



Cadant C3 CLI Quick Reference

Release 3.0 Standard 2.0 March 2004

User Mode Commands

User mode is in effect when you log into the CMTS.

enable

Enters privileged mode.

exit

In user mode, terminates the console session.

help

Provides a list of the available commands for the current user mode.

llc-ping

Syntax: **llc-ping** *{macaddr}***[continuous | n]****<inter-ping-interval-in-seconds>**

Sends a series of MAC-level echo requests to the specified modem MAC address, and reports whether the CMTS received an echo response for each packet.

logout

Closes the connection to the CMTS regardless of operating mode.

ping

Syntax: **ping** *{ipaddr}*

Sends a series of 5 ICMP echo requests to the specified IP address, and reports whether the CMTS received an echo response for each packet.

show

Displays information about the system.

show aliases

Displays any defined aliases for commands.

show arp

Equivalent to the **show ip arp** command without arguments.

show bootvar

Displays boot variables.

show calendar

Displays the date and time from the internal real time clock.

show clock

Displays the date and time from the system clock.

show clock timezone

Displays the current time zone and its offset from GMT.

show context

Displays recent startup and shutdown history.

show exception

Identical to **show context**.

show hardware

Displays a list of hardware installed in the CMTS with revision information and serial numbers where appropriate.

show history

Displays a list of recently entered commands.

show ip arp

Syntax: **show ip arp****[cable 1/0[.s] | fastethernet 0/n[.s] | macaddr | ipaddr]**

Displays the associated MAC and IP addresses for interfaces or addresses, learned through ARP.

show ip igmp groups

Syntax: **show ip igmp groups**

Shows all IGMP groups held in the C3 IGMP database.

show ip igmp interface

Syntax: **show ip igmp interface** **[cable 1/0[.s] | fastethernet 0/n[.s]]**

Show all IGMP attributes for all IGMP-aware sub-interfaces or for a specific sub-interface.

show ip rip

Syntax: **show ip rip****[database]**

Displays routing parameters.

show ip route

Syntax: **show iproute** **[connected | rip | static | summary]**

Shows IP-related information.

show ipc

Displays inter-process communications information.

show key chain

Displays the configured key chains.

show memory

Displays current and cumulative memory usage.

show ntp

Displays NTP server details.

show snmp

Displays SNMP activity counters.

show terminal

Displays information about the terminal session environment, including the terminal type and command history size.

show users

Displays active management sessions on the CMTS (serial or telnet).

show version

Displays current software version information.

systat

Identical to the **show users** command.

terminal

Changes the definition of the terminal type, width, or screen length.

terminal length

Syntax: **terminal length****{n}**

Sets the number of lines that will be displayed before the user is prompted with MORE to continue terminal output.

terminal monitor

Syntax: **terminal** **[no]** **monitor**

Directs debugging output to the terminal window (the default is to send debug information only to the serial port).

terminal timeout

Syntax: **terminal** **[no]** **timeout** **{n}**

Automatically disconnect terminal sessions if left idle for more than the specified number of seconds (0 to 65500).

terminal vt100-colours

Syntax: **terminal****[no]** **vt100-colours**

Enables or disables ANSI color output.

terminal width

Syntax: **terminal width****{n}**

Sets the width of displayed output on the terminal.

Privileged Mode Commands

To access commands in privileged mode, use the **enable** command from user mode and enter a valid password.

clear ip cache

Syntax: **clear ip cache****[ipaddr]**

Clears the route cache for the specified IP address, or the entire cache if no address is specified.

clear ip route

Syntax: **clear ip route****[all | rip | static]**

Resets the specified routing table entries.

clear screen

Erases the screen.

configure

Syntax: **configure****{terminal | memory | network | overwrite-network}**

Changes the command entry mode to global configuration mode.

disable

Exits to user mode.

exit

Close the CMTS connection (same action as **logout**).

help

Displays a brief help listing.

hostid

Displays the host ID of the C3.

license

Syntax: **license****{filename | keynfeature ARSVSnnnn | remove | tftp ipaddrfile}**

Enables or removes licensed features on the C3.

logout

Closes the connection to the CMTS regardless of operating mode.

no

Reverses many commands.

show

In privileged mode, displays detailed information about the CMTS configuration.

File System Commands

cd

Syntax: **cd****{dir}**

Changes the working directory on the Compact Flash disk.

chkdsk

Syntax: **chkdsk****{flash: | filesys} [repair]**

Verifies that the file system is correct.

copy

Syntax: **copy****{orig} {dest}**
Duplicates the file *orig* and names it *dest*.

delete

Syntax: **delete****{filename }**
Removes the specified file from the Compact Flash module.

dir

Syntax: **dir****[path]**
Displays a list of all files in the current directory or the specified directory path.

erase

Syntax: **erase****{c: | startup-configuration}**
Erases the Flash disk or startup configuration, as specified.

format

Syntax: **format c:**
Completely erases a Compact Flash card and establishes a new file system on it.

mkdir

Syntax: **mkdir****{dir}**
Creates a new directory.

more

Syntax: **more****{file} [crlf | binary]**
Displays the contents of the specified file, one page at a time.

pwd

Displays the name of the current working directory.

rename

Syntax: **rename****{oldfile} {newfile}**
Changes the name of the file called *oldfile* to *newfile* on the Compact Flash module.

rmdir

Syntax: **rmdir****{dir}**
Removes the specified directory.

show c:

Syntax: **show c:****[all | fileys]**
Displays a complete file listing or optional information about the filesystem on the Compact Flash disk.

show file

Syntax: **show file****{descriptors | systems}**
Lists detailed internal information about file usage, depending on the keyword used.

show flash

Syntax: **show flash****[all | fileys]**
Displays detailed information about the Compact Flash disk, depending on the option used.

write

Syntax: **write****[memory | terminal | networkfile | erase]**
Writes the running configuration, or erases the startup configuration, based on the argument.

Cable Specific Commands

The following commands affect or display the status of attached cable modems.

cable modem

Syntax: **[no] cable modem****{address} {max-hostsn | subscriber {auto}}**
Sets user and QoS parameters.

clear cable flap-list

Syntax: **clear cable flap-list** **{all | macaddr}**
Clear the flap list for all modems or for the modems with the specified MAC address.

clear cable modem

Syntax: **clear cable modem****{all | ipaddr | macaddr | offline} {reset | counters | delete}**
Resets, removes, or deletes the specified cable modems.

clear logging

Clears the local event log.

show cable filter

Syntax: **show cable filter****[groupgid] [verbose]**
Lists filters configured on the selected cable modems.

show cable flap-list

Syntax: **show cable flap-list****[cablex/y | settings | sort-flap | sort-interface | sort-mac | sort-time | summary]**
Displays the current contents of the flap list.

show cable frequency-band

Syntax: **show cable frequency-band** **[index]**
Displays the specified frequency group, or all frequency groups if no frequency group is specified.

show cable group

Syntax: **show cable group****[n]**
Displays the selected cable group and its load balancing configuration.

show cable host

Syntax: **show cable host** **{ipaddr | macaddr}**
Displays all CPE devices connected to the cable modem, specified by IP address or MAC address.

show cable modem

Syntax: **show cable modem****[ipaddr | macaddr | cable 1/0 [upstreamn]] [detail | offenders | registered | summary | unregistered | columnscols|snr] [count] [verbose]**
Displays information about the specified cable modem, or all registered cable modems if no modem is specified.

show cable modulation-profile

Syntax: **show cable modulation-profile** **[advphy | n [type] [verbose]]**
Displays information about the specified modulation profile, or all profiles if none is specified.

show cable service-class

Syntax: **show cable service-class** **[verbose]**
Displays defined service classes.

Environment Specific Commands

calendar set

Syntax: **calendar set****{hh:mm:ss} [dd mmm yyyy]**
Sets the internal CMTS real time clock to the specified time.

clear access-list

Syntax: **clear access-list counters** **[n]**
Clears the counters on the specified access list, or all access lists if no list is specified.

clear arp-cache

Clears the ARP cache.

clear ip igmp group

Syntax: **clear ip igmp group****[ipaddr]**
Deletes the specified IGMP group from the multicast cache, or all IGMP groups if none is specified.

clear mac-address

Syntax: **clear mac-address****{macaddr}**
Deletes the learned MAC address entry from the table.

clear mac-address-table

Deletes all learned entries from the MAC address table.

clock set

Syntax: **clock set****{hh:mm:ss} [ddMMM yyyy]**
Sets the CMTS clock to the specified time (and optionally, date).

debug

Syntax: **[no] debug**
Enables debugging output to the serial console (or telnet sessions if the **term monitor** command is used in a telnet session).

debug all

Syntax: **[no] debug all**
Provides all debugging information.

debug cable dhcp-relay

Syntax: **[no] debug cable dhcp-relay**
Enables or disables DHCP relay debugging.

debug cable interface

Syntax: **[no] debug cable interface cable 1/0 {mac-address macaddr [macmask] | sid n} [verbose]**
Enable or disable debugging on the selected cable modem or interface.

debug cable mac-address

Syntax: **[no] debug cable mac-address {macaddr} [mask] [verbose]**
Enables or disables debugging on the cable modems matching the specified MAC address.

debug cable privacy

Syntax: **[no] debug cable privacy [mac-addressmacaddr] [level n]**
Enables Baseline Privacy (BPI) debugging on the specified cable modem.

debug cable range

Syntax: **[no] debug cable range**
Enables ranging debug messages for all cable modems.

debug cable registration

Syntax: **[no] debug cable registration**
Enables modem registration request debug messages.

debug cable sid

Syntax: **[no] debug cable sid {NNN} [verbose]**
Enables debugging on the cable modem with the specified primary SID.

debug cable tlvs

Syntax: **[no] debug cable tlvs**

Enables Type-Length Value (TLV) debugging messages.

debug envm

Syntax: **[no] debug envm**

Enables environment debugging messages.

debug ip

Syntax: **[no] debug ip [rip]**

Enables debuggin messages.

debug snmp

Syntax: **[no] debug snmp**

Enables debug messages for SNMP.

debug syslog

Syntax: **[no] debug syslog**

Enables debug messages for Syslog traffic.

debug telnet

Syntax: **[no] debug telnet**

Enables debug messages for incoming telnet sessions.

disable

Exits privileged mode, returning the session to user mode.

disconnect

Syntax: **disconnect vty {id}**

Disconnects telnet sessions even if not fully logged in yet.

login

Syntax: **login user{namestr | passwordstr}**

Changes the user level login name and password for telnet sessions.

ping

Syntax: **ping {ipaddr}**

Pings the specified IP address.

reload

Syntax: **reload[attime [reason] | cancel | in time [reason]]**

Restarts the CMTS (same behavior as setting **docs-DevResetNow** to **true**).

script start

Syntax: **script start{file}**

Starts recording a command script to the specified file.

script execute

Syntax: **script execute{file}**

Executes a recorded script in the specified file.

script stop

Finishes recording a command script.

send

Syntax: **send{all | console | vty0 | vty1 | vty2 | vty3} {message}**

Sends a text message to the specified CLI users.

show access-lists

Syntax: **show access-lists[acl | interface matches | cable X/Y.Z matches| fastethernet X/Y.Z matches]**

Displays access-list information.

show bridge

Displays information from the bridge MIB.

show bridge-group

Syntax: **show bridge-group [n]**

Shows details of the specified bridge group, or all bridge groups if you specify no bridge group.

show cli

Displays CLI information.

show cli accounts

Shows login and password strings.

show cli logging

Syntax: **show cli logging[sessionn]**

Shows global logging information.

show configuration

See **show running-configuration**.

show context

Displays context info about recent crashes.

show controller

Syntax: one of:**show controller cable [x/y]show controller fastethernet [x/y]show controller loopback [interface number]**

Displays information about the specified interface (or all interfaces if none are specified).

show debug

Shows the current debug state.

show environment

Displays the current chassis power supply information, fan status, and temperature readings.

show interfaces

Syntax: **show interfaces[cableX/Y] | [fastethernet X/Y] | [stats]**

Displays statistics for the specified interface (or all interfaces if none is specified).

show interfaces cable...

Syntax: **show interfaces cable 1/0 [option]**

Displays detailed information about a specific cable interface.

show interfaces cable 1/0 classifiers

Syntax: **show interfaces cable 1/0 classifiers [classid] [verbose]**

Displays all packet classifiers for the cable interface, or detailed information about a single classifier.

show interfaces cable 1/0 downstream

Displays downstream statistics for the cable interface.

show interfaces cable 1/0 modem

Syntax: **show interfaces cable 1/0 modem {sid}**

Displays the network settings for the cable modem with the specified SID.

show interface cable 1/0 privacy

Syntax: **show interface cable 1/0 privacy [kek | tek]**

Displays privacy parameters.

show interfaces cable 1/0 qos paramset

Syntax: **show interfaces cable 1/0 qos paramset[sfid] [verbose]**

Displays QoS parameters for the cable interface, or the specified service flow ID.

show interfaces cable 1/0 service-flow

Syntax: **show interfaces cable 1/0 service-flow [sfid] [classifiers | counters | qos] [verbose]**

Displays service flow statistics for the cable interface.

show interfaces cable 1/0 sid

Syntax: **show interfaces cable 1/0 sid [connectivity | counters | sid]**

Displays Service Flow information for all SIDs or optionally for a single SID.

show interfaces cable 1/0 signal-quality

Syntax: **show interfaces cable 1/0 signal-quality [port]**

Displays signal quality for the specified upstream port (range **0** to **5**), or all ports if no port specified.

show interfaces cable 1/0 stats

Displays interface statistics.

show interfaces cable 1/0 upstream

Syntax: **show interfaces cable 1/0 upstream [port]**

Displays upstream information for all ports, or the specified port.

show interfaces fastethernet X/Y

Syntax: **show interfaces fastethernet X/Y[stats]**

Displays detailed information about a specific Ethernet interface.

show interfaces fastethernet X/Y stats

Displays a summary of interface statistics.

show ip...

Syntax: **show ip[arp | cache | igmp | rip | route]**

Displays IP parameters.

show ip cache

Displays the IP routing cache.

show license

Displays a list of additional license features enabled on this CMTS.

show logging

Displays event logging information.

show mib

Syntax: **show mib ifTable**

Displays the current state of the ifTable MIB.

show processes

Syntax: **show processes[cpu | memory]**

Displays information about running processes and CPU utilization.

show reload

Displays a list of scheduled reload times.

show running-configuration

Displays the running configuration on the console (CLI).

show snmp-server

Displays the SNMP configuration as it is specified in the running configuration.

show startup-configuration

Displays the startup configuration on the console (CLI).

show tech-support

Prints a very detailed listing of C3 status for technical support purposes.

Global Configuration Commands

To access this mode, enter the **configure terminal** command from privileged mode.

end / exit / Ctrl-Z

Exits configuration mode and returns to privileged mode.

access-list

Defines and manages Access Control Lists (ACLs).

Standard ACL definition

Syntax: **[no] access-list**{*ACL-number*} {**permit** | **deny**} {*host ipaddr* | *any*}

A standard ACL allows or denies access to traffic to or from a particular IP address.

Extended IP definitions

Syntax: **[no] access-list**{*ACL-number*} {**permit** | **deny**} {*protocol*} {*options*}

Extended ACLs support very precise definitions of packets.

alias

Syntax: **[no] alias**{*aliasname*} {*string*}

Creates an alias, which if entered as a command, executes the command *string*.

arp

Syntax: **[no] arp**{*ipaddr*} {*macaddr*} [**cable 1/0**].*s*] [*vlan*] | **fastethernet 0/n**].*s*] [*vlan*]]

Creates or deletes a manual entry in the ARP table.

banner

Syntax: **[no] banner**{*string*}

Sets the login banner for the CMTS to be the specified string.

boot system flash

Syntax: **boot system flash** *path/filename*

Boots the system from an alternate image on the Compact Flash disk.

boot system tftp

Syntax: **boot system tftp***filename ipaddr*

Boots the system from an alternate image with name *filename* on the TFTP server at the specified IP address.

bridge

Syntax: **[no] bridge**{*n*}

Creates or removes a bridge group.

bridge aging-time

Syntax: **[no] bridge aging-time** {*n*}

Sets the aging time (*n* = 0 to 1000000 seconds) for the learned entries in the Ethernet bridge or all bridge-groups.

bridge <n> bind

Syntax: **[no] bridge**{*n*} **bind** {**fastethernet** | **cable**} {*A/B.C*} {*W*} [**native**] {**fastethernet** | **cable**} {*X/Y.Z*} {*V*}

Binds a sub-interface directly to another sub-interface using the specified VLAN tags.

bridge find

Syntax: **bridge find****cable-modem** {*macaddr*}

Locates a cable modem in the bridge table by the source MAC address.

cable filter

Syntax: **[no] cable filter**

Enables or disables filtering at the cable interface.

cable filter group

Syntax: **[no] cable filter group** *group-id***index***index-id* [**dest-ip***ipaddr*] | [**dest-mask** *ipmask*] | [**dest-port***dest-port*] | [**ip-proto** <*protocol*>] | [**ip-tostos-mask** *tos-value*] | [**match-action**accept | drop] | [**src-ip***ipaddr*] | [**src-mask** *ipmask*] | [**src-ports***src-port*] | [**status** activate |deactivate] | [**tcp-status** activate | deactivate] | [**tcp-flags** *flag-maskflag-value*]

Creates a filter specification for registered cable modems and hosts attached to registered cable modems.

cable frequency-band

Syntax: **[no] cable frequency-band** {*index*} {*band*} {**start** *start-freq*} {**stop** *stop-freq*}

Configures a frequency band with the given start and stop edge frequencies in Hz.

cable group...

Syntax: **[no] cable group**{*id*} {*option*}

Manages cable groups.

cable group description

Syntax: **[no] cable group** *id* **description** {*str*}

Creates a textual description of this cable group that is displayed in the running configuration.

cable group frequency-index

Syntax: **cable group** *id* **frequency-index** {*freqIndex*}

Assigns a group of frequency bands to the given upstream group.

cable group load-balancing

Syntax: **[no] cable group** *id* **load-balancing** {**initial-numeric**}

Configures distribution of cable modems across grouped upstream channels.

cable modem offline aging-time

Syntax: **cable modem offline aging-time** {*tt*}

Changes the offline aging time.

cable modulation-profile

Syntax: One of:**cable modulation-profile**{*p*} {*default_prof*}**cable modulation-profile**{*p*} {*IUC*} [**advphy**] [**feclen**] [**maxburst**] [**guard_time**] [**modulation**] [**scram**] [**seed**] [**diff**] [**prelen**] [**lastcw**]**cable modulation-profile**{*p*} {*IUC*} [**fec_t**] [**feclen**] [**maxburst**] [**guard_time**] [**modulation**] [**scram**] [**seed**] [**diff**] [**prelen**] [**lastcw**]**no cable modulation-profile**{*p*}

Creates or changes a modulation profile.

cable service class

Syntax: **[no] cable service class** {*name*} {*option*}

Defines a DOCSIS 1.1 upstream or downstream service class.

cable submgmt

Syntax: **[no] cable submgmt**{*option*}

Enables or disables subscriber management.

cable submgmt cpe ip filtering

Syntax: **[no] cable submgmt cpe ip filtering**

Enables or disables CPE IP filtering.

cable submgmt default active

Syntax: **[no] cable submgmt default active**

Specifies that all modems and CPE devices are managed at the headend with the defined defaults.

cable submgmt default filter-group

Syntax: **cable submgmt default filter-group** [**cm** | **cpe**] [**upstream** | **downstream**] {*groupid*}

Assigns default filters.

cable submgmt default learntable

Syntax: **[no] cable submgmt default learntable**

Enables automatic subscriber address learning (use **no cable submgmt learntable** to disable).

cable submgmt default max-cpe

Syntax: **cable submgmt default max-cpe** {*n*}

Sets the maximum number of allowable CPE devices on any modem.

cli logging

Syntax: **[no] cli logging**[**password** | **path** *dir* | **sizemaxsize**]

Controls CLI logging.

cli account

Syntax: **[no] cli account**{*account-name*} [**password***pw* | **enable-password***privpw* | **secret-password***enpw*]

Sets the login name and passwords for access to the C3 command line.

clock summer-time date

Syntax: **clock summer-time**{*timezone*} **date** {*start*} {*end*}

Creates a specific period of summer time (daylight savings time) for the specified time zone.

clock summer-time recurring

Syntax: **clock summer-time**{*timezone*} **recurring** [*start end*]

Creates a recurring period of summer time for the specified time zone.

clock timezone

Syntax: **[no] clock timezone**{*name*} {*offset*}

Creates a time zone.

default cm subinterface

Syntax: **default cm subinterface** {**cable 1/0**}.*s*}

Defines the sub-interface used for cable modem traffic until the cable modem receives an IP address from a DHCP server.

default cpe subinterface

Syntax: **default cpe ipsubinterface** {**cable 1/0**}.*s*}

Defines the sub-interface used as a source sub-interface for CPE traffic when that traffic has no VLAN tag or explicit mapping (using the **map-cpe** command).

eelog

Syntax: **eelog**{**ascii-dump** | **clear** | **off** | **on** | **size** *rows*}

Controls and displays the event log.

enable password

Syntax: **[no] enable password**{*string*}

This command sets the initial password to the specified *string*.

enable secret

Syntax: **[no] enable secret**{*string*}

Sets the privileged mode encrypted password to *string*.

exception

Syntax: **[no] exception{auto-reboot | 3212-monitor {reboot | reset}}**

Enables automatic re-boot on crash, or when the C3 detects a problem on the cable interface.

file prompt

Syntax: **file prompt{alert | noisy | quiet}**

Instructs the C3 to prompt the user before performing certain types of file operations.

help

Displays a list of available commands and a brief description of each command.

hostname

Sets the C3 host name.

ip default-gateway

Syntax: **[no] ip default-gateway {ipaddr}**

Sets the default gateway for DHCP relay and TFTP routing operations.

ip domain-name

Syntax: **ip domain-name{string}**

Sets the domain name for the CMTS.

ip route

Syntax: **[no] ip route{ipaddrsubnet gateway} [dist]**

Adds a static route to the C3.

ip routing

Syntax: **[no] ip routing**

Turns on IP routing in the C3.

key chain

Syntax: **[no] key chain{name}**

Enters keychain configuration mode for defining router authentication keychains.

end

Exits configuration mode to privileged mode.

exit

Exits keychain configuration mode to configuration mode.

help

Displays a brief help message.

key-id

Syntax: **[no] key-id{n}**

Enters individual key configuration mode for the specified key (valid range: **0** to **255**).

line

Syntax: **line{console | vty startend}**

Configures default CLI parameters for the current user.

login user

Syntax: **[no] login user[namestring1] | [password string2]**

Changes the user level login name and password for vty (telnet) -sessions.

logging buffered

Syntax: **[no] logging buffered [severity]**

Enables local logging of events in a circular buffer.

logging on

Syntax: **[no] logging on**

Enables all syslog messages, traps, and local logging.

logging severity

Syntax: **[no] logging severity {level} {local | no-local} {trap | no-trap} {sys | no-sys} {vol | no-vol}**

Controls event generation by the severity level of the event.

logging syslog

Syntax: **[no] logging syslog[hostipaddr | level]**

Enables syslog logging to the specified IP address, or set the syslog logging severity level (**0** to **7**).

logging thresh

Syntax: **logging thresh{all | at events1 | belowevents2 | intervalsec | none}**

Limits the number of event messages generated.

logging trap

Syntax: **[no] logging trap[level]**

Enables or disables transmission of SNMP traps.

logging trap-control

Syntax: **[no] logging trap-control {val}**

Sets the value of the docsDevCmtsTrapControl MIB to enable or disable CMTS SNMP traps.

mib ifTable

Syntax: **mib ifTable{index} {down_ifAdmin | test_ifAdmin | up_ifAdmin} {disable_ifLinkTrap | enable_ifLinkTrap} {alias}**

Sets or overrides the admin state of interfaces.

no community

Syntax: **no community{string}**

Automatically removes and cleans up the community entry, users, groups, and views for the specified community.

ntp

Syntax: **[no] ntp{serveripaddr} [interval int | delete | disable | enable | master]**

Configures C3 time and date using an external NTP server.

router rip

Syntax: **[no] router rip**

Enter router configuration mode.

snmp-access-list

Syntax: **[no] snmp-access-list{list-name} {deny | permit} {any | host {host-name | ipaddr} [portport] | subnet mask}**

Creates an SNMP access list.

snmp-server

The **snmp-server** commands are designed around the SNMPv3 framework.

snmp-server view

Syntax: **[no] snmp-server view {view-name} {mib-family} [mask mask] {excluded | included}**

Creates or adds to an existing SNMP MIB view. A view defines which MIB sub-tree (MIB families) can be acted upon by an SNMP transaction.

snmp-server group

Syntax: **[no] snmp-server group {group-name} {v3 {auth | noauth | priv} | v2c | v1} [notifyview] [read view] [writeview]**

Defines one or more transaction types a user can perform: read transaction, write transaction, or notify transaction.

snmp-server user

Syntax (v1, v2c): **[no] snmp-server user{username} {group} {v2c | v1} [snmp-access-listlist]** Syntax (v3): **[no] snmp-server user{username} {group} v3 [{auth {md5 | sha} passwd [priv des56 passwd2]} | enc] [snmp-access-listlist]**

snmp-server notif-sec-model

Syntax: **[no] snmp-server notif-sec-model {security-identifier} {user-name-string} {v1 | v2c | v3} {security-model {v1 | v2 | usm {auth | priv}}}**

Defines a notification security model entry with identifier *security-identifier* and assigns this model to user *user-name-string*.

snmp-server host

Syntax: **[no] snmp-server host {notification-identifier} {security-identification} {ipaddr | hostname} {traps | informs} [udp-port port [timeouttime [retriesretry]]]**

Defines a host for each notification target or receivers.

snmp-server enable

Syntax: **snmp-server enable{informs | traps}**

Enables configured traps or informs.

snmp-server disable

Syntax: **snmp-server disable informs {v2c | v3}**

or**snmp-server disabletraps {v1 | v2c | v3}**

Disables configured traps or informs.

snmp-server engineid

Syntax: **snmp-server engineid remote{string} {user-name} [auth {md5 | sha}]**

Configures a remote SNMPv3 engineID.

snmp-server community

Syntax: **[no] snmp-server community {community_name} {access} [snmp-access-list name] [viewmib-family {included | excluded}]**

Allows SNMP access to the C3 from the specified IP address and subnet using the specified community name.

snmp-server contact

Syntax: **[no] snmp-server contact {contact-string}**

Sets the contact string for the C3.

snmp-server location

Syntax: **[no] snmp-server location {location-string}**

Sets the system location string.

snmp-server notif-entry

Syntax: **[no] snmp-server notif-entry {name} {tag-valuetag} {trap | inform}**

Configures or deletes a notification entry in the snmpNotifyTable.

snmp-server community-entry

Syntax: **[no] snmp-server community-entry {index} {community-name} {user-name}**

Configures or deletes an entry in the snmpCommunityEntry table.

Interface Configuration Commands

Use Interface configuration mode to configure the cable and Ethernet interfaces.

interface

Syntax: **[no] interface***{type} {number}*
Enter Interface configuration mode.

Common Interface Subcommands

The following subcommands may be used on both cable and Ethernet interfaces.

bridge-group

Syntax: **[no] bridge-group***{n}*
Assign this interface to the specified bridge group.

description

Syntax: **[no] description***{text}*
Sets the textual description of the interface.

encapsulation dot1q

Syntax: **[no] encapsulation dot1q** *{n}* **[native | encrypted-multicast]**
Assigns a VLAN tag to this sub-interface.

end

Exit interface configuration mode.

exit

Exit configuration mode.

help

Display help about the Interface configuration system.

interface

Syntax: **interface***{cable | fastethernet | X/Y}*
Changes to a different interface configuration mode without having to exit the current configuration mode first.

ip access-group

Syntax: **[no] ip access-group***{access-list-number} {in | out}*
Associates an ACL with a specific interface.

ip directed-broadcast

Syntax: **[no] ip directed-broadcast**
Enable or disable directed subnet broadcast forwarding on this interface.

ip I2-bg-to-bg routing

Syntax: **[no] ip I2-bg-to-bg-routing**
Enables or disables IP routing of IP packets received at a sub-interface where the sub-interface must act as an IP gateway to other C3 sub-interfaces or devices connected to other C3 sub-interfaces.

ip rip authentication

Syntax: one of:**[no] ip rip authentication key-chain {name}****[no] ip rip authentication mode {text | md5}**
Controls the RIP authentication method used on this interface.

ip rip cost

Syntax: **ip rip cost***{m}*
Manually overrides the default metric for this interface.

ip rip default-route-metric

Syntax: **[no] ip rip default-route-metric** *{m}*
Sets the metric for default routes originated from this interface.

ip rip receive

Syntax: **[no] ip rip receive***{versionversions}*
Controls which versions of RIP packets the C3 accepts.

ip rip send

Syntax: **[no] ip rip send***{versionv}*
Controls which version of RIP packets the C3 transmits.

ip rip v2-broadcast

Syntax: **[no] ip rip v2-broadcast**
Enables or disables broadcasting of RIPv2 updates.

ip source-verify

Syntax: **[no] ip source-verify** **[subif]**
Enables or disables source IP verification checks on this interface.

ip verify-ip-address-filter

Syntax: **[no] ip verify-ip-address-filter**
Enables or disables RFC1812 IP address checks on this interface.

load-interval

Syntax: **load-interval***{time}*
Sets the time, in seconds, to use as an interval for load averaging on this interface.

management access

Syntax: **[no] management access**
If specified for an interface, this command blocks all telnet or SNMP access through this interface.

show

Syntax: **show***{item}*
Displays parameters for the specified item.

shutdown

Syntax: **[no] shutdown**
Disables the interface.

snmp trap link-status

Enable link traps.

interface fastethernet

Syntax: **interface fastethernet** *{0/y[.s]}*
Enters configuration mode for the specified FastEthernet interface.

duplex

Syntax: **duplex***{auto | full | half}*
Sets the duplex mode of the interface.

ip address

Syntax: **ip address***{ipaddr ipmask}* **[secondary]**
Sets the interface IP address and subnet mask.

ip broadcast-address

Syntax: **ip broadcast-address***{ipaddr}*
Sets the broadcast address for this interface.

ip igmp-proxy

Syntax: **[no] ip igmp-proxy****[non-proxy-multicasts]**
Enables or disables IGMPv2 proxy operation on this sub-interface.

mac-address (read-only)

Syntax: **mac-address***{aaaa.bbbb.cccc}*
Shows the MAC address of the interface.

speed

Syntax: **speed***{10 | 100 | 1000}*
Sets the speed of the interface, in Mbps.

interface cable

Syntax: **interface cable** **1/0[.s]**
Enters configuration mode for the cable interface.

cable

Cable interface commands are grouped as follows:

Cable commands (general)

cable dci-upstream-disable

Syntax: **cable dci-upstream-disable** *{macaddr} {enable | disable periodn}*
Instructs the addressed modem to immediately enable its upstream transmitter, or to disable it for the stated period.

cable encrypt

Syntax: **cable encrypt****shared-secret** *[string]*
Activates MD5 authentication on DOCSIS configuration files.

cable flap-list

Syntax: **[no] cable flap-list***{aging | insertion-time | miss-threshold | size} {default | value}*
Sets parameters for the flap list.

cable insertion-interval

Syntax: **cable insertion-interval** *{automatic | t}*
Sets the insertion interval.

cable map-advance

Syntax: **cable map-advance***{dynamic [length] | static[length]}*
Modifies the plant length for each upstream channel when invoked with a length parameter.

cable max-ranging-attempts

Syntax: **cable max-ranging-attempts** *{k}*
Sets the maximum number of ranging attempts allowed for modems.

cable privacy

Syntax: **[no] cable privacy***{option}*
Configures Baseline Privacy for the cable modems on this interface.

cable shared-secret

Syntax: **[no] cable shared-secret** *[string]* **[encrypted]**
Sets the shared secret to the specified *string*.

cable sid-verify

Syntax: **[no] cable sid-verify**
Enables accepting DHCP packets whose SID is zero.

cable sync-interval

Syntax: **cable sync-interval***{k}*
Sets the interval, in milliseconds, between SYNC messages.

cable ucd-interval

Syntax: **cable ucd-interval***{k}*
Sets the interval, in milliseconds, between UCD messages.

cable utilization-interval

Syntax: **cable utilization-interval** *{time}*
Sets the utilization monitoring interval for US/DS channels.

ip igmp

Syntax: **ip igmp***{enable | disable}*
Enable or disable active IGMP message processing on cable sub-interface, whether the processing is in active or passive mode depending on whether the cable sub-interface can "see" a proxy fastethernet subinterface.

ip igmp last-member-query-interval

Syntax: **ip igmp last-member-query-interval** *{val}*
Sets the interval between IGMP group specific query messages sent via the downstream to hosts.

ip igmp query-interval

Syntax: **ip igmp query interval** *{val}*
Sets the interval between host specific query messages.

ip igmp query-max-response-timeout

Syntax: **ip igmp query-max-response-timeout** *{val}*
Sets the maximum interval, in 1/10 second increments, the C3 waits for a response to an IGMP query.

ip igmp robustness

Syntax: **ip igmp robustness**{*val*}

Variable for tuning the expected packet loss on a sub-net.

ip igmp verify ip-router-alert-option

Syntax: **[no] ip igmp verify ip-router-alert-option**

Enables or disables checking of the IP Router Alert option in IGMP v2 reports and leaves.

ip igmp version

Syntax: **ip igmp version**{*val*}

The version of IGMP running on the sub-interface.

ip-broadcast-echo

Syntax: **[no] ip-broadcast-echo**

Controls whether IP or ARP broadcasts received on the cable interface are broadcast back downstream.

ip-multicast-echo

Syntax: **[no] ip-multicast-echo**

Controls whether multicasts received on the cable interface are broadcast back downstream.

encapsulation dot1q

Syntax: **[no] encapsulation dot1q** {*n*} [**native**]

Specifies the VLAN ID and encapsulation type for data leaving this interface (if **native** not specified) and the type of encapsulation and VLAN ID for data that is accepted by this interface.

I2-broadcast-echo

Syntax: **[no] I2-broadcast-echo**

Enables echoing of layer 2 broadcast packets to the downstream.

I2-multicast-echo

Syntax: **[no] I2-multicast-echo**

Enables echoing of layer 2 multicast packets to the downstream.

map-cpes

Syntax: **[no] map-cpes**{**cable 1/0.s**}

Maps all CPE attached to a modem to the specified cable sub-interface.

Cable commands (DHCP)

cable dhcp-giaddr

Syntax: **[no] cable dhcp-giaddr** {**policy** | **primary**}

Replaces the giaddr field in DHCP packets.

cable helper-address

Syntax: **[no] cable helper-address** {*ipaddr*} [**cable-modem** | **host**]

Updates the giaddr field with the relaying interface primary IP address (unless **cable dhcp-giaddr policy** is active) and then unicasts the DHCP Discover or Request packet to the specified IP address.

ip dhcp relay

Syntax: **[no] ip dhcp relay**

Enables the C3 to modify DHCP requests from cable modems or hosts attached to cable modems by updating the **giaddr** field with the WAN port IP address.

ip dhcp relay information option

Syntax: **[no] ip dhcp relay information option**

Enables modification of DHCP requests from modems or hosts attached to modems to include the modem's address in the option 82 field.

ip dhcp relay validate renew

Syntax: **[no] ip dhcp relay validate renew**

When this command is active, the destination IP address in a Renew message is validated against the configured helper address for cable sub-interface.

cable downstream

The following downstream commands are available.

cable downstream annex

Syntax: **cable downstream annex** {**a** | **b** | **c**}

Sets the MPEG framing format.

cable downstream channel-width

Syntax: **cable downstream channel-width** {**6mhz** | **8mhz**}

Sets the downstream channel width.

cable downstream frequency

Syntax: **cable downstream frequency** {*hz*}

Sets the downstream center frequency in Hz.

cable downstream interleave-depth

Syntax: **cable downstream interleave-depth** {*I*}

Sets the FEC interleaving.

cable downstream modulation

Syntax: **cable downstream modulation** {**256qam** | **64qam**}

Sets the downstream modulation type.

cable downstream power-level

Syntax: **cable downstream power-level** {*dBmV*}

Sets the downstream power level to the specified value.

cable downstream rate-limit

Syntax: **no cable downstream rate-limit** or **cable downstream rate-limit token-bucket** **shaping** [**auto-delay** [**auto-value** *val*]] | **max-delay***delay* | **packet-delay** [**packets-limit** *lim*]]

Changes the type of rate limiting from moving average traffic shaping to "token-bucket" limiting, or to a combination of both.

cable upstream

Syntax: **cable upstream**{*n*}

Enters configuration mode for the selected upstream.

cable upstream channel-type

Syntax: **cable upstream** *n* **channel-type**{**atdma** | **scdma** | **tdma** | **tdma&atdma**} [**modulation-profile** *n*]

Selects the desired type of channel operation.

cable upstream channel-width

Syntax: **cable upstream** *n* **channel-width** {*w*}

Sets the upstream channel width.

cable upstream concatenation

Syntax: **[no] cable upstream** *n* **concatenation**

Enables or disables concatenation (concatenation support is on by default).

cable upstream data-backoff

Syntax: **cable upstream** *n* **data-backoff**{**automatic** | **startend**}

Set the random backoff window for data.

cable upstream description

Syntax: **[no] cable upstream** *n* **description**{*string*}

Sets the textual description of this upstream to *string*.

cable upstream differential-encoding

Syntax: **[no] cable upstream** *n* **differential-encoding**

Enable differential encoding.

cable upstream fec

Syntax: **[no] cable upstream** *n* **fec**

Enable Forward Error Correction (FEC).

cable upstream fragmentation

Syntax: **[no] cable upstream** *n* **fragmentation**[**forced-multiple-grant** *nn*] | **forced-piggyback** *mm*]

Configures fragmentation for the specified interface.

cable upstream frequency

Syntax: **cable upstream** *n* **frequency**{*k*}

Sets the upstream frequency in Hz.

cable upstream group-id

Syntax: **cable upstream** *n* **group-id**{*g*}

Specify the upstream group that the upstream belongs to.

cable upstream high-power-offset

Syntax: **cable upstream** *n* **high-power-offset**{*offset*}

Specifies the maximum allowed input power to the CMTS, in dB, above the nominal input power.

cable upstream ingress-cancellation

Syntax: **[no] cable upstream** *n* **ingress-cancellation**

Turns on upstream ingress cancellation for the specified upstream channel.

cable upstream load-interval

Syntax: **cable upstream** *n* **load-interval** {*time*}

Sets the time, in seconds, to use as an interval for load averaging.

cable upstream low-power-offset

Syntax: **cable upstream** *n* **low-power-offset**{*offset*}

Specifies the minimum allowed input power to the CMTS, in dB, below the nominal input power.

cable upstream minislot-size

Syntax: **cable upstream** *n* **minislot-size**{*m*}

Specifies the minislot-size in multiples of time-ticks of 6.25 microsecond each tick.

cable upstream modulation-profile

Syntax: **cable upstream** *n* **modulation-profile**{*p*}

[**channel-type** *type*]

Selects the modulation profile for this upstream.

cable upstream periodic-maintenance-interval

Syntax: **cable upstream** *n* **periodic-maintenance-interval** {*p*}

Sets the periodic ranging interval.

cable upstream plant-length

Syntax: **cable upstream** *n* **plant-length**{*l*}

Sets the initial maintenance region size to allow for timing variation across modems separated by this distance.

cable upstream power-level

Syntax: **cable upstream** *n* **power-level**{*p*} [**fixed** | **auto**]

Sets the target input power level to be used by the CMTS when it ranges modems.

cable upstream pre-equalization

Syntax: **[no] cable upstream** *n* **pre-equalization**

Enable cable modem pre-equalization.

cable upstream range-backoff

Syntax: **cable upstream** *n* **range-backoff**{**automatic** | **startend**}

Sets the random backoff window for initial ranging.

cable upstream rate-limit

Syntax: **[no] cable upstream** *n* **rate-limit**[**use-token-bucket-for-cos**]

Enables rate limiting.

cable upstream scrambler

Syntax: **[no] cable upstream** *n* **scrambler**

Enables the upstream scrambler.

cable upstream short-periodic-maintenance-interval

Syntax: **cable upstream** *n* **short-periodic-maintenance-interval** {*p*}

Sets the ranging interval used after a parameter change (timing offset, power, etc.).

cable upstream shutdown

Syntax: **[no] cable upstream *n* shutdown**

Disables the upstream.

cable upstream snr-timeconstant

Syntax: **cable upstream *n* snr-timeconstant{*tc*}**

Sets the amount of averaging of the upstream signal-to-noise (SNR) over time.

cable upstream status

Syntax: **cable upstream *n* status{activate | deactivate}**

Activates or deactivates the upstream channel.

Router Configuration Mode

Use the global command **router rip** to enter router configuration mode.

auto-summary

Syntax: **[no] auto-summary**

Enables automatic network number summarization.

default-information

Syntax: **[no] default-information originate [always]**

Controls whether the C3 advertises its default route (ie **0.0.0.0/0**) to neighbors.

default-metric

Syntax: **[no] default-metric{*m*}**

Sets the metric for advertised routes. This is primarily a way to override the default metric for advertised routes. When a connected or static route gets redistributed into an RIP domain, the C3 needs to start to advertise the route to the neighbor in RIP responses.

multicast

Syntax: **[no] multicast**

Enables or disables multicast of routing updates.

network

Syntax: **[no] network{*ipaddr*} [wildcard] [disable]**

Enables routing on a network.

passive-interface

Syntax: **[no] passive-interface {cable 1/0.s | default | fastethernet 0/*n.s*}**

Suppress routing updates on an interface.

redistribute connected

Syntax: **[no] redistribute connected [metric *m*]**

Controls whether the C3 advertises subnets belonging to sub-interfaces and are not under configured network scopes.

redistribute static

Syntax: **[no] redistribute static [metric *m*]**

Controls whether the C3 advertises static routes.

timers basic

Syntax: **timers basic{*interval*} {*invalid*} {*flush*}**

Sets various router-related timers.

validate-update-source

Syntax: **[no] validate-update-source**

Enables or disables sanity checks against received RIP updates, based on the source IP address of the packet.

version

Syntax: **version{1 | 2}**

Sets the version of RIP to use over all C3 interfaces.

Cadant C3 CLI Quick Reference

© 2004 ARRIS. All rights reserved.

All information contained in this document is subject to change without notice. ARRIS reserves the right to make changes to equipment design or program components, as progress in engineering, manufacturing methods, or other circumstances may warrant. Cadant is a trademark of ARRIS Licensing Company. All other trademarks are the property of their respective holders.

Document number: ARSVD00783
Release 3.0 Standard 2.0
March 2004