13-Commands for Network Time Management

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1 Commands for SNTP

clock timezone

Command	**clock timezone WORD {add | subtract} <0-23> [<0-59>]** **no clock timezone WORD**

Parameter		
	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

Default	None.
Mode	Global Mode
Usage Guide	This command configures timezone in global mode. The timezone name is invalid with the blank, the hour and minute value must be in the specific range. The no command deletes the configured timezone.
Example	Configure the action as add for the eighth timezone globally. **Switch(config)#clock timezone aaa add 8**

sntp polltime

Command	**sntp polltime <interval>** **no sntp polltime**

Parameter		
	<interval>	is the interval value from 16 to 16284

Default	The default polltime is 64 seconds.
Mode	Global Mode
Usage Guide	Sets the interval for SNTP clients to send requests to NTP/SNTP. The no command cancels the polltime sets and restores the default setting.
Example	Setting the client to send request to the server every 128 seconds. **Switch(config)#sntp polltime128**

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>]**

Parameter

<ip-address>	IPv4 address of time server
<ipv6-address>	IPv6 address of time server
<vlan no>	Virtual LAN number, ranging from 1 to 4094
<loopback no>	Loopback identifier, ranging from 1 to 1024
<version_no>	Version number, ranging from 1 to 4, the default is 4

Default	By default,do not configure the time server.
Mode	Global Mode
Usage Guide	Enable the specified time server as clock source The no command deletes the specified time server.
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**

show sntp

Command	**show sntp**

Parameter

none	none

Default	None.
Mode	Admin/Global mode
Usage Guide	Displays current SNTP client configuration and server status.
Example	Displaying current SNTP configuration. **Switch(config)#show sntp**

2 Commands for NTP

ntp access-group

Command	**ntp access-group server <acl>** **no ntp access-group server <acl>**
Parameter	**<acl>** ACL number, range is from 1 to 99
Default	Not configure the access control of NTP Server by default.
Mode	Global Mode
Usage Guide	To configure/cancel the access control list of NTP Server. The no command delete configuration.
Example	To configure access control list 2 on the switch. **Switch(config)#ntp access-group server 2**

ntp authenticate

Command	**ntp authenticate** **no ntp authenticate**
Parameter	**none** none
Default	By default, NTP authentication is cancelled.
Mode	Global Mode
Usage Guide	To enable/cancel NTP authentication function. The no command cancel NTP authentication function.
Example	To enable NTP authentication function. **Switch(config)#ntp authenticate**

ntp authentication-key

Command	**ntp authentication-key <key-id> md5 <value>** **no ntp authentication-key <key-id>**
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.
Mode	Global Mode
Usage Guide	To enable/cancel NTP authentication function, and defined NTP authentication key. The no command cancel NTP authentication function
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**

ntp broadcast server count

Command	**ntp broadcast server count <number>** **no ntp broadcast server count**
Parameter	**<number>** the max number of broadcast servers, 1-100
Default	The default max number of broadcast servers is 50.
Mode	Global Mode
Usage Guide	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.
Example	Configure the max number of broadcast servers is 70 on the switch. **Switch(config)#ntp broadcast server count 70**

ntp disable

Command	**ntp disable**

	no ntp disable
Parameter	**none** none
Default	By default, NTP function are enabled on all ports.
Mode	VLAN Configuration Mode
Usage Guide	To disable/enable the NTP function on port. The no command disables the NTP function on the port.
Example	To disable the NTP function on vlan1 interface. **Switch(config)# interface vlan 1** **Switch(config-if-Vlan1)#ntp disable**

ntp enable

Command	**ntp enable** **ntp disable**
Parameter	**none** none
Default	By default, global disable NTP function.
Mode	Global Mode
Usage Guide	To enable/disable NTP function globally. Disable command global disable NTP function.
Example	Configure switch global enable NTP function. **Switch(config)# ntp enable**

ntp ipv6 multicast client

Command	**ntp ipv6 multicast client** **no ntp ipv6 multicast client**
Parameter	**none** none

Default	By default, Interface does not receive IPv6 NTP multicast packets.
Mode	VLAN Configuration mode
Usage Guide	Configure the specified interface to receive IPv6 NTP multicast packets The no command will cancels the specified interface to receive IPv6 NTP multicast packets.
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**

ntp multicast client

Command	**ntp multicast client** **no ntp multicast client**
Parameter	**none** none
Default	By default, Interface does not receive NTP multicast packets.
Mode	VLAN Configuration mode
Usage Guide	Configure the specified interface to receive NTP multicast packets. The no command will cancels the specified interface to receive NTP multicast packets.
Example	Enable the function for receiving NTP multicast packets on vlan1 interface. **Switch(config)# interface vlan 1** **Switch(config-if-Vlan1)#ntp multicast client**

ntp server

Command	**ntp server {<ip-address> | <ipv6-address>} [version <version_no>] [key <key-id>]** **no ntp server {<ip-address>|<ipv6-address>}**
Parameter	**<ip-address>** IPv4 address of time server **<ipv6-address>** IPv6 address of time server

	<version_no>	The version number of server, range is from 1 to 4, default is 4
	<key-id>	The key id

Default	By default,disable。
Mode	Global Mode
Usage Guide	To enable specified time server of time source. The no form of this command cancels the specified time server of time source.
Example	To configure time server address as 1.1.1.1 on switch. **Switch(config)# ntp server 1.1.1.1**

ntp syn-interval

Command	**ntp syn-interval <1-3600>** **no ntp syn-interval**

Parameter	**<1-3600>**	the request packet sending interval of ntp client as 1s-3600s

Default	By default,64s interval.
Mode	Global Mode
Usage Guide	Configure the request packet sending interval of ntp client as 1s-3600s. 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. The no command recovers to be the default value of 64s.
Example	Configure to adjust the system time once an hour, and the packet sending time is 450s. **Switch(config)# ntp syn-interval 450**

ntp trusted-key

Command	**ntp trusted-key <key-id>** **no ntp trusted-key <key-id>**
Parameter	**<key-id>** The id of key, range is from 1 to 4294967295
Default	Trusted key is not configured by default.
Mode	Global Mode
Usage Guide	To configure the trusted key. The no command cancels the trusted key.
Example	To configure the specified key 20 to trusted key. **Switch(config)# ntp trusted-key 20**

show ntp status

Command	**show ntp status**
Parameter	**none** none
Default	None.
Mode	Admin/Global Mode
Usage Guide	To display time synchronization status, include synchronized or not, layers, address of time source and so on.
Example	Display time synchronization status. **Switch(config)# 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

show ntp session

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

Parameter

<ip-address>	The IPv4 address of some specifics configured time server
<ipv6-address>	The IPv6 address of some specifics configured time server

Default

None.

Mode

Admin/Global Mode

Usage Guide

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)

Example

To display the information of all NTP session.

Switch(config)# 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

3 Commands for Summer Time

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**

Parameter

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

Default

By default,there is no summer time range.

Mode

Global Mode

Usage Guide

Configure summer time range, the time in this range is summer time.
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.

The no command deletes the configuration.

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

clock summer-time recurring

Command	**clock summer-time <word> recurring <HH:MM> <MM.DD> <HH:MM> <MM.DD> [<offset>]** **no clock summer-time**

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

Default

By default,there is no summer time range.

Mode

Global Mode

Usage Guide

Configure the recurrent summer time range, the time in this range is summer time. 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 syst em 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 relationbetween 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.

The no command delete summer time configuration.

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

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

Parameter	**<word>**	the time zone name of summer time
	<HH:MM>	the start time, the format is hour(from 0 to 23):minute(from 0 to 59)
	<week>	the week from 1 to 4, first or last
	<day>	the week value, the value as “Sun”, “Mon”, “Tue”, “Wed”,

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

Default

By default,there is no summer time range.

Mode

Global Mode

Usage Guide

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

The no command delete summer time configuration.

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