Content

Chapter 1 Commands for SNTP

1.1 clock timezone

Command: clock timezone WORD {add | subtract} <0-23> [<0-59>]

no clock timezone WORD

Function: This command configures timezone in global mode, the no command deletes the configured timezone.

Parameters: WORD: timezone name, the length should not exceed 16

add | subtract: the action of timezone

<0-23>: the hour value

<0-59>: the minute value

Command Mode: Global mode

Default: None.

Usage Guide: The timezone name is invalid with the blank, the hour and minute value must be in the specific range.

Example: Configure the action as add for the eighth timezone globally.

Switch(config)#clock timezone aaa add 8

1.2 debug sntp

Command: debug sntp {adjust | packet | select }

no debug sntp {adjust | packet | select}

Function: Displays or disables SNTP debug information.

Parameters: adjust stands for SNTP clock adjustment information; **packet** for SNTP packets, **select** for SNTP clock selection.

Command mode: Admin Mode

Example: Displaying debugging information for SNTP packet.

Switch#debug sntp packet

1.3 sntp polltime

Command: sntp polltime <*interval*>

no sntp polltime

Function: Sets the interval for SNTP clients to send requests to NTP/SNTP; the "**no sntp polltime**" command cancels the polltime sets and restores the default setting.

Parameters: ***<interval>*** is the interval value from 16 to 16284.

Default: The default polltime is 64 seconds.

Command Mode: Global Mode

Example: Setting the client to send request to the server every 128 seconds.

Switch#config

Switch(config)#sntp polltime128

1.4 sntp server

Command: sntp server {<ip-address> | <ipv6-address>} [source {vlan <vlan no> | loopback <loopback no>}] [version <version_no>]

no sntp server {<ip-address> | <ipv6-address>} [source {vlan <vlan no> | loopback <loopback no>}] [version <version_no>]

Function: Enable the specified time server as clock source, the no command deletes the specified time server.

Parameters: ip-address: IPv4 address of time server

ipv6-address: IPv6 address of time server

source: Specify the interface of the source address

vlan: Configure the virtual LAN

vlan no: Virtual LAN number, ranging from 1 to 4094

loopback: Configure loopback interface

loopback no: Loopback identifier, ranging from 1 to 1024

version: Configure the version for the server

version_no: Version number, ranging from 1 to 4, the default is 4

Default: Do not configure the time server.

Command Mode: Global mode

Usage Guide: None.

Example:

Configure the time server address as 1.1.1.1, specify the interface of the source address as vlan1:

Switch(config)#sntp server 1.1.1.1 source vlan 1

Delete the time server that the address is 1.1.1.1, the interface of the specified source address is vlan1:

Switch(config)#no sntp server 1.1.1.1 source vlan 1

1.5 show sntp

Command: show sntp

Function: Displays current SNTP client configuration and server status.

Parameters: N/A.

Command Mode: Admin and Configuration Mode.

Example: Displaying current SNTP configuration.

Switch#show sntp

SNTP server	Version	Last Receive
2.1.0.2	1	6

Chapter 2 Commands for NTP

2.1 clock timezone

Command: clock timezone WORD {add | subtract} <0-23> [<0-59>]

no clock timezone WORD

Function: This command configures timezone in global mode, the no command deletes the configured timezone.

Parameters: WORD: timezone name, the length should not exceed 16

add | subtract: the action of timezone

<0-23>: the hour value

<0-59>: the minute value

Command Mode: Global mode

Default: None.

Usage Guide: The timezone name is invalid with the blank, the hour and minute value must be in the specific range.

Example: Configure the action as add for the eighth timezone globally.

Switch(config)#clock timezone aaa add 8

2.2 debug ntp adjust

Command: debug ntp adjust

no debug ntp adjust

Function: To enable/disable the debug switch of displaying local time adjust information.

Parameter: None.

Default: Disabled.

Command Mode: Admin Mode.

Usage Guide: None.

Example: To enable the debug switch of displaying local time adjust information.

Switch# debug ntp adjust

2.3 debug ntp authentication

Command: debug ntp authentication

no debug ntp authentication

Function: To display NTP authentication information, the no form command disabled the switch of displaying NTP authentication information.

Parameter: None.

Default: Disabled.

Command Mode: Admin Mode.

Usage Guide: To display NTP authentication information, if the switch is enabled, and if the packets schlepped authentication information when the packet in sending or receiving process, then the key identifier will be printed out.

Example: To enable the switch of displaying NTP authentication information.

Switch# debug ntp authentication

2.4 debug ntp events

Command: debug ntp events

no debug ntp events

Function: To enable/disable debug switch of displaying NTP event.

Parameter: None.

Default: Disable the debug switch of displaying NTP event.

Command Mode: Admin Mode.

Usage Guide: To enable debug switch of displaying NTP event, after that, if some server changed from available to unavailable or from unavailable to available, the received illegal packet events will be printed.

Example: To enable debug switch of displaying NTP event information.

Switch# debug ntp events

2.5 debug ntp packet

Command: debug ntp packet [send | receive]

no debug ntp packet [send | receive]

Function: To enable/disable the debug switch of displaying NTP packet information.

Parameter: send: The debug switch of sending NTP packet.

receive: The debug switch of receiving NTP packet.

If there is no parameter, that means should enable the sending and receiving switch of NTP packet in the same time.

Default: Disabled.

Command Mode: Admin Mode.

Usage Guide: None.

Example: To enable the debug switch of displaying NTP packet information.

Switch# debug ntp packet

2.6 debug ntp sync

Command: debug ntp sync

no debug ntp sync

Function: To enable/disable debug switch of displaying local time synchronization information.

Parameter: None.

Default: Disabled.

Command Mode: Admin Mode.

Usage Guide: None.

Example: To enable debug switch of displaying local time synchronization information.

Switch# debug ntp sync

2.7 ntp access-group

Command: ntp access-group server *<acl>*

no ntp access-group server *<acl>*

Function: To configure/cancel the access control list of NTP Server.

Parameter: *<acl>*: ACL number, range is from 1 to 99.

Default: Not configure the access control of NTP Server.

Command Mode: Global Mode.

Usage Guide: None.

Example: To configure access control list 2 on the switch.

Switch(config)#ntp access-group server 2

2.8 ntp authenticate

Command: ntp authenticate

no ntp authenticate

Function: To enable/cancel NTP authentication function.

Parameter: None.

Default: Disabled.

Command Mode: Global Mode.

Usage Guide: None.

Example: To enable NTP authentication function.

Switch(config)#ntp authenticate

2.9 ntp authentication-key

Command: ntp authentication-key <*key-id*> md5 <*value*>

no ntp authentication-key <*key-id*>

Function: To enable/cancel NTP authentication function, and defined NTP authentication key.

Parameter: key-id: The id of key, range is from 1 to 4294967295.

value: The value of key, range between 1 to 16 of ascii code.

Default: The authentication key of NTP authentication is not configured by default.

Command Mode: Global Mode.

Usage Guide: None.

Example: To define the authentication key of NTP authentication, the key-id is 20, the md5 is abc.

Switch(config)# ntp authentication-key 20 md5 abc

2.10 ntp broadcast client

This command is not supported by the switch.

2.11 ntp broadcast server count

Command: ntp broadcast server count <*number*>

no ntp broadcast server count

Function: Set the max number of broadcast or multicast servers supported by the NTP client. The no operation will cancel the configuration and restore the default value.

Parameters: number：1-100, the max number of broadcast servers.

Default: The default max number of broadcast servers is 50.

Command Mode: Global Mode.

Examples: Configure the max number of broadcast servers is 70 on the switch.

Switch(config)#ntp broadcast server count 70

2.12 ntp disable

Command: ntp disable

no ntp disable

Function: To disable/enable the NTP function on port.

Parameter: None.

Default: To enable NTP function on all ports.

Command Mode: vlan Configuration Mode.

Usage Guide: None.

Example: To disable the NTP function on vlan1 interface.

Switch(config)# interface vlan 1

Switch(Config-if-Vlan1)#ntp disable

2.13 ntp enable

Command: ntp enable

ntp disable

Function: To enable/disable NTP function globally.

Parameter: None.

Default: Disabled.

Command Mode: Global Mode.

Usage Guide: None.

Example: To enable NTP function.

Switch(config)#ntp enable

2.14 ntp ipv6 multicast client

Command: ntp ipv6 multicast client

no ntp ipv6 multicast client

Function: Configure the specified interface to receive IPv6 NTP multicast packets, the no command will cancels the specified interface to receive IPv6 NTP multicast packets.

Parameter: None.

Command mode: vlan mode

Default: Interface does not receive IPv6 NTP multicast packets.

Usage guide: None.

Example: Enable the function for receiving IPv6 NTP multicast packets on vlan1 interface.

Switch(Config)# interface vlan 1

Switch(Config-if-Vlan1)#ntp ipv6 multicast client

2.15 ntp multicast client

Command: ntp multicast client

no ntp multicast client

Function: Configure the specified interface to receive NTP multicast packets, the no command will cancels the specified interface to receive NTP multicast packets.

Parameter: None.

Command mode: vlan mode

Default: Interface does not receive NTP multicast packets.

Usage guide: None.

Example: Enable the function for receiving NTP multicast packets on vlan1 interface.

Switch(Config)# interface vlan 1

Switch(Config-if-Vlan1)#ntp multicast client

2.16 ntp server

Command: ntp server {<*ip-address*> | <*ipv6-address*>} [version <*version_no*>] [key <*key-id*>]

no ntp server {<*ip-address*>|<*ipv6-address*>}

Function: To enable specified time server of time source, the no form of this command cancels the specified time server of time source.

Parameter: ip-address: IPv4 address of time server.

ipv6-address: IPv6 address of time server.

version: The version information configured for server.

version_no: The version number of server, range is from 1 to 4, default is 4.

key: To configure key for server.

key-id: The key id.

Default: Disabled.

Command Mode: Global Mode.

Usage Guide: None.

Example: To configure time server address as 1.1.1.1 on switch.

Switch(config)#ntp server 1.1.1.1

2.17 ntp syn-interval

Command: ntp syn-interval <1-3600>

no ntp syn-interval

Function: Configure the request packet sending interval of ntp client as 1s-3600s. The no command recovers to be the default value of 64s.

Default: 64s.

Command Mode: Global Mode.

Usage Guide: For responding the risk of ntp adjusting the system time under the high latency network, ntp client will select the time information with the smallest latency for the system time synchronization after sent 8 ntp time requisitions. So at the default configuration, ntp client sends the requisition packet once every 64s, after 8 times, it will adjust the time. It means to adjust the system time every 8 minutes. If user wants to configure the interval, such as one hour, user should adjust the packet sending interval as 450(3600/8) s.

Example: Configure to adjust the system time once an hour, and the packet sending time is 450s.

Switch(config)#ntp syn-interval 450

2.18 ntp trusted-key

Command: ntp trusted-key <*key-id*>

no ntp trusted-key <*key-id*>

Function: To configure the trusted key. The no command cancels the trusted key.

Parameter: key-id: The id of key, range is from 1 to 4294967295.

Default: Trusted key is not configured by default.

Command Mode: Global Mode.

Usage Guide: None.

Example: To configure the specified key 20 to trusted key.

Switch(config)# ntp trusted-key 20

2.19 show ntp status

Command: show ntp status

Function: To display time synchronization status, include synchronized or not, layers, address of time source and so on.

Parameter: None.

Default: None.

Command Mode: Admin and Configuration Mode.

Usage Guide: None.

Example:

Switch# show ntp status

Clock status: synchronized
Clock stratum: 3
Reference clock server: 1.1.1.2
Clock offset: 0.010 s
Root delay: 0.012 ms
Root dispersion: 0.000 ms
Reference time: TUE JAN 03 01:27:24 2006

2.20 show ntp session

Command: show ntp session [<*ip-address*> | <*ipv6-address*>]

Function: To display the information of all NTP session or one specific session, include server ID, server layer, and the local offset according to server. (The symbol * means this server is the selected local time source)

Parameter: ip-address: The IPv4 address of some specifics configured time server.

ipv6-address: The IPv6 address of some specifics configured time server.

If no parameter, the session relative information of all servers will be displayed (Include broadcast and multicast servers)

Default: None.

Command Mode: Admin and Configuration Mode.

Usage Guide: None.

Example:

(Switch)# show ntp session

	server	stream	type	rootdelay	rootdispersion	trustlevel
*	1.1.1.2	2	unicast	0.010s	0.002s	10
	2.2.2.2	3	unicast	0.005s	0.000s	10

Chapter 3 Commands for Summer Time

3.1 clock summer-time absolute

Command: clock summer-time <*word*> absolute <*HH:MM*> <*YYYY.MM.DD*> <*HH:MM*> <*YYYY.MM.DD*> [<*offset*>]

no clock summer-time

Function: Configure summer time range, the time in this range is summer time. The no command deletes the configuration.

Parameter: ***<word>*** is the time zone name of summer time; ***<HH:MM>*** is the start time, the format is hour (from 0 to 23):minute (from 0 to 59); ***<YYYY.MM.DD>*** is the start date, the format is year (from 1970 to 2038).month (from 1 to 12).date (from 1 to 31); ***<HH:MM>*** is the end time, the format is hour (from 0 to 23):minute (from 0 to 59); ***<YYYY.MM.DD>*** is the end date, the format is year (from 1970 to 2038).month (from 1 to 12).date (from 1 to 31); ***<offset>*** is the time offset, the range from 1 to 1440, unit is minute, default value is 60 minutes.

Default: There is no summer time range.

Command Mode: Global Mode

Usage Guide: This command sets the absolute start and end time for summer time. When the system time reaches to the start time point of summer time, the clock is changed and increase <offset> value, the system enters summer time. When the system time reaches to the end time point of summer time, the clock is changed again, subtract <offset> value from system time, the system finishes summer time. Note: the end time should be bigger than the start time for configuring summer time.

Example: Configure the time range of summer time at 12:10 from april 6th to augest 6th in 2010, offset value as 70 minutes, summer time is named as aaa.

Switch(config)#clock summer-time aaa absolute 12:10 2010.4.6 12:10 2010.8.6 70

3.2 clock summer-time recurring

Command: clock summer-time <*word*> recurring <*HH:MM*> <*MM.DD*> <*HH:MM*> <*MM.DD*> [<*offset*>]

no clock summer-time

Function: Configure the recurrent summer time range, the time in this range is summer time.

Parameter: ***<word>*** is the time zone name of summer time; ***<HH:MM>*** is the start time, the format is hour (from 0 to 23):minute (from 0 to 59); ***<MM.DD>*** is the start date, the format is month(from 1 to 12).date(from 1 to 31); ***<HH:MM>*** is the end time, the format is hour(from 0 to 23):minute(from 0 to 59); ***<MM.DD>*** is the end date, the format is month(from 1 to 12).date(from 1 to 31); ***<offset>*** is the time offset, the range from 1 to 1440, unit is minute, default value is 60 minutes.

Default: There is no summer time range.

Command Mode: Global Mode

Usage Guide: This command sets the start and the end time for the recurrent summer time. When the system time reaches to the start time point of summer time, the clock is changed and increase <offset> value, the system enters summer time. When the system time reaches to the end time point of summer time, the clock is changed again, subtract <offset> value from system time, the system finishes summer time. There is no relation between the recurrent summer time to the year, the system clock will be changed when it reaches to the start and the end time point of summer time year after year. This command supports the summer time of southern hemisphere.

Example: Configure the time range of summer time at 12:10 from april 6th to augest 6th year after year, offset value as 70 minutes, summer time is named as aaa.

Switch(config)# clock summer-time aaa recurring 12:10 4.6 12:10 8.6 70

3.3 clock summer-time recurring

Command: clock summer-time <*word*> recurring <*HH:MM*> <*week*> <*day*> <*month*> < *HH:MM* > <*week*> <*day*> <*month*> [<*offset*>]

no clock summer-time

Function: Configure the recurrent summer time range, the time in this range is summer time.

Parameter: ***<word>*** is the time zone name of summer time; ***<HH:MM>*** is the start time, the format is hour(from 0 to 23):minute(from 0 to 59); ***<week>*** is the week from 1 to 4, first or last; ***<day>*** is the week value, the value as “Sun”, “Mon”, “Tue”, “Wed”, “Thu”, “Fri”, “Sat”; ***<month>*** is the month, the value as ”Jan”, “Feb”, “Mar”, “Apr”, “May”, ”Jun”, “Jul”, “Aug”, “Sep”, “Oct”, “Nov”, “Dec”; ***<HH:MM>*** is the end time, the format is hour(from 0 to 23):minute(from 0 to 59); ***<week>*** is the week from 1 to 4, first or last; ***<day>*** is the week value, the value as “Sun”, “Mon”, “Tue”, “Wed”, “Thu”, “Fri”, “Sat”; ***<month>*** is the month, the value as ”Jan”, “Feb”, “Mar”, “Apr”, “May”, ”Jun”, “Jul”, “Aug”, “Sep”, “Oct”, “Nov”, “Dec” ***<offset>*** is the time offset, the range from 1 to 1440, unit is minute, default value is 60 minutes.

Default: There is no summer time range.

Command Mode: Global Mode

Usage Guide: This command sets the start and end time for the recurrent summer time flexibly. When the system time reaches to the start time point of summer time, the clock is changed and increase <offset> value, the system enters summer time. When the system time reaches to the end time point of summer time, the clock is changed again, subtract <offset> value from system time, the system finishes summer time. There is no relation between the recurrent summer time to the year, the system clock will be changed when it reaches to the start and the end time point of summer time year after year. This command supports summer time of southern hemisphere.

Example: Configure summer time at 12:10 from the first Monday of april to the last Saturday of augest year after year, offset value as 70 minutes, summer time is named as aaa.

Switch(config)#clock summer-time aaa recurring 12:10 1 mon apr 12:10 last sat aug 70