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

- **Command: ntp broadcast client**
- **no ntp broadcast client**
- **Function**: To configure/cancel the specified port to receive NTP broadcast packets.
- **Parameter:** None.

- **Default**: Disabled.
- **Command Mode:** vlan Configuration Mode.
- **Usage Guide:** None.
- **Example**: Enable the function of VLAN1 interface to receive NTP broadcast packets.
- Switch(config)# interface vlan 1
- Switch(Config-if-Vlan1)#ntp broadcast client

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 DNSV4/V6

3.1 clear dynamic-host

- **Command: clear dynamic-host {*<ip-address>* | *<ipv6-address>* | all}**
- **Function:** To delete the domain entry of specified address or all address in dynamic cache.
- **Parameter:** *<ip-address>* is the IP address, in dotted decimal notation; *<ipv6-address>* is the IPv6 address; **all** is to delete the domain entry of all address in dynamic cache.
- **Command Mode:** Admin Mode.
- **Default:** Disabled.
- **Usage Guide:** This command is used to manually delete the domain name and address entry in dynamic cache, this command is much useful when domain name have lived long time in cache.
- **Example:** To delete the address of 202.108.22.5 of domain entry.
- Switch# clear dynamic-host 202.108.22.5

3.2 debug dns

- **Command: debug dns {all | packet [send | recv] | events | relay}**
- **no debug dns {all | packet [send | recv] | events | relay}**
- **Function:** To display the application debug information of DNS domain name resolution, the no form of this command disables the debug display.
- **Parameter:** None.
- **Command Mode:** Admin Mode.
- **Example:**
- Switch# debug dns all
- Switch# ping host www.sina.com.cn

- %Jan 01 00:03:13 2006 domain name www.sina.com.cn is to be parsed!
- %Jan 01 00:03:13 2006 Dns query type is A!
- %Jan 01 00:03:13 2006 Connect dns server 10.1.120.241 ......
- ping www.sina.com.cn [202.108.33.32]
- Type ^c to abort.
- Sending 5 56-byte ICMP Echos to 202.108.33.32, timeout is 2 seconds.
- %Jan 01 00:03:15 2006 Host:www.sina.com.cn   Address:202.108.33.32
- .....
- Success rate is 0 percent (0/5), round-trip min/avg/max = 0/0/0 ms

3.3 dns-server

- **Command: dns-server {*<ip-address>*|*<ipv6-address>*} [priority *<value>*]**
- **no dns-server {*<ip-address>*|*<ipv6-address>*}**
- **Function:** To configure/delete DNS server.

- **Parameter:** *<ip-address>* is the IP address, in dotted decimal notation, *<ipv6-address>* is the IPv6 address, *<value>* is the priority of DNS server, range between 0~255, 0 by default.
- **Command Mode:** Global Mode.
- **Default:** Not configuration.
- **Usage Guide:** This command is used for configure or delete DNS server, when need to enable dynamic domain name mapping, the switch will sending a domain name search request packet to configured DNS server, the DNS server can be configured no more than 6. The priority is the optional parameter, if priority is configured, the DNS server must be organized according to the order of priority, from high to low. That is the switch sending domain name search request to the server which have the biggest priority, so some DNS server with quick search speed and used frequently can be configured to highest priority. If priority is not configured, to search DNS server must according to the configuration order. When the switch serves as a DNS SERVER, the queries to the DNS SERVER won't follow the above privilege rule; instead, the requests will be sent to all configured servers at the same time
- **Example:** To configure the priority of DNS server as 200, the server's address is 10.1.120.241.
- Switch(config)# dns-server 10.1.120.241 priority 200

3.4 dns lookup

- **Command: dns lookup {ipv4 | ipv6} *<hostname>***
- **Function:** To enable DNS dynamic domain name resolution.
- **Parameter: {ipv4 | ipv6}** means the IPv4 or IPv6 address look up, *<hostname>* is the resolute dynamic host name, less than 256 characters.
- **Command Mode:** Global Mode.
- **Default:** Disabled.
- **Usage Guide:** This command is used to look up correspond address based on entered client name, it can look up both IPv4 and IPv6 address. This command only used for domain name mapping, it have no other application function. When command is running, interrupt is forbidding. If configured many servers and domain name suffix, longer time will be required for domain name mapping.
- **Example:** To look up the IPv4 address of www.sina.com.
- Switch(config)# dns lookup ipv4 www.sina.com

3.5 show dns name-server

- **Command: show dns name-server**
- **Function:** To display the information of configured DNS server.
- **Parameter:** None.
- **Command Mode:** Admin and Configuration Mode.
- **Example:**
- Switch# show dns name-server

- DNS NAME SERVER:
- Address   Priority
- 10.1.120.231   100
- 10.1.180.85   80
- 2001::1   20

3.6 show dns domain-list

- **Command: show dns domain-list**
- **Function:** To display the suffix information of configured DNS domain name.
- **Parameter:** None.
- **Command Mode:** Admin and Configuration Mode.
- **Example:**
- Switch# show dns domain-list
- DNS DOMAIN LIST:
- com.cn
- edu.cn

3.7 show dns hosts

- **Command: show dns hosts**
- **Function:** To display the dynamic domain name information of resolute by switch.
- **Parameter:** None.
- **Command Mode:** Admin and Configuration Mode.
- **Example:**
- Switch# show dns hosts

- Total number of dynamic host is 2
- DNS HOST LIST：
- Hostname   Address   Time to live   Type
- www.sina.com.cn   202.108.33.32   168000   dynamic
- www.ipv6.org   2001:6b0:1:   168060   dynamic

3.8 show dns config

- **Command: show dns config**
- **Function:** Display the configured global DNS information on the switch.
- **Parameter:** None.
- **Command Mode:** Admin and Configuration Mode.
- **Example:**
- Switch(config)#show dns config
- ip dns server enable
- ip domain-lookup enable
- the maximum of dns client in cache is 3000, timeout is 5
- dns client number in cache is 0

- dns dynamic host in cache is 0
- dns name server number is 1
- dns domain-list number is 0

3.9 show dns client

- **Command: show dns client**
- **Function:** Display the DNS Client information maintained by the switch.
- **Parameter:** None.
- **Command Mode:** Admin and Configuration Mode.
- **Example:**
- Switch(config)#show dns client
- DNS REQUEST LIST:
- Total number of dns request is 2
- Address   Request Id
- 192.168.11.141   1
- 192.168.11.138   2

3.10 ip domain-lookup

- **Command: ip domain-lookup**
- **no ip domain-lookup**
- **Function:** To enable/disable DNS function, whether the switch will send dynamic DNS domain queries to the real DNS server or not.
- **Parameter:** None.
- **Command Mode:** Global Mode.
- **Default:** Disabled.
- **Usage Guide:** This command is used to enable or disable the switch DNS dynamic query function. If DNS dynamic query function is enabled, the DNS server will resolve the host name and domain name to the IPv4 or IPv6 address for requests from the clients. If DNS is disabled, client applications will not be able to send any DNS requests to the DNS server. In this situation, only the static address resolution is available. For the address mapping in the resolve cache, which is learnt through DNS before, will be invalid after aging.
- **Example:** To enable DNS function, can resolve the domain name dynamic.
- Switch(config)# ip domain-lookup

3.11 ip domain-list

- **Command: ip domain-list *<WORD>***
- **no ip domain-list *<WORD>***
- **Function:** To configure/delete domain name suffix.
- **Parameter:** *<WORD>* is the character string of domain name suffix, less than 63 characters.
- **Command Mode:** Global Mode.

- **Default:** Disabled.
- **Usage Guide:** This command is used to configure or delete suffix of domain name, when the entered domain name is not integrity (such as sina), the switch can add suffix automatically, after that, address mapping can run, the domain name suffix can be configured no more than 6. The first configured domain name suffix will be added first.
- **Example:** To configure domain name suffix of com.
- Switch(config)# ip domain-list com

3.12 ip dns server

- **Command: ip dns server**
- **no ip dns server**
- **Function:** Enable/disable DNS SERVER function.
- **Parameter:** None.
- **Command Mode:** Global Mode.
- **Default:** Disabled by default.
- **Usage Guide:** After the DNS SERVER function is enabled, the switch will be able to receive and handle DNS Requests from the clients by looking up locally or forward the request to the real DNS server.
- **Example:** Configure to enable the dns server function of the switch.
- Switch(config)#ip dns server

3.13 ip dns server queue maximum

- **Command: ip dns server queue maximum <1-5000>**
- **no ip dns server queue maximum**
- **Function:** Configure the max number of client information in the switch queue.
- **Parameter:** <1-5000> the value can be 1－5000.
- **Command Mode:** Global Mode.
- **Default:** The default client number is 3000.
- **Usage Guide:** When receiving a DNS Request from a client, the switch will cache the client's information. But the number of client information in the queue should not exceed the configured maximum number; otherwise the client's request won't be handled.
- **Example:** Set the max number of client information in the switch queue as 2000.
- Switch(config)#ip dns server queue maximum 2000

3.14 ip dns server queue timeout

- **Command: ip dns server queue timeout <1-100>**
- **no ip dns server queue timeout**
- **Function:** Configure the timeout value of caching the client information on the switch.
- **Parameters:** <1-100> the value can be1－100s.
- **Command Mode:** Global Mode.
- **Default:** The default timeout value is 5s.

- **Usage Guide:** When receiving a DNS Request from a client, the switch will cache the client's information. But the time of maintaining the client information should not exceed the configured maximum timeout value; otherwise the client's information will be cleared out.
- **Example:** Configure the maximum timeout value of caching the client information on the switch as 10s.
- Switch(config)#ip dns server queue timeout 10

Chapter 4 COMMANDS FOR SUMMER TIME

4.1 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

4.2 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

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- **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

4.3 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