice "Translated Safety Warnings" - "Traduções dos Avisos de Segurança").

Warning Title	Description
¡Advertencia!	Este símbolo de aviso significa peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considerar los riesgos que entraña la corriente eléctrica y familiarizarse con los procedimientos estándar de prevención de accidentes. (Para ver traducciones de las advertencias que aparecen en esta publicación, consultar el apéndice titulado "Translated Safety Warnings.")
Varning	Denna varningssymbol signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanligt förfarande för att förebygga skador. (Se förklaringar av de varningar som förekommer i denna publikation i appendix "Translated Safety Warnings" [Översatta säkerhetsvarningar].)

Related Documentation

These documents provide complete information about the Cisco Unified Wireless Network solution:

- *Cisco Wireless LAN Controller Configuration Guide*
- *Cisco Wireless LAN Controller System Message Guide*
- *Release Notes for Cisco Wireless LAN Controllers and Lightweight Access Points*

Obtaining Documentation and Submitting a Service Request

For information about obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

Subscribe to the *What's New in Cisco Product Documentation* as an RSS feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service. Cisco currently supports RSS Version 2.0.

Overview

The IEEE 802.11 wireless multicast delivery mechanism does not provide a reliable way to acknowledge lost or corrupted packets. As a result, if any multicast packet is lost in the air, it is not sent again which may cause an IP multicast stream unviewable. The VideoStream feature makes the IP multicast stream delivery reliable over the air, by converting the broadcast frame over the air to a unicast frame. Each VideoStream client acknowledges receiving a video IP multicast stream.

- CLI Command Keyboard Shortcuts, page 1
- Using the Interactive Help Feature, page 3
- Using the Help Command, page 3
- Using the ? command, page 4
- Using the partial? command, page 4
- Using the partial command<tab>, page 5
- Using the command ?, page 5
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CLI Command Keyboard Shortcuts

The table below lists the CLI keyboard shortcuts to help you enter and edit command lines on the controller.

Table 1: CLI Command Keyboard Shortcuts

Action	Description	Keyboard Shortcut
Change	The word at the cursor to lowercase.	Esc I
	The word at the cursor to uppercase.	Esc u
Delete	A character to the left of the cursor.	Ctrl-h, Delete, or Backspace
	All characters from the cursor to the beginning of the line.	Ctrl-u

Action	Description	Keyboard Shortcut
	All characters from the cursor to the end of the line.	Ctrl-k
	All characters from the cursor to the end of the word.	Esc d
	The word to the left of the cursor.	Ctrl-w or Esc Backspace
Display MORE output	Exit from MORE output.	q, Q, or Ctrl-C
	Next additional screen. The default is one screen. To display more than one screen, enter a number before pressing the Spacebar key.	Spacebar
	Next line. The default is one line. To display more than one line, enter the number before pressing the Enter key.	Enter
Enter an Enter or Return key character.		Ctrl-m
Expand the command or abbreviation.		Ctrl-t or Tab
Move the cursor	One character to the left (back).	Ctrl-b or Left Arrow
	One character to the right (forward).	Ctrl-f or Right Arrow
	One word to the left (back), to the beginning of the current or previous word.	Esc b
	One word to the right (forward), to the end of the current or next word.	Esc f
	To the beginning of the line.	Ctrl-a
	To the end of the line.	Ctrl-e
Redraw the screen at the prompt.		Ctrl-l or Ctrl-r
Return to the EXEC mode from any configuration mode		Ctrl-z
Return to the previous mode or exit from the CLI from Exec mode.		exit command
Transpose a character at the cursor with a character to the left of the cursor.		Ctrl-t

Using the Interactive Help Feature

The question mark (?) character allows you to get the following type of help about the command at the command line. The following table lists the interactive help feature list.

Table 2: Interactive Help Feature List

Command	
help	Provides a brief description of the Help feature in any command mode.
? at the command prompt	Lists all commands available for a particular command mode.
partial command?	Provides a list of commands that begin with the character string.
partial command<Tab>	Completes a partial command name.
command ?	Lists the keywords, arguments, or both associated with a command.
command keyword ?	Lists the arguments that are associated with the keyword.

Using the Help Command

Before You Begin

To look up keyboard commands, use the help command at the root level.

help

Help may be requested at any point in a command by entering a question mark '?'. If nothing matches, the help list will be empty and you must back up until entering a '?' shows the available options. Two types of help are available

1. Full help is available when you are ready to enter a command argument (for example show ?) and describes each possible argument.

2. Partial help is provided when an abbreviated argument is entered and you want to know what arguments match the input (for example show pr?).

Examples

```
> help
HELP:
Special keys:
  DEL, BS... delete previous character
  Ctrl-A  .... go to beginning of line
  Ctrl-E  .... go to end of line
  Ctrl-F  .... go forward one character
  Ctrl-B  .... go backward one character
```

```
Ctrl-D  .... delete current character
Ctrl-U, X. delete to beginning of line
Ctrl-K  .... delete to end of line
Ctrl-W  .... delete previous word
Ctrl-T  .... transpose previous character
Ctrl-P  .... go to previous line in history buffer
Ctrl-N  .... go to next line in history buffer
Ctrl-Z  .... return to root command prompt
Tab, <SPACE> command-line completion
Exit    .... go to next lower command prompt
?       .... list choices
```

Using the ? command

Before You Begin

To display all of the commands in your current level of the command tree, or to display more information about a particular command, use the ? command.

command name ?

When you enter a command information request, put a space between the **command name** and **?**.

Examples

This command shows you all the commands and levels available from the root level.

```
> ?
clear          Clear selected configuration elements.
config         Configure switch options and settings.
debug          Manages system debug options.
help           Help
linktest       Perform a link test to a specified MAC address.
logout         Exit this session. Any unsaved changes are lost.
ping           Send ICMP echo packets to a specified IP address.
reset          Reset options.
save           Save switch configurations.
show           Display switch options and settings.
transfer       Transfer a file to or from the switch.
```

Using the partial? command

Before You Begin

To provide a list of commands that begin with the character string, use the partial command ?.

partial command?

There should be no space between the command and the question mark.

Examples

This example shows how to provide a command that begin with the character string “ad”:

```
> controller> config>ad?
```

The command that matches with the string “ad” is as follows:

```
advanced
```

Using the partial command<tab>

Before You Begin

To completes a partial command name, use the partial command<tab> command.

partial command<tab>

There should be no space between the command and <tab>.

Examples

This example shows how to complete a partial command name that begin with the character string “ad”:

```
> Controller>config>cert<tab> certificate
```

Using the command ?

Examples

To list the keywords, arguments, or both associated with the command, use the command ?.

command ?

There should be space between the command and the question mark.

This example shows how to list the arguments and keyword for the command acl:

```
> Controller >config acl ?
```

Information similar to the following appears:

```
apply          Applies the ACL to the data path.
counter        Start/Stop the ACL Counters.
create         Create a new ACL.
delete         Delete an ACL.
rule           Configure rules in the ACL.
cpu            Configure the CPU Acl Information
```

command keyword ?

To list the arguments that are associated with the keyword, use the command keyword ?

command keyword ?

Usage Guidelines

There should be space between the keyword and the question mark.

Examples

This example shows how to display the arguments associated with the keyword cpu:

```
> controller>config acl cpu ?
```

Information similar to the following appears:

```
none           None - Disable the CPU ACL
<name>         <name> - Name of the CPU ACL
```

CLI Commands

The Cisco Wireless LAN solution command-line interface (CLI) enables operators to connect an ASCII console to the Cisco Wireless LAN Controller and configure the controller and its associated access points.

- Show Commands, page 7
- Config Commands, page 14

Show Commands

This section lists the **show** commands to display information about your VideoStream configuration settings.

show 802.11

To display basic 802.11a, 802.11b/g, or 802.11h network settings, use the **show 802.11** command.

show 802.11 {**a** | **b** | **h**}

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
h	Specifies the 802.11h network.

Command Default

None.

Examples

This example shows to display basic 802.11a network settings:

```
>  show 802.11a
802.11a Network..................................... Enabled
11nSupport.......................................... Enabled
      802.11a Low Band............................. Enabled
      802.11a Mid Band............................. Enabled
      802.11a High Band............................ Enabled
802.11a Operational Rates
    802.11a 6M Rate............................... Mandatory
    802.11a 9M Rate............................... Supported
    802.11a 12M Rate.............................. Mandatory
    802.11a 18M Rate.............................. Supported
    802.11a 24M Rate.............................. Mandatory
    802.11a 36M Rate.............................. Supported
    802.11a 48M Rate.............................. Supported
    802.11a 54M Rate.............................. Supported
802.11n MCS Settings:
    MCS 0......................................... Supported
    MCS 1......................................... Supported
    MCS 2......................................... Supported
    MCS 3......................................... Supported
    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
802.11n Status:
    A-MPDU Tx:
        Priority 0................................ Enabled
        Priority 1................................ Disabled
        Priority 2................................ Disabled
        Priority 3................................ Disabled
        Priority 4................................ Disabled
        Priority 5................................ Disabled
        Priority 6................................ Disabled
```

```
        Priority 7............................... Disabled
Beacon Interval................................. 100
CF Pollable mandatory........................... Disabled
CF Poll Request mandatory....................... Disabled
--More-- or (q)uit
CFP Period...................................... 4
CFP Maximum Duration............................ 60
Default Channel................................. 36
Default Tx Power Level.......................... 0
DTPC Status..................................... Enabled
Fragmentation Threshold......................... 2346
TI Threshold.................................... -50
Legacy Tx Beamforming setting................... Disabled
Traffic Stream Metrics Status................... Enabled
Expedited BW Request Status..................... Disabled
World Mode...................................... Enabled
EDCA profile type............................... default-wmm
Voice MAC optimization status................... Disabled
Call Admission Control (CAC) configuration
Voice AC:
   Voice AC - Admission control (ACM)........... Disabled
   Voice max RF bandwidth....................... 75
   Voice reserved roaming bandwidth............. 6
   Voice load-based CAC mode.................... Disabled
   Voice tspec inactivity timeout............... Disabled
   Voice Stream-Size............................ 84000
   Voice Max-Streams............................ 2
Video AC:
   Video AC - Admission control (ACM)........... Disabled
   Video max RF bandwidth....................... Infinite
   Video reserved roaming bandwidth............. 0
```

This example shows how to display basic 802.11h network settings:

```
>  show 802.11h
802.11h ....................................... powerconstraint : 0
802.11h ....................................... channelswitch : Disable
802.11h ....................................... channelswitch mode : 0
```

Related Commands

show ap stats

show ap summary

show client summary

show network

show network summary

show port

show wlan

show 802.11 media-stream

To display the multicast-direct configuration state, use the **show 802.11 media-stream** command.

show 802.11 {**a** | **b** | **h**} **media-stream** *media_stream_name*

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
h	Specifies the 802.11h network.
media_stream_name	Specified media stream name.

Command Default

None.

Examples

This example shows how to display the media-stream configuration:

```
> show 802.11a media-stream rrc
Multicast-direct................................ Enabled
Best Effort..................................... Disabled
Video Re-Direct................................. Enabled
Max Allowed Streams Per Radio................... Auto
Max Allowed Streams Per Client.................. Auto
Max Video Bandwidth............................. 0
Max Voice Bandwidth............................. 75
Max Media Bandwidth............................. 85
Min PHY Rate.................................... 6000
Max Retry Percentage............................ 80
```

Related Commands

show media-stream group summary

Show Media-Stream Commands

Use the **show media-stream** commands to see the multicast-direct configuration state.

show media-stream client

To display the details for a specific media-stream client or a set of clients, use the **show media-stream client** command.

show media-stream client {*media-stream_name* | **summary**}

Syntax Description

media-stream_name	Name of the media-stream client of which the details is to be displayed.
summary	Displays the details for a set of media-stream clients.

Command Default

None.

Examples

This example shows how to display a summary media-stream clients:

```
> show media-stream client summary
Number of Clients............................... 1
Client Mac         Stream Name  Stream Type  Radio WLAN  QoS    Status
-----------------  -----------  -----------  ----  ----  ------ -------
00:1a:73:dd:b1:12  mountainview  MC-direct    2.4   2     Video  Admitted
```

Related Commands

show media-stream group summary

show media-stream group detail

To display the details for a specific media-stream group, use the **show media-stream group detail** command.

show media-stream group detail *media-stream_name*

Syntax Description

media-stream_name	Name of the media-stream group.

Command Default

None.

Examples

This example shows how to display media-stream group configuration details:

```
> show media-stream group detail abc
Media Stream Name............................... abc
Start IP Address................................ 227.8.8.8
End IP Address.................................. 227.9.9.9
 RRC Parameters
 Avg Packet Size(Bytes)......................... 1200
 Expected Bandwidth(Kbps)....................... 300
 Policy......................................... Admit
 RRC re-evaluation.............................. periodic
 QoS............................................ Video
 Status......................................... Multicast-direct
 Usage Priority................................. 5
 Violation...................................... drop
```

Related Commands

show media-stream group summary

show media-stream group summary

To display the summary of the media stream and client information, use the **show media-stream group summary** command.

show media-stream group summary

Syntax Description

This command has no arguments or keywords.

Command Default

None.

Examples

This example shows how to display a summary of the media-stream group:

```
> show media-stream group summary
Stream Name   Start IP       End IP         Operation Status
------------- -------------- -------------- ----------------
abc           227.8.8.8      227.9.9.9      Multicast-direct
```

Related Commands

show 802.11 media-stream client

show media-stream client

show media-stream group detail

Config Commands

This section lists the **config** commands to configure VideoStream settings on the controller.

config 802.11 cac video acm

To enable or disable video Call Admission Control (CAC) for the 802.11a or 802.11b/g network, use the **config 802.11 cac video acm** command.

config 802.11 {**a** | **b**} **cac video acm** {**enable** | **disable**}

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
enable	Enables video CAC settings.
disable	Disables video CAC settings.

Command Default

Disabled.

Usage Guidelines

CAC commands require that the WLAN you are planning to modify is configured for the Wi-Fi Multimedia (WMM) protocol and the quality of service (QoS) level be set to Platinum.

Before you can configure CAC parameters on a network, you must complete the following prerequisites:

- Disable all WLANs with WMM enabled by entering the **config wlan disable** *wlan_id* command.
- Disable the radio network you want to configure by entering the **config 802.11** {**a** | **b**} **disable network** command.
- Save the new configuration by entering the **save config** command.
- Enable voice or video CAC for the network you want to configure by entering the **config 802.11** {**a** | **b**} **cac voice acm enable**, or **config 802.11** {**a** | **b**} **cac video acm enable** commands.

  For complete instructions, see the "Configuring Voice and Video Parameters" section in the "Configuring Controller Settings" chapter of the *Cisco Wireless LAN Controller Configuration Guide* for your release.

Examples

This example shows how to enable the video CAC for the 802.11a network:

```
> config 802.11 cac video acm enable
```

This example shows how to disable the video CAC for the 802.11b network:

```
> config 802.11 cac video acm disable
```

Related Commands

config 802.11 cac video max-bandwidth

config 802.11 cac video roam-bandwidth

config 802.11 cac video tspec-inactivity-timeout

config 802.11 cac video cac-method

To configure the Call Admission Control (CAC) method for video applications on the 802.11a or 802.11b/g network, use the **config 802.11 cac video cac-method** command.

config 802.11 {**a** | **b**} **cac video cac-method** {**static** | **load-based**}

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
static	Enables the static CAC method for video applications on the 802.11a or 802.11b/g network. Static or bandwidth-based CAC enables the client to specify how much bandwidth or shared medium time is required to accept a new video request and in turn enables the access point to determine whether it is capable of accommodating the request.
load-based	Enables the load-based CAC method for video applications on the 802.11a or 802.11b/g network. Load-based or dynamic CAC incorporates a measurement scheme that takes into account the bandwidth consumed by all traffic types from itself, from co-channel access points, and by collocated channel interference. Load-based CAC also covers the additional bandwidth consumption results from PHY and channel impairment. The access point admits a new call only if the channel has enough unused bandwidth to support that call. Load-based CAC is not supported if SIP-CAC is enabled.

Command Default

Static.

Usage Guidelines

CAC commands for video applications on the 802.11a or 802.11b/g network require that the WLAN you are planning to modify is configured for the Wi-Fi Multimedia (WMM) protocol and the quality of service (QoS) level be set to Gold.

Before you can configure CAC parameters on a network, you must complete the following prerequisites:

- Disable all WLANs with WMM enabled by entering the **config wlan disable** *wlan_id* command.
- Disable the radio network you want to configure by entering the **config 802.11** {**a** | **b**} **disable network** command.
- Save the new configuration by entering the **save config command.**
- Enable voice or video CAC for the network you want to configure by entering the **config 802.11** {**a** | **b**} **cac voice acm enable** or **config 802.11** {**a** | **b**} **cac video acm enable** command.

For complete instructions, see the "Configuring Voice and Video Parameters" section in the "Configuring Controller Settings" chapter of the *Cisco Wireless LAN Controller Configuration Guide* for your release.

Video CAC consists of two parts: Unicast Video-CAC and MC2UC CAC. If you need only Unicast Video-CAC, you must configure only static mode. If you need only MC2UC CAC, you must configure Static or Load-based CAC. Load-based CAC is not supported if SIP-CAC is enabled.

Examples

This example shows how to enable the static CAC method for video applications on the 802.11a network:

```
> config 802.11 cac video cac-method static
```

Related Commands

show cac voice stats

show cac voice summary

show cac video stats

show cac video summary

config 802.11 cac video tspec-inactivity-timeout

config 802.11 cac video max-bandwidth

config 802.11 cac video acm

config 802.11 cac video sip

config 802.11 cac video roam-bandwidth

config 802.11 cac load-based

config 802.11 cac defaults

config 802.11 cac media-stream

config 802.11 cac multimedia

debug cac

config 802.11 cac video load-based

To enable or disable load-based Call Admission Control (CAC) for video applications on the 802.11a or 802.11b/g network, use the **config 802.11 cac video load-based** command.

config 802.11 {**a** | **b**} **cac video load-based** {**enable** | **disable**}

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
enable	Enables load-based CAC for video applications on the 802.11a or 802.11b/g network. Load-based or dynamic CAC incorporates a measurement scheme that takes into account the bandwidth consumed by all traffic types from itself, from co-channel access points, and by collocated channel interference. Load-based CAC also covers the additional bandwidth consumption results from PHY and channel impairment. The access point admits a new call only if the channel has enough unused bandwidth to support that call.
disable	Disables load-based CAC method for video applications on the 802.11a or 802.11b/g network.

Command Default

Disabled.

Usage Guidelines

CAC commands for video applications on the 802.11a or 802.11b/g network require that the WLAN you are planning to modify is configured for the Wi-Fi Multimedia (WMM) protocol and the quality of service (QoS) level be set to Gold.

Before you can configure CAC parameters on a network, you must complete the following prerequisites:

- Disable all WLANs with WMM enabled by entering the **config wlan disable** *wlan_id* command.
- Disable the radio network you want to configure by entering the **config 802.11**{**a** | **b**} **disable network** command.
- Save the new configuration by entering the **save config command.**
- Enable voice or video CAC for the network you want to configure by entering the **config 802.11**{**a** | **b**} **cac voice acm enable** or **config 802.11**{**a** | **b**} **cac video acm enable** command.

  For complete instructions, see the “Configuring Voice and Video Parameters” section in the “Configuring Controller Settings” chapter of the *Cisco Wireless LAN Controller Configuration Guide* for your release.

Video CAC consists of two parts: Unicast Video-CAC and MC2UC CAC. If you need only Unicast Video-CAC, you must configure only static mode. If you need only MC2UC CAC, you must configure Static or Load-based CAC. Load-based CAC is not supported if SIP-CAC is enabled.

Note Load-based CAC is not supported if SIP-CAC is enabled.

Examples

This example shows how to enable load-based CAC method for video applications on the 802.11a network:

```
> config 802.11 cac video load-based enable
```

Related Commands

show cac voice stats

show cac voice summary

show cac video stats

show cac video summary

config 802.11 cac video tspec-inactivity-timeout

config 802.11 cac video max-bandwidth

config 802.11 cac video acm

config 802.11 cac video sip

config 802.11 cac video roam-bandwidth

config 802.11 cac load-based

config 802.11 cac defaults

config 802.11 cac media-stream

config 802.11 cac multimedia

config 802.11 cac video cac-method

debug cac

config 802.11 cac video max-bandwidth

To set the percentage of the maximum bandwidth allocated to clients for video applications on the 802.11a or 802.11b/g network, use the **config 802.11 cac video max-bandwidth** command.

config 802.11 {**a** | **b**} **cac video max-bandwidth** *bandwidth*

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
bandwidth	Bandwidth percentage value from 5 to 85%.

Command Default

0%.

Usage Guidelines

The maximum radio frequency (RF) bandwidth cannot exceed 85% for voice and video. Once the client reaches the value specified, the access point rejects new calls on this network.

Note If this parameter is set to zero (0), the controller assumes that you do not want to allocate any bandwidth and allows all bandwidth requests.

Call Admission Control (CAC) commands require that the WLAN you are planning to modify is configured for the Wi-Fi Multimedia (WMM) protocol and the quality of service (QoS) level be set to Platinum.

Before you can configure CAC parameters on a network, you must complete the following prerequisites:

- Disable all WLANs with WMM enabled by entering the **config wlan disable** *wlan_id* command.
- Disable the radio network you want to configure by entering the **config 802.11** {**a** | **b**} **disable network** command.
- Save the new configuration by entering the **save config command.**
- Enable voice or video CAC for the network you want to configure by entering the **config 802.11** {**a** | **b**} **cac voice acm enable**, or **config 802.11** {**a** | **b**} **cac video acm enable** commands.

  For complete instructions, see the "Configuring Voice and Video Parameters" section in the "Configuring Controller Settings" chapter of the *Cisco Wireless LAN Controller Configuration Guide* for your release.

Examples

This example shows how to specify the percentage of the maximum allocated bandwidth for video applications on the selected radio band:

```
> config 802.11 cac video max-bandwidth 50
```

Related Commands

config 802.11 cac video acm

config 802.11 cac video roam-bandwidth

config 802.11 cac voice stream-size

config 802.11 cac voice roam-bandwidth

config 802.11 cac media-stream

To configure media stream Call Admission Control (CAC) voice and video quality parameters for 802.11a and 802.11b networks, use the **config 802.11 cac media-stream** command.

config 802.11 {**a** | **b**} **cac media-stream multicast-direct** {**max-retry-percent** *retry-percentage* | **min-client-rate** *dot11-rate*}

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
multicast-direct	Configures CAC parameters for multicast-direct media streams.
max-retry-percent	Configures the percentage of maximum retries that are allowed for multicast-direct media streams.
retry-percentage	Percentage of maximum retries that are allowed for multicast-direct media streams.
min-client-rate	Configures the minimum transmission data rate to the client for multicast-direct media streams.
dot11-rate	Minimum transmission data rate to the client for multicast-direct media streams. Rate in kbps at which the client can operate. If the transmission data rate is below this rate, either the video will not start or the client may be classified as a bad client. The bad client video can be demoted for better effort QoS or subject to denial. The available data rates are 6000, 9000, 12000, 18000, 24000, 36000, 48000, 54000, and 11n rates.

Command Default

The default value for the maximum retry percent is 80. If it exceeds 80, either the video will not start or the client might be classified as a bad client. The bad client video will be demoted for better effort QoS or is subject to denial.

Usage Guidelines

CAC commands for video applications on the 802.11a or 802.11b/g network require that the WLAN you are planning to modify is configured for Wi-Fi Multimedia (WMM) protocol and the quality of service (QoS) level be set to Gold.

Before you can configure CAC parameters on a network, you must complete the following prerequisites:

- Disable all WLANs with WMM enabled by entering the **config wlan disable** *wlan_id* command.
- Disable the radio network you want to configure by entering the **config 802.11** {**a** | **b**} **disable network** command.
- Save the new configuration by entering the **save config** command.

- Enable voice or video CAC for the network you want to configure by entering the **config 802.11** {**a** | **b**} **cac voice acm enable** or **config 802.11** {**a** | **b**} **cac video acm enable** command.

  For complete instructions, see the "Configuring Voice and Video Parameters" section in the "Configuring Controller Settings" chapter of the *Cisco Wireless LAN Controller Configuration Guide* for your release.

Examples

This example shows how to configure the maximum retry percent for multicast-direct media streams as 90 on a 802.11a network:

```
> config 802.11 cac media-stream multicast-direct max-retry-percent 90
```

Related Commands

show cac voice stats

show cac voice summary

show cac video stats

show cac video summary

config 802.11 cac video tspec-inactivity-timeout

config 802.11 cac video max-bandwidth

config 802.11 cac video acm

config 802.11 cac video sip

config 802.11 cac video roam-bandwidth

config 802.11 cac load-based

config 802.11 cac defaults

config 802.11 cac multimedia

debug cac

config 802.11 cac multimedia

To configure the CAC media voice and video quality parameters for 802.11a and 802.11b networks, use the **config 802.11 cac multimedia** command.

config 802.11 {**a** | **b**} **cac multimedia max-bandwidth** *bandwidth*

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
max-bandwidth	Configures the percentage of maximum bandwidth allocated to Wi-Fi Multimedia (WMM) clients for voice and video applications on the 802.11a or 802.11b/g network.
bandwidth	Percentage of the maximum bandwidth allocated to WMM clients for voice and video applications on the 802.11a or 802.11b/g network. Once the client reaches the specified value, the access point rejects new calls on this radio band. The range is from 5 to 85%.

Command Default

The default value is 85%.

Usage Guidelines

Call Admission Control (CAC) commands for video applications on the 802.11a or 802.11b/g network require that the WLAN you are planning to modify is configured for Wi-Fi Multimedia (WMM) protocol and the quality of service (QoS) level be set to Gold.

Before you can configure CAC parameters on a network, you must complete the following prerequisites:

- Disable all WLANs with WMM enabled by entering the **config wlan disable** *wlan_id* command.
- Disable the radio network you want to configure by entering the **config 802.11** {**a** | **b**} **disable network** command.
- Save the new configuration by entering the **save config** command.
- Enable voice or video CAC for the network you want to configure by entering the **config 802.11** {**a** | **b**} **cac voice acm enable** or **config 802.11** {**a** | **b**} **cac video acm enable** command.

  For complete instructions, see the “Configuring Voice and Video Parameters” section in the “Configuring Controller Settings” chapter of the *Cisco Wireless LAN Controller Configuration Guide* for your release.

Examples

This example shows how to configure the percentage of the maximum bandwidth allocated to WMM clients for voice and video applications on the 802.11a network:

```
> config 802.11 cac multimedia max-bandwidth 80
```

Related Commands

show cac voice stats

show cac voice summary

show cac video stats

show cac video summary

config 802.11 cac video tspec-inactivity-timeout

config 802.11 cac video max-bandwidth

config 802.11 cac video acm

config 802.11 cac video sip

config 802.11 cac video roam-bandwidth

config 802.11 cac load-based

config 802.11 cac defaults

debug cac

config 802.11 cac video roam-bandwidth

To configure the percentage of the maximum allocated bandwidth reserved for roaming video clients on the 802.11a or 802.11b/g network, use the **config 802.11 cac video roam-bandwidth** command.

config 802.11 {**a** | **b**} **cac video roam-bandwidth** *bandwidth*

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
bandwidth	Bandwidth percentage value from 5 to 85%.

Command Default

0%.

Usage Guidelines

The controller reserves the specified bandwidth from the maximum allocated bandwidth for roaming video clients.

Note If this parameter is set to zero (0), the controller assumes that you do not want to do any bandwidth allocation and, therefore, allows all bandwidth requests.

CAC commands require that the WLAN you are planning to modify is configured for the Wi-Fi Multimedia (WMM) protocol and the quality of service (QoS) level be set to Platinum.

Before you can configure CAC parameters on a network, you must complete the following prerequisites:

- Disable all WLANs with WMM enabled by entering the **config wlan disable** *wlan_id* command.
- Disable the radio network you want to configure by entering the **config 802.11** {**a** | **b**} **disable network** command.
- Save the new configuration by entering the **save config command.**
- Enable voice or video CAC for the network you want to configure by entering the **config 802.11** {**a** | **b**} **cac voice acm enable** or **config 802.11** {**a** | **b**} **cac video acm enable** command.

  For complete instructions, see the "Configuring Voice and Video Parameters" section in the "Configuring Controller Settings" chapter of the *Cisco Wireless LAN Controller Configuration Guide* for your release.

Examples

This example shows how to specify the percentage of the maximum allocated bandwidth reserved for roaming video clients on the selected radio band:

```
> config 802.11 cac video roam-bandwidth 10
```

Related Commands

config 802.11 cac video tspec-inactivity-timeout

config 802.11 cac video max-bandwidth

config 802.11 cac video acm

config 802.11 cac video cac-method

config 802.11 cac video sip

config 802.11 cac video load-based

config 802.11 cac video sip

To enable or disable video Call Admission Control (CAC) for non-traffic specifications (TSPEC) SIP clients using video applications on the 802.11a or 802.11b/g network, use the **config 802.11 cac video sip** command.

config 802.11 {**a** | **b**} **cac video sip** {**enable** | **disable**}

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
enable	Enables video CAC for non-TSPEC SIP clients using video applications on the 802.11a or 802.11b/g network. When you enable video CAC for non-TSPEC SIP clients, you can use applications like Facetime and CIUS video calls.
disable	Disables video CAC for non-TSPEC SIP clients using video applications on the 802.11a or 802.11b/g network.

Command Default

None.

Usage Guidelines

CAC commands for video applications on the 802.11a or 802.11b/g network require that the WLAN you are planning to modify is configured for the Wi-Fi Multimedia (WMM) protocol and the quality of service (QoS) level be set to Gold.

Before you can configure CAC parameters on a network, you must complete the following prerequisites:

- Disable all WLANs with WMM enabled by entering the **config wlan disable** *wlan_id* command.
- Disable the radio network you want to configure by entering the **config 802.11** {**a** | **b**} **disable network** command.
- Save the new configuration by entering the **save config command.**
- Enable voice or video CAC for the network you want to configure by entering the **config 802.11**{**a** | **b**} **cac voice acm enable** or **config 802.11**{**a** | **b**} **cac video acm enable** command.

  For complete instructions, see the "Configuring Voice and Video Parameters" section in the "Configuring Controller Settings" chapter of the *Cisco Wireless LAN Controller Configuration Guide* for your release.
- Enable call snooping on the WLAN on which the SIP client is present by entering the **config wlan call-snoop enable** *wlan_id* command.

Examples

This example shows how to enable video CAC for non-TSPEC SIP clients using video applications on the 802.11a network:

```
> config 802.11 cac video sip enable
```

Related Commands

config 802.11 cac video tspec-inactivity-timeout

config 802.11 cac video max-bandwidth

config 802.11 cac video acm

config 802.11 cac video cac-method

config 802.11 cac video load-based

config 802.11 cac video roam-bandwidth

config 802.11 cac video tspec-inactivity-timeout

To process or ignore the Call Admission Control (CAC) Wi-Fi Multimedia (WMM) traffic specifications (TSPEC) inactivity timeout received from an access point, use the **config 802.11 cac video tspec-inactivity-timeout** command.

config 802.11 {**a** | **b**} **cac video tspec-inactivity-timeout** {**enable** | **ignore**}

Syntax Description

a	Specifies the 802.11a network.
ab	Specifies the 802.11b/g network.
enable	Processes the TSPEC inactivity timeout messages.
ignore	Ignores the TSPEC inactivity timeout messages.

Command Default

Disabled (ignore).

Usage Guidelines

CAC commands require that the WLAN you are planning to modify is configured for the Wi-Fi Multimedia (WMM) protocol and the quality of service (QoS) level be set to Platinum.

Before you can configure CAC parameters on a network, you must complete the following prerequisites:

- Disable all WLANs with WMM enabled by entering the **config wlan disable** *wlan_id* command.
- Disable the radio network you want to configure by entering the **config 802.11** {**a** | **b**} **disable network** command.
- Save the new configuration by entering the **save config command.**
- Enable voice or video CAC for the network you want to configure by entering the **config 802.11** {**a** | **b**} **cac voice acm enable** or **config 802.11** {**a** | **b**} **cac video acm enable** commands.

  For complete instructions, see the "Configuring Voice and Video Parameters" section in the "Configuring Controller Settings" chapter of the *Cisco Wireless LAN Controller Configuration Guide* for your release.

Examples

This example shows how to process the response to TSPEC inactivity timeout messages received from an access point:

```
> config 802.11a cac video tspec-inactivity-timeout enable
```

This example shows how to ignore the response to TSPEC inactivity timeout messages received from an access point:

```
> config 802.11a cac video tspec-inactivity-timeout ignore
```

Related Commands

config 802.11 cac video acm

config 802.11 cac video max-bandwidth

config 802.11 cac video roam-bandwidth

config 802.11 cac voice acm

To enable or disable bandwidth-based voice Call Admission Control (CAC) for the 802.11a or 802.11b/g network, use the **config 802.11 cac voice acm** command.

config 802.11 {**a** | **b**} **cac voice acm** {**enable** | **disable**}

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
enable	Enables the bandwidth-based CAC.
disable	Disables the bandwidth-based CAC.

Command Default

Disabled.

Usage Guidelines

CAC commands require that the WLAN you are planning to modify is configured for the Wi-Fi Multimedia (WMM) protocol and the quality of service (QoS) level be set to Platinum.

Before you can configure CAC parameters on a network, you must complete the following prerequisites:

- Disable all WLANs with WMM enabled by entering the **config wlan disable** *wlan_id* command.
- Disable the radio network you want to configure by entering the **config 802.11** {**a** | **b**} **disable network** command.
- Save the new configuration by entering the **save config command.**
- Enable voice or video CAC for the network you want to configure by entering the **config 802.11** {**a** | **b**} **cac voice acm enable** or **config 802.11** {**a** | **b**} **cac video acm enable** commands.

  For complete instructions, see the "Configuring Voice and Video Parameters" section in the "Configuring Controller Settings" chapter of the *Cisco Wireless LAN Controller Configuration Guide* for your release.

Examples

This example shows how to enable the bandwidth-based CAC:

```
> config 802.11c cac voice acm enable
```

This example shows how to disable the bandwidth-based CAC:

```
> config 802.11b cac voice acm disable
```

Related Commands

config 802.11 cac video acm

config 802.11 cac voice max-bandwidth

To set the percentage of the maximum bandwidth allocated to clients for voice applications on the 802.11a or 802.11b/g network, use the **config 802.11 cac voice max-bandwidth** command.

config 802.11 {**a** | **b**} **cac voice max-bandwidth** *bandwidth*

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
bandwidth	Bandwidth percentage value from 5 to 85%.

Command Default

0%.

Usage Guidelines

The maximum radio frequency (RF) bandwidth cannot exceed 85% for voice and video. Once the client reaches the value specified, the access point rejects new calls on this network.

CAC commands require that the WLAN you are planning to modify is configured for the Wi-Fi Multimedia (WMM) protocol and the quality of service (QoS) level be set to Platinum.

Before you can configure CAC parameters on a network, you must complete the following prerequisites:

- Disable all WLANs with WMM enabled by entering the **config wlan disable** *wlan_id* command.
- Disable the radio network you want to configure by entering the **config 802.11** {**a** | **b**} **disable network** command.
- Save the new configuration by entering the **save config command.**
- Enable voice or video CAC for the network you want to configure by entering the **config 802.11** {**a** | **b**} **cac voice acm enable** or **config 802.11** {**a** | **b**} **cac video acm enable** commands.

  For complete instructions, see the "Configuring Voice and Video Parameters" section in the "Configuring Controller Settings" chapter of the *Cisco Wireless LAN Controller Configuration Guide* for your release.

Examples

This example shows how to specify the percentage of the maximum allocated bandwidth for voice applications on the selected radio band:

```
> config 802.11a cac voice max-bandwidth 50
```

Related Commands

config 802.11 cac voice roam-bandwidth

config 802.11 cac voice stream-size

config 802.11 exp-bwreq

config 802.11 tsm

config wlan save

show wlan

show wlan summary

config 802.11 cac voice tspec-inactivity-timeout

config 802.11 cac voice load-based

config 802.11 cac video acm

config 802.11 cac voice roam-bandwidth

To configure the percentage of the Call Admission Control (CAC) maximum allocated bandwidth reserved for roaming voice clients on the 802.11a or 802.11b/g network, use the **config 802.11 cac voice roam-bandwidth** command.

config 802.11 {**a** | **b**} **cac voice roam-bandwidth** *bandwidth*

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
bandwidth	Bandwidth percentage value from 0 to 85%.

Command Default

85%.

Usage Guidelines

The maximum radio frequency (RF) bandwidth cannot exceed 85% for voice and video. The controller reserves the specified bandwidth from the maximum allocated bandwidth for roaming voice clients.

Note If this parameter is set to zero (0), the controller assumes you do not want to allocate any bandwidth and therefore allows all bandwidth requests.

CAC commands require that the WLAN you are planning to modify is configured for the Wi-Fi Multimedia (WMM) protocol and the quality of service (QoS) level be set to Platinum.

Before you can configure CAC parameters on a network, you must complete the following prerequisites:

- Disable all WLANs with WMM enabled by entering the **config wlan disable** *wlan_id* command.
- Disable the radio network you want to configure by entering the **config 802.11** {**a** | **b**} **disable network** command.
- Save the new configuration by entering the **save config command.**
- Enable voice or video CAC for the network you want to configure by entering the **config 802.11** {**a** | **b**} **cac voice acm enable** or **config 802.11** {**a** | **b**} **cac video acm enable** commands.

  For complete instructions, see the "Configuring Voice and Video Parameters" section in the "Configuring Controller Settings" chapter of the *Cisco Wireless LAN Controller Configuration Guide* for your release.

Examples

This example shows how to configure the percentage of the maximum allocated bandwidth reserved for roaming voice clients on the selected radio band:

```
> config 802.11 cac voice roam-bandwidth 10
```

Related Commands

config 802.11 cac voice acm

config 802.11cac voice max-bandwidth

config 802.11 cac voice stream-size

config 802.11 cac voice tspec-inactivity-timeout

To process or ignore the Wi-Fi Multimedia (WMM) traffic specifications (TSPEC) inactivity timeout received from an access point, use the **config 802.11 cac voice tspec-inactivity-timeout** command.

config 802.11 {**a** | **b**} **cac voice tspec-inactivity-timeout** {**enable** | **ignore**}

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
enable	Processes the TSPEC inactivity timeout messages.
ignore	Ignores the TSPEC inactivity timeout messages.

Command Default

Disabled (ignore).

Usage Guidelines

Call Admission Control (CAC) commands require that the WLAN you are planning to modify is configured for Wi-Fi Multimedia (WMM) protocol and the quality of service (QoS) level be set to Platinum.

Before you can configure CAC parameters on a network, you must complete the following prerequisites:

- Disable all WLANs with WMM enabled by entering the **config wlan disable** *wlan_id* command.
- Disable the radio network you want to configure by entering the **config 802.11** {**a** | **b**} **disable network** command.
- Save the new configuration by entering the **save config** command.
- Enable voice or video CAC for the network you want to configure by entering the **config 802.11** {**a** | **b**} **cac voice acm enable** or **config 802.11** {**a** | **b**} **cac video acm enable** commands.

  For complete instructions, see the "Configuring Voice and Video Parameters" section in the "Configuring Controller Settings" chapter of the *Cisco Wireless LAN Controller Configuration Guide* for your release.

Examples

This example shows how to enable the voice TSPEC inactivity timeout messages received from an access point:

```
> config 802.11 cac voice tspec-inactivity-timeout enable
```

Related Commands

config 802.11 cac voice load-based

config 802.11 cac voice roam-bandwidth

config 802.11 cac voice acm

config 802.11cac voice max-bandwidth

config 802.11 cac voice stream-size

config 802.11 cac voice load-based

To enable or disable load-based Call Admission Control (CAC) for the 802.11a or 802.11b/g network, use the **config 802.11 cac voice load-based** command.

config 802.11 {**a** | **b**} **cac voice load-based** {**enable** | **disable**}

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
enable	Enables load-based CAC.
disable	Disables load-based CAC.

Command Default

Disabled.

Usage Guidelines

CAC commands require that the WLAN you are planning to modify is configured for the Wi-Fi Multimedia (WMM) protocol and the quality of service (QoS) level be set to Platinum.

Before you can configure CAC parameters on a network, you must complete the following prerequisites:

- Disable all WLANs with WMM enabled by entering the **config wlan disable** *wlan_id command*.
- Disable the radio network you want to configure by entering the **config 802.11** {**a** | **b**} **disable network** command.
- Save the new configuration by entering the **save config command.**
- Enable voice or video CAC for the network you want to configure by entering the **config 802.11** {**a** | **b**} **cac voice acm enable** or **config 802.11** {**a** | **b**} **cac video acm enable** commands.

  For complete instructions, see the "Configuring Voice and Video Parameters" section in the "Configuring Controller Settings" chapter of the *Cisco Wireless LAN Controller Configuration Guide* for your release.

Examples

This example shows how to enable the voice load-based CAC parameters:

```
> config 802.11a cac voice load-based enable
```

This example shows how to disable the voice load-based CAC parameters:

```
> config 802.11a cac voice load-based disable
```

Related Commands

config 802.11 cac voice tspec-inactivity-timeout

config 802.11 cac video max-bandwidth

config 802.11 cac video acm

config 802.11 cac voice stream-size

config 802.11 cac voice max-calls

Note Do not use the **config 802.11 cac voice max-calls** command if the SIP call snooping feature is disabled and if the SIP based Call Admission Control (CAC) requirements are not met.

To configure the maximum number of voice call supported by the radio, use the **config 802.11 cac voice max-calls** command.

config 802.11 {**a** | **b**} **cac voice max-calls** *number*

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
number	Number of calls to be allowed per radio.

Command Default

0, which means that there is no maximum limit check for the number of calls.

Usage Guidelines

CAC commands require that the WLAN you are planning to modify is configured for the Wi-Fi Multimedia (WMM) protocol and the quality of service (QoS) level be set to Platinum.

Before you can configure CAC parameters on a network, you must complete the following prerequisites:

- Disable all WLANs with WMM enabled by entering the **config wlan disable** *wlan_id command*.
- Disable the radio network you want to configure by entering the **config 802.11** {**a** | **b**} **disable network** command.
- Save the new configuration by entering the **save config command.**
- Enable voice or video CAC for the network you want to configure by entering the **config 802.11** {**a** | **b**} **cac voice acm enable** or **config 802.11** {**a** | **b**} **cac video acm enable** commands.

  For complete instructions, see the "Configuring Voice and Video Parameters" section in the "Configuring Controller Settings" chapter of the *Cisco Wireless LAN Controller Configuration Guide* for your release.

Examples

This example shows how to configure the maximum number of voice calls supported by radio:

```
> config 802.11 cac voice max-calls 10
```

Related Commands

config 802.11 cac voice roam-bandwidth

config 802.11 cac voice stream-size

config 802.11 exp-bwreq

config 802.11 cac voice tspec-inactivity-timeout

config 802.11 cac voice load-based

config 802.11 cac video acm

config 802.11 cac voice sip bandwidth

Note SIP bandwidth and sample intervals are used to compute per call bandwidth in case of the SIP-based Call Admission Control (CAC).

To configure the bandwidth that is required per call for the 802.11a or 802.11b/g network, use the **config 802.11 cac voice sip bandwidth** command.

config 802.11 {**a** | **b**} **cac voice sip bandwidth** *bw_kbps* **sample-interval** *number_msecs*

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
bw_kbps	Bandwidth in kbps.
sample-interval	Specifies the packetization interval for SIP codec.
number_msecs	Packetization sample interval in msecs. The sample interval for SIP codec is 20 seconds.

Command Default

None.

Usage Guidelines

CAC commands require that the WLAN you are planning to modify is configured for the Wi-Fi Multimedia (WMM) protocol and the quality of service (QoS) level be set to Platinum.

Before you can configure CAC parameters on a network, you must complete the following prerequisites:

- Disable all WLANs with WMM enabled by entering the **config wlan disable** *wlan_id* command.
- Disable the radio network you want to configure by entering the **config 802.11** {**a** | **b**} **disable** network command.
- Save the new configuration by entering the **save config** command.
- Enable voice or video CAC for the network you want to configure by entering the **config 802.11** {**a** | **b**} **cac voice acm enable** or **config 802.11** {**a** | **b**} **cac video acm enable** commands.

  For complete instructions, see the "Configuring Voice and Video Parameters" section in the "Configuring Controller Settings" chapter of the *Cisco Wireless LAN Controller Configuration Guide* for your release.

Examples

This example shows how to configure the bandwidth and voice packetization interval for a SIP codec:

```
> config 802.11 cac voice sip bandwidth 10 sample-interval 40
```

Related Commands

config 802.11 cac voice acm

config 802.11 cac voice load-based

config 802.11 cac voice max-bandwidth

config 802.11 cac voice roam-bandwidth

config 802.11 cac voice tspec-inactivity-timeout

config 802.11 exp-bwreq

config 802.11 cac voice sip codec

To configure the Call Admission Control (CAC) codec name and sample interval as parameters and to calculate the required bandwidth per call for the 802.11a or 802.11b/g network, use the **config 802.11 cac voice sip codec** command.

config 802.11 {**a** | **b**} **cac voice sip codec** {**g711** | **g729**} **sample-interval** *number_msecs*

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
g711	Specifies CAC parameters for the SIP G711 codec.
g729	Specifies CAC parameters for the SIP G729 codec.
sample-interval	Specifies the packetization interval for SIP codec.
number_msecs	Packetization interval in msecs. The sample interval for SIP codec value is 20 seconds.

Command Default

g711.

Usage Guidelines

CAC commands require that the WLAN you are planning to modify is configured for the Wi-Fi Multimedia (WMM) protocol and the quality of service (QoS) level be set to Platinum.

Before you can configure CAC parameters on a network, you must complete the following prerequisites:

- Disable all WLANs with WMM enabled by entering the **config wlan disable** *wlan_id* command.
- Disable the radio network you want to configure by entering the **config 802.11** {**a** | **b**} **disable** network command.
- Save the new configuration by entering the **save config** command.
- Enable voice or video CAC for the network you want to configure by entering the **config 802.11** {**a** | **b**} **cac voice acm enable** or **config 802.11** {**a** | **b**} **cac video acm enable** commands.

  For complete instructions, see the "Configuring Voice and Video Parameters" section in the "Configuring Controller Settings" chapter of the *Cisco Wireless LAN Controller Configuration Guide* for your release.

Examples

This example shows how to configure the codec name and sample interval as parameters for SIP G711 codec:

```
> config 802.11a cac voice sip codec g711 sample-interval 40
```

This example shows how to configure the codec name and sample interval as parameters for SIP G729 codec:

```
> config 802.11a cac voice sip codec g729 sample-interval 40
```

Related Commands

config 802.11 cac voice acm

config 802.11 cac voice load-based

config 802.11 cac voice max-bandwidth

config 802.11 cac voice roam-bandwidth

config 802.11 cac voice tspec-inactivity-timeout

config 802.11 exp-bwreq

config 802.11 cac voice stream-size

To configure the number of aggregated voice Wi-Fi Multimedia (WMM) traffic specification (TSPEC) streams at a specified data rate for the 802.11a or 802.11b/g network, use the **config 802.11 cac voice stream-size** command.

config 802.11 {**a** | **b**} **cac voice stream-size** *stream_size number* **mean_datarate max-streams** *mean_datarate*

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
stream-size	Configures the maximum data rate for the stream.
stream_size	Range of stream size is between 84000 and 92100.
number	Number (1 to 5) of voice streams.
mean_datarate	Configures the mean data rate.
max-streams	Configures the mean data rate of a voice stream.
mean_datarate	Mean data rate (84 to 91.2 kbps) of a voice stream.

Command Default

The default number of streams is 2 and the mean data rate of a stream is 84 kbps.

Usage Guidelines

Call Admission Control (CAC) commands require that the WLAN you are planning to modify is configured for the Wi-Fi Multimedia (WMM) protocol and the quality of service (QoS) level be set to Platinum.

Before you can configure CAC parameters on a network, you must complete the following prerequisites:

- Disable all WLANs with WMM enabled by entering the **config wlan disable** *wlan_id* command.
- Disable the radio network you want to configure by entering the **config 802.11** {**a** | **b**} **disable** network command.
- Save the new configuration by entering the **save config** command.
- Enable voice or video CAC for the network you want to configure by entering the **config 802.11** {**a** | **b**} **cac voice acm enable** or **config 802.11** {**a** | **b**} **cac video acm enable** commands.

  For complete instructions, see the "Configuring Voice and Video Parameters" section in the "Configuring Controller Settings" chapter of the *Cisco Wireless LAN Controller Configuration Guide* for your release.

Examples

This example shows how to configure the number of aggregated voice traffic specifications stream with the stream size 5 and the mean data rate of 85000 kbps:

```
> config 802.11 cac voice stream-size 5 max-streams size 85
```

Related Commands

config 802.11 cac voice acm

config 802.11 cac voice load-based

config 802.11 cac voice max-bandwidth

config 802.11 cac voice roam-bandwidth

config 802.11 cac voice tspec-inactivity-timeout

config 802.11 exp-bwreq

config advanced 802.11 edca-parameters

To enable a specific enhanced distributed channel access (EDCA) profile on the 802.11a network, use the **config advanced 802.11 edca-parameters** command.

config advanced 802.11 {**a** | **b**} **edca-parameters** {**wmm-default** | **svp-voice** | **optimized-voice** | **optimized-video-voice** | **custom-voice**}

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
wmm-default	Enables the Wi-Fi Multimedia (WMM) default parameters. Choose this option when voice or video services are not deployed on your network.
svp-voice	Enables Spectralink voice priority parameters. Choose this option if Spectralink phones are deployed on your network to improve the quality of calls.
optimized-voice	Enables EDCA voice-optimized profile parameters. Choose this option when voice services other than Spectralink are deployed on your network.
optimized-video-voice	Enables EDCA voice- and video-optimized profile parameters. Choose this option when both voice and video services are deployed on your network. **Note** If you deploy video services, admission control (ACM) must be disabled.
custom-voice	Enables custom voice EDCA parameters for 802.11a. The EDCA parameters under this option also match the 6.0 WMM EDCA parameters when this profile is applied.

Command Default

wmm-default

Examples

This example shows how to enable Spectralink voice priority parameters:

```
> config advanced 802.11 edca-parameters svp-voice
```

Related Commands

show 802.11a

config advanced 802.11b edca-parameters

Configure Media-Stream Commands

Use the config media-stream commands to configure media stream settings.

config 802.11 media-stream multicast-direct

To configure the media stream multicast-direct parameters for the 802.11 networks, use the **config 802.11 media-stream multicast-direct** command.

config 802.11 {**a** | **b**} **media-stream multicast-direct** {**admission-besteffort** {**enable** | **disable**} | {**client-maximum** | **radio-maximum**} {*value* | **no-limit** } | **enable** | **disable**}

Syntax Description

802.11a	Specifies the 802.11a network.
802.11b	Specifies the 802.11b/g network.
admission-besteffort	Admits media stream to best-effort queue.
enable	Enables multicast-direct on a 2.4-GHz or a 5-GHz band.
disable	Disables multicast-direct on a 2.4-GHz or a 5-GHz band.
client-maximum	Specifies the maximum number of streams allowed on a client.
radio-maximum	Specifies the maximum number of streams allowed on a 2.4-GHz or a 5-GHz band.
value	Number of streams allowed on a client or on a 2.4-GHz or a 5-GHz band, between 1 to 20.
no-limit	Specifies the unlimited number of streams allowed on a client or on a 2.4-GHz or a 5-GHz band.

Command Default

None.

Usage Guidelines

Before you configure the media stream multicast-direct parameters on a 802.11 network, ensure that the network is nonoperational.

Examples

This example shows how to enable a media stream multicast-direct settings on an 802.11a network:

```
> config 802.11a media-stream multicast-direct enable
```

This example shows how to admit the media stream to the best-effort queue:

```
> config 802.11a media-stream multicast-direct admission-besteffort enable
```

This example shows how to set the maximum number of streams allowed on a client:

```
> config 802.11a media-stream multicast-direct client-maximum 10
```

Related Commands

config 802.11 media-stream video-redirect

show 802.11a media-stream name

show media-stream group summary

show media-stream group detail

config 802.11 media-stream video-redirect

To configure the media stream video-redirect for the 802.11 networks, use the **config 802.11 media-stream video-redirect** command.

config 802.11 {**a** | **b**} **media-stream video-redirect** {**enable** | **disable**}

Syntax Description

802.11a	Specifies the 802.11a network.
802.11b	Specifies the 802.11b/g network.
enable	Enables traffic redirection.
disable	Disables traffic redirection.

Command Default

None.

Usage Guidelines

Before you configure the media stream video-redirect on a 802.11 network, ensure that the network is nonoperational.

Examples

This example shows how to enable media stream traffic redirection on an 802.11a network:

```
> config 802.11a media-stream video-redirect enable
```

Related Commands

config 802.11 media-stream multicast-redirect

show 802.11a media-stream name

show media-stream group summary

show media-stream group detail

config media-stream multicast-direct

To configure the media-stream multicast direct, use the **config media-stream multicast direct** command.

config media-stream multicast-direct {**enable** | **disable**}

Syntax Description

enable	Enables a media stream.
disable	Disables a media stream.

Command Default

None.

Usage Guidelines

Media-stream multicast-direct requires load based Call Admission Control (CAC) to run.

Examples

This example shows how to enable media-stream multicast-direct settings:

```
> config media-stream multicast-direct enable
```

This example shows how to disable media-stream multicast-direct settings:

```
> config media-stream multicast-direct disable
```

Related Commands

config 802.11 media-stream video-redirect

show 802.11a media-stream name

show media-stream group summary

show media-stream group detail

config media-stream message

To configure various parameters of message configuration, use the **config media-stream message** command.

config media-stream message {**state** [**enable** | **disable**] | **url** *url* | **email** *email* | **phone** *phone_number* |**note** *note*}

Syntax Description

state	Specifies the media stream message state.
enable	(Optional) Enables the session announcement message state.
disable	(Optional) Disables the session announcement message state.
url	Configures the URL.
url	Session announcement URL.
email	Configures the email ID.
email	Specifies the session announcement e-mail.
phone	Configures the phone number.
phone_number	Session announcement phone number.
note	Configures the notes.
note	Session announcement notes.

Command Default

Disabled.

Usage Guidelines

Media-stream multicast-direct requires load-based Call Admission Control (CAC) to run.

Examples

This example shows how to enable the session announcement message state:

> **config media-stream message state enable**

This example shows how to configure the session announcement e-mail address:

> **config media-stream message mail abc@co.com**

Related Commands

config media-stream

show 802.11a media-stream name

show media-stream group summary

show media-stream group detail

config media-stream add

To configure the various global media-stream configurations, use the **config media-stream add** command.

config media-stream add multicast-direct *media_stream_name start-IP end-IP* [**template** {**very coarse** | **coarse** | **ordinary** | **low-resolution** | **med-resolution** | **high-resolution**} | **detail** {*bandwidth packet-size* {**periodic**| **initial**}} **qos** *priority* {**drop** | **fallback**}

Syntax Description

multicast-direct	Specifies the media stream for the multicast-direct setting.
media_stream_name	Media-stream name.
start-IP	IP multicast destination start address.
end-IP	IP multicast destination end address.
template	(Optional) Configures the media stream from templates.
very coarse	Applies a very-coarse template.
coarse	Applies a coarse template.
ordinary	Applies an ordinary template.
low-resolution	Applies a low-resolution template.
med-resolution	Applies a medium-resolution template.
high-resolution	Applies a high-resolution template.
detail	Configures the media stream with specific parameters.
bandwidth	Maximum expected stream bandwidth.
packet-size	Average packet size.
periodic	Specifies the periodic admission evaluation.
initial	Specifies the Initial admission evaluation.
qos	AIR QoS class (video only).
priority	Media-stream priority.
drop	Specifies that the stream is dropped on a periodic reevaluation.
fallback	Specifies if the stream is demoted to the best-effort class on a periodic reevaluation.

Command Default

None.

Usage Guidelines

Media-stream multicast-direct requires load-based Call Admission Control (CAC) to run.

Examples

This example shows how to configure a new media stream:

```
> config media-stream add multicast-direct abc 227.8.8.8 227.9.9.9 detail 2 150 periodic
video 1 drop
```

Related Commands

show 802.11a media-stream name

show media-stream group summary

show media-stream group detail

config media-stream admit

To allow traffic for a media stream group, use the **config media-stream admit** command.

config media-stream admit *media_stream_name*

Syntax Description

media_stream_name	Media-stream group name.

Command Default

None.

Usage Guidelines

When you try to allow traffic for the media stream group, you will be prompted that IGMP snooping will be disabled and enabled again, and all clients might observe a glitch on the multicast traffic.

Examples

This example shows how to allow traffic for a media stream group:

```
> config media-stream admit MymediaStream
```

Related Commands

show 802.11a media-stream name

show media-stream group summary

show media-stream group detail

config media-stream deny

To block traffic for a media stream group, use the **config media-stream deny** command.

Syntax Description

media_stream_name	Media-stream group name.

config media-stream deny *media_stream_name*

Command Default

None.

Usage Guidelines

When you try to block traffic for the media stream group, you will be prompted that IGMP snooping will be disabled and enabled again, and all clients might observe a glitch on the multicast traffic.

Examples

This example shows how to block traffic for a media stream group:

```
> config media-stream deny MymediaStream
```

Related Commands

show 802.11a media-stream name

show media-stream group summary

show media-stream group detail

config media-stream delete

To configure the various global media-stream configurations, use the **config media-stream delete** command.

config media-stream delete *media_stream_name*

Syntax Description

media_stream_name	Media-stream name.

Command Default

None.

Usage Guidelines

Media-stream multicast-direct requires load-based Call Admission Control (CAC) to run.

Examples

This example shows how to configure the media stream named abc:

```
> config media-stream delete abc
```

Related Commands

show 802.11a media-stream name
show media-stream group summary
show media-stream group detail

config wlan media-stream

To configure multicast-direct for a wireless LAN media stream, use the **config wlan media-stream** command.

config wlan media-stream multicast-direct {*wlan_id* | **all**} {**enable** | **disable**}

Syntax Description

multicast-direct	Configures multicast-direct for a wireless LAN media stream.
wlan_id	Wireless LAN identifier between 1 and 512.
all	Configures the wireless LAN on all media streams.
enable	Enables global multicast to unicast conversion.
disable	Disables global multicast to unicast conversion.

Command Default

None.

Usage Guidelines

Media stream multicast-direct requires load based Call Admission Control (CAC) to run. WLAN quality of service (QoS) needs to be set to either gold or platinum.

Examples

This example shows how to enable the global multicast-direct media stream with WLAN ID 2:

```
> config wlan media-stream multicast-direct 2 enable
```

Related Commands

config wlan

config wlan qos

show wlan