DES-7200

Network Management Command Reference Guide

Version 10.4(3)

Revision No.: Version 10.4(3)

Date:

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Preface

Version Description

This manual matches the firmware version 10.4(3).

Target Readers

This manual is intended for the following readers:

📖 Network engineers

📖 Technical salespersons

📖 Network administrators

Conventions in this Document

1. Universal Format Convention

Arial: Arial with the point size 10 is used for the body.

Note: A line is added respectively above and below the prompts such as caution and note to separate them from the body.

Format of information displayed on the terminal: Courier New, point size 8, indicating the screen output. User's entries among the information shall be indicated with bolded characters.

2. Command Line Format Convention

Arial is used as the font for the command line. The meanings of specific formats are described below:

Bold: Key words in the command line, which shall be entered exactly as they are displayed, shall be indicated with bolded characters.

Italic: Parameters in the command line, which must be replaced with actual values, shall be indicated with italic characters.

[ ]: The part enclosed with [ ] means optional in the command.

{ x | y | ... }: It means one shall be selected among two or more options.

[x | y | ...]: It means one or none shall be selected among two or more options.

//:Lines starting with an exclamation mark "//" are annotated.

3. Signs

Various striking identifiers are adopted in this manual to indicate the matters that special attention should be paid in the operation, as detailed below:

 **Caution**	Warning, danger or alert in the operation.

 **Note**	Descript, prompt, tip or any other necessary supplement or explanation for the operation.

 **Note**	The port types mentioned in the examples of this manual may not be consistent with the actual ones. In real network environments, you need configure port types according to the support on various products. The display information of some examples in this manual may include the information on other series products, like model and description. The details are subject to the used equipments.

1 SNMP Configuration Command

1.1 Configuration Related Commands

1.1.1 no snmp-server

Use this command to disable the SNMP agent function in the global configuration mode.

no snmp-server

Default configuration	Disabled.
Command mode	Global configuration mode.
Usage guidelines	This command disables the SNMP agent services of all versions supported on the device.
Examples	The example below disables the SNMP agent service. `DES-7200(config)# no snmp-server`

1.1.2 snmp-server chassis-id

Use this command to specify the SNMP system sequential number in the global configuration mode. The **no** form of this command is used to restore it to the initial value.

snmp-server chassis-id *text*

no snmp-server chassis-id

Parameter description

Parameter	Description
text	Text of the system sequential number, numerals or characters.

Default configuration	The default sequence number is 60FF60.
Command mode	Global configuration mode.
Usage guidelines	The SNMP system sequence number is generally the sequence number of the machine to facilitate the device identification. The sequence number can be viewed through the **show snmp** command.
Examples	The example below specifies the SNMP system sequence number as 123456: `DES-7200(config)# snmp-server chassis-id 123456`

Related commands

Command	Description
show snmp	Show the SNMP information.

1.1.3 snmp-server community

Use this command to specify the SNMP community access string in the global configuration mode. The **no** format of the command cancels the SNMP community access string.

snmp-server community *string* [**view** *view-name*] [[**ro** | **rw**] [**host** *ipaddr*] [**ipv6** *ipv6-aclname*] [*aclnum*] [*aclname*]

no snmp-server community *string*

Parameter description

Parameter	Description
string	Community string, which is equivalent to the communication password between the NMS and the SNMP agent
view-name	Name of the view used for management
ro	Indicate that the NMS can only read the variables of the MIB.
rw	Indicate that the NMS can read and write the variables of the MIB.
aclnum	Sequence number of the ACL, which specifies the IPV4 address range of the

	NMS that are permitted to access the MIB.
aclname	Name of the ACL, which specifies the IPV4 address range of the NMS that are permitted to access the MIB.
ipv6-aclname	Name of the IPv6 ACL, which specifies the IPv6 address range of the NMS that are permitted to access the MIB
ipaddr	IP address of the NMS accessing the MIB

Default configuration All communities are read only by default.

Command mode Global configuration mode.

Usage guidelines

This command is the first important command to enable the SNMP agent function. It specifies the community attribute, range of the NMSs that can access the MIB, and more.

To disable the SNMP agent function, execute the command **no snmp-server**.

Examples

The example below restricts the access to the MIB through the access list, which allows only the NMS of the IP address 192.168.12.1 to access the MIB.

```
DES-7200(config)# access-list 2 permit 192.168.12.1
DES-7200(config)# access-list 2 deny any
DES-7200(config)# snmp-server community public ro 2
```

Related commands

Command	Description
access-list	Define the access list.

1.1.4 snmp-server contact

Use this command to specify the SNMP system contact in the global configuration mode. The **no** form of this command is used to delete the system contact.

snmp-server contact *text*

no snmp-server contact

Parameter description

Parameter	Description
text	String describing the system contact.

Default configuration N/A.

Command mode Global configuration mode.

Examples The example below specifies the SNMP system contract i-net800@i-net.com.cn:

```
DES-7200(config)# snmp-server contact
i-net800@i-net.com.cn
```

Related commands

Command	Description
show snmp-server	Check the SNMP information.
no snmp-server	Disable the SNMP agent function.

1.1.5 snmp-server enable traps

Use this command to enable the SNMP server to actively send the SNMP Trap massage to NMS when some emergent and important events occur in the global configuration mode. The **no** format of this command is used to disable the SNMP server to actively send the SNMP Trap massage to NMS.

snmp-server enable traps [snmp]

no snmp-server enable traps

Parameter description

Parameter	Description
snmp	Enable the trap notification of SNMP events.

Default configuration Disabled.

Command mode Global configuration mode.

Usage guidelines	This command must work with the global configuration command **snmp-server host** to send the SNMP Trap message.

Examples	The example below enables the SNMP server to actively send the SNMP Trap message.
	`DES-7200(config)# snmp-server enable traps snmp`
	`DES-7200(config)# snmp-server host 192.168.12.219 public snmp`

Related commands

Command	Description
snmp-server host	Specify the SNMP host to send the SNMP Trap message.

1.1.6 snmp-server group

Use this command to set the SNMP user group in the global configuration mode**.** The **no** form of this command is used to remove the user group.

snmp-server group ***groupnam****e* **{v1 | v2c | v3 {auth | noauth | priv}} [read** *readview***][write** *writeview***] [access** {[ipv6 ipv6_aclname] [*aclnum* |*aclname*] num|name}**]**

no snmp-server group *groupname* {**v1 | v2c | v3** }

Parameter description

Parameter	Description
v1,v2c,v3	SNMP version
auth	Authenticate the messages transmitted by the user group without encryption. This applies to only SNMPv3.
noauth	Neither authenticate nor encrypt the messages transmitted by the user group. This applies to only SNMPv3.
priv	Authenticate and encrypt the messages transmitted by the user group. This applies to only SNMPv3.
readview	Associate with a read-only view.
aclnum	Sequence number of the ACL in the range of 1 to 99, which specifies the IPV4 address range of the NMS that are permitted to access the MIB.
aclname	Name of the ACL, which specifies the IPV4 address range of the NMS that

		are permitted to access the MIB.
	ipv6_aclname	Name of the IPv6 ACL, which specifies the IPv6 address range of the NMS that are permitted to access the MIB
	writeview	Associate with a read-write view.

Default configuration	N/A.
Command mode	Global configuration mode.
Examples	The example below sets a user group. `DES-7200(config)#` **`snmp-server group`** *`mib2user`* **`v3 priv read`** *`mib2`*

Related commands

Command	Description
show snmp group	Show the SNMP user group configuration.

1.1.7 snmp-server host

Use this command to specify the SNMP host (NMS) to send the trap message in the global configuration mode. The **no** form of this command is used to remove the specified SNMP host.

snmp-server host {*host-addr*| **ipv6** *ipv6-addr*} [**vrf** *vrfname*] [**traps**] [**version** {**1** | **2c** | **3** [**auth** | **noauth** | **priv**]] *community-string* [**udp-port** *port-num*][*notification-type*]

no snmp-server host { *host-addr* | **ipv6** *ipv6-addr* } [**vrf** *vrfname*] [**traps**] [**version** { **1** | **2c** | **3** { **auth** | **noauth** | **priv** }] *community-string* [**udp-port** *port-num*]

Parameter description

Parameter	Description
host-addr	SNMP host address
ipv6-addr	SNMP host address(ipv6)
vrfname	Set the name of vrf forwarding table
version	SNMP version: V1, V2C or V3
auth | noauth | priv	Security level of SNMPv3 users

community-string	Community string or username (SNMPv3 version)
port-num	Port of the SNMP host
notification-type	The type of the SNMP trap message sent actively, such as **snmp**.

Default configuration

By default, no SNMP host is specified.

If no type of the SNMP trap message is specified, all types of the SNMP trap message will be included.

Command mode

Global configuration mode.

Usage guidelines

This command must work with the **snmp-server enable traps** command in the global configuration mode to actively send the SNMP trap messages to NMS.

It is possible to configure multiple SNMP hosts to receive the SNMP Trap messages. One host can use different combinations of the types of the SNMP trap message, but the last configuration for the same host will overwrite the previous configurations. In other words, to send different SNMP trap messages to the same host, different combination of SNMP trap messages have to be configured.

Examples

The example below specifies an SNMP host to receive the SNMP event trap:

```
DES-7200(config)# snmp-server host 192.168.12.219 public snmp
```

Related commands

Command	Description
snmp-server enable traps	Enable to send the SNMP trap message.

1.1.8 snmp-server location

Use this command to set the SNMP system location information in the global configuration mode. The **no** form of this command is used to remove the specified SNMP system location information.

snmp-server location *text*

no snmp-server location

Parameter description

Parameter	Description
text	String describing the system

Default configuration Null

Command mode Global configuration mode.

Examples The example below specifies the system information:

```
DES-7200(config)# snmp-server location
start-technology-city 4F of A Buliding
```

Related commands

Command	Description
snmp-server contact	Specify the system contact information.

1.1.9 snmp-server packetsize

Use this command to specify the maximum size of the SNMP packet in the global configuration mode. The **no** form of this command is used to restore it to the default value.

snmp-server packetsize *byte-count*

no snmp-server packetsize

Parameter description

Parameter	Description
byte-count	Packet size in the range of 484 to 17876 bytes

Default configuration 1472 bytes.

Command mode Global configuration mode.

Examples The example below specifies the maximum SNMP packet size as 1,492 bytes:

```
DES-7200(config)# snmp-server packetsize 1492
```

Related commands

Command	Description
snmp-server queue-length	Specify the length of the SNMP trap message queue.

1.1.10 snmp-server queue-length

Use this command to specify the length of the SNMP trap message queue in the global configuration mode.

snmp-server queue-length *length*

Parameter description

Parameter	Description
length	**Queue length in the range of 1 to 1000**

Default configuration

10.

Command mode

Global configuration mode.

Usage guidelines

The SNMP trap message queue is used to store the SNMP trap messages. This command can be used to adjust the size of the SNMP trap message queue to control the speed to sending the SNMP trap messages.

The maximum speed to send messages is 4 messages per second.

Examples

The example below specifies the speed to send the trap message to 4 messages per second:

```
DES-7200(config)# snmp-server queue-length 4
```

Related commands

Command	Description
snmp-server packetsize	Specify the maximum size of the SNMP packet.

1.1.11 snmp-server system-shutdown

Use this command to enable the SNMP system restart notification function in the global configuration mode. The **no** form of this command is used to disable the SNMP system notification function.

snmp-server system-shutdown

no snmp-server system-shutdown

Default configuration	Disabled.
Command mode	Global configuration mode.
Usage guidelines	This command is used to enable the SNMP system restart notification function. The DES-7200 sends the SNMP trap messages to the NMS to notify the system pending before the device is reloaded or rebooted.
Examples	The example below enables the SNMP system restart notification function: `DES-7200(config)# snmp-server system-shutdown`

1.1.12 snmp-server trap-source

Use this command to specify the source of the SNMP trap message in the global configuration mode. The **no** form of this command is used to restore it to the default value.

snmp-server trap-source *interface*

no snmp-server trap-source

Parameter description

Parameter	Description
interface	Interface to be used as the source of the SNMP trap message

Default configuration	The IP address of the interface where the NMP message is sent from is just the source address.
Command mode	Global configuration mode.

Usage guidelines

By default, the IP address of the interface where the NMP message is sent from is just the source address. For easy management and identification, this command can be used to fix a local IP address as the SNMP source address.

Examples

The example below specifies the IP address of Ethernet interface 0 as the source of the SNMP trap message:

```
DES-7200(config)# snmp-server trap-source fastethernet 0
```

Related commands

Command	Description
snmp-server enable traps	Enable the sending of the SNMP trap message.
snmp-server host	Specify the NMS host to send the SNMP trap message.

1.1.13 snmp-server trap-timeout

Use this command to define the retransmission timout time of the SNMP trap message in the global configuration mode. The **no** form of this command is used to restore it to the default value.

snmp-server trap-timeout *seconds*

no snmp-server trap-timeout

Parameter description

Parameter	Description
seconds	Timeout (in seconds) of retransmit the SNMP trap message

Default configuration

30s.

Command mode

Global configuration mode.

Examples

The example below specifies the timeout period as 60 seconds.

```
DES-7200(config)# snmp-server trap-timeout 60
```

Related

Command	Description

snmp-server queue-length	Specify the length of the SNMP trap message queue.
snmp-server host	Specify the NMS host to send the SNMP trap message.

1.1.14 snmp-server user

Use this command to set the SNMP name in the global configuration mode**.** The **no** form of this command is used to delete the user.

snmp-server user *username groupname* {**v1 | v2c | v3** [**encrypted**] [**auth** {**md5 | sha**} *auth-password*] [**priv des56** *priv-password*]} [**access** {[ipv6 ipv6_aclname][acl*num* | acl*name*}]]

no snmp-server user *username groupname* {**v1 | v2c | v3** }

Parameter description

Parameter	Description
username	User name
groupname	Group name of the user.
v1 | v2c | v3	SNMP version. But only SNMPv3 supports the following security parameters.
encrypted	Input the password in cipher text mode. In cipher text mode, input continuous HEX alphanumeric characters. Note that the authentication password of MD5 has a length of 16 characters, while that of SHA has a length of 20 bytes. Two characters make a byte. The encrypted key can only be used by the local SNMP engine on the switch.
auth	Specify whether to use the authentication.
auth-password	Password string (no more than 32 characters) used by the authentication protocol. The system will change the password to the corresponding authentication key.
priv	Encryption mode. **des56** refers to 56-bit DES encryption protocol. *priv-password*: password string (no more than 32 characters) used for encryption. The system will change the password to the corresponding encryption key.

md5	Enable the MD5 authentication protocol. While the **sha** enables the SHA authentication protocol.
aclnumber	Sequence number of the ACL in the range of 1 to 99, which specifies the IPV4 address range of the NMS that are permitted to access the MIB.
aclname	Name of the ACL, which specifies the IPV4 address range of the NMS that are permitted to access the MIB.
ipv6_aclname	Name of the IPv6 ACL, which specifies the IPv6 address range of the NMS that are permitted to access the MIB

Default configuration N/A.

Command mode Global configuration mode.

Examples The example below configures an SNMPv3 user with MD5 authentication and DES encryption:

```
DES-7200(config)# snmp-server user user-2 mib2user v3
auth md5 authpassstr priv des56 despassstr
```

Related commands

Command	Description
show snmp user	Show the SNMP user configuration.

1.1.15 snmp-server view

Use this command to set a SNMP view in the global configuration mode**.** The **no** form of this command is sued to delete the view.

snmp-server view *view-name* **oid-tree** {**include | exclude**}

no snmp-server view *view-name* [***oid-tree***]

Parameter description

Parameter	Description
view-name	View name
oid-tree	Specify the MIB object to associate with the view.

	include	Include the sub trees of the MIB object in the view.
	exclude	Exclude the sub trees of the MIB object from the view.

Default configuration	By default, a default view is set to access all MIB objects.
Command mode	Global configuration mode.
Examples	The example below sets a view that includes all MIB-2 sub-trees (oid is 1.3.6.1). `DES-7200(config)# snmp-server view mib2 1.3.6.1 include`

Related commands	**Command**	**Description**
	show snmp view	Show the view configuration.

1.1.16 snmp trap link-status

For this command, please refer to the *INTF-CREF.doc*

Parameter description	N/A
Default configuration	Please refer to the *INTF-CREF.doc.*
Command mode	Please refer to the *INTF-CREF.doc.*
Examples	Please refer to the *INTF-CREF.doc*

1.2 Showing Related Command

1.2.1 show snmp

Use this comand to show the SNMP information in the privileged mode.

show snmp [**mib | user | view | group | host**]

Command mode	Privileged mode.
Usage guidelines	**show snmp**: Show the SNMP information. **show snmp mib**: Show the SNMP MIBs supported in the system. **show snmp user**: Show the SNMP user information. **show snmp view**: Show the SNMP view information. **show snmp group**: Show the SNMP user group information. **Show snmp host**: show the configuration set by users.

Examples	The example below shows the SNMP information:
	`DES-7200# show snmp`
	`Chassis: 60FF60`
	`0 SNMP packets input`
	`0 Bad SNMP version errors`
	`0 Unknown community name`
	`0 Illegal operation for community name supplied`
	`0 Encoding errors`
	`0 Number of requested variables`
	`0 Number of altered variables`
	`0 Get-request PDUs`
	`0 Get-next PDUs`
	`0 Set-request PDUs`
	`0 SNMP packets output`
	`0 Too big errors (Maximum packet size 1472)`
	`0 No such name errors`
	`0 Bad values errors`
	`0 General errors`
	`0 Response PDUs`
	`0 Trap PDUs`
	`SNMP global trap: disabled`
	`SNMP logging: disabled`
	`SNMP agent: enabled`

Related commands

Command	Description
snmp-server chassis-id	Specify the SNMP system sequence number.

2 RMON Configuration commands

2.1 Configuration Related Commands

2.1.1 rmon alarm

Use this command to monitor a MIB variable. The **no** form of this command cancels the logging.

rmon alarm *number variable interval* {**absolute** | **delta** } **rising-threshold** *value* [*event-number*] **falling-threshold** *value* [*event-number*] [**owner** *ownername*]

no rmon alarm *number*

Default	N/A.
Command mode	Global configuration mode.
Usage guidelines	The DES-7200 allows you to modify the configured history information of the Ethernet network, including **variable, absolute/delta, owner, rising-threadhold/falling-threadhold**, and the corresponding events. However, the modification does not take effect immediately until the system triggers the monitoring event at the next time.
Examples	The example below monitors the MIB variable instance ifInNUcastPkts.6. `DES-7200(config)# rmon alarm 10 1.3.6.1.2.1.2.2.1.12.6 30 delta rising-threshold 20 1 falling-threshold 10 1 owner zhangsan`
Related	**Command** / **Description**

	rmon event *number* [**log**] [**trap** *community*] **description** *string* [**owner** *owner-string*]	Add an event definition.

2.1.2 rmon collection history

Use this command to log the history of an Ethernet interface. The **no** form of this command cancels the logging.

rmon collection history *index* [**owner** *ownername*] [**buckets** *bucket-number*] [**interval** *seconds*]

no rmon collection history *index*

Default N/A.

Command mode Interface configuration mode.

Usage guidelines The DES-7200 allows you to modify the configured history information of the Ethernet network, including **owner, buckets**, and **interval**. However, the modification does not take effect immediately until the system records history at the next time.

Examples The example below Logs the history of Ethernet port 1.

```
DES-7200(config)# interface fast-Ethernet 0/1
DES-7200(config-if)# rmon collection history  1 zhansan
buckets 10 interval 10
```

Related commands

Command	Description
rmon collection stats *index* [**owner** *owner-name*]	Add a statistical entry.

2.1.3 rmon collection stats

Use this command to monitor an Ethernet interface. The **no** form of this command remove the configuration.

rmon collection stats *index* [**owner** *owner-string*]

no rmon collection stats *index*

Default N/A.

Command mode	Interface configuration mode.
Usage guidelines	N/A.

Examples	The example below enables monitoring the statistics of Ethernet port 1.
	`DES-7200(config)# interface fast-Ethernet 0/1`
	`DES-7200(config-if)# rmon collection stats 1 zhansan`

Related commands

Command	Description
rmon collection history *index* [**owner** *owner-name*] [**buckets** *bucket-number*] [**interval** *seconds*]	Add a history control entry.

2.1.4 rmon event

Use this command to define an event. The **no** form of this command cancels the logging.

rmon event *number* [**log**] [**trap** *community*] [*description-string*] [**description** *description-string*] [**owner** *owner-name*]

no rmon alarm *number*

Default	N/A.
Command mode	Global configuration mode.
Usage guidelines	N/A.
Examples	The example below defines the event actions: log event and send trap message. `DES-7200(config)# rmon event 1 log trap rmon description "ifInNUcastPkts is too much " owner zhangsan`

Related

Command	Description

	rmon alarm *number variable interval* {**absolute** | **delta** } **rising-threshold** *value* [*event-number*] **falling-threshold** *value* [*event-number*] [**owner** *ownername*]	Add an alarm entry.

2.2 Showing Related Commands

2.2.1 show rmon alarm

Use this command to show the rmon alarm table.

show rmon alarm

Default	N/A.
Command mode	Privileged mode.
Usage guidelines	N/A.

Examples	The example below shows the rmon alarm table.
	`DES-7200# show rmon alarm`
	`rmon alarm table:`
	`index: 10,`
	`interval: 30,`
	`oid = 1.3.6.1.2.1.2.2.1.12.6`
	`sampleType: 2,`
	`alarmValue: 0,`
	`startupAlarm: 3,`
	`risingThreshold: 20,`
	`fallingThreshold: 10,`
	`risingEventIndex: 1,`
	`fallingEventIndex: 1,`
	`owner: zhangesan,`
	`stats: 1,`

Related	**Command**	**Description**

	rmon alarm *number variable interval* {**absolute** | **delta** } **rising-threshold** *value* [*event-number*] **falling-threshold** *value* [*event-number*] [**owner** *ownername*]	Add an alarm entry.

2.2.2 show rmon event

Use this command to show the event information.

show rmon event

Default	N/A.
Command mode	Privileged mode.
Usage guidelines	N/A.

Examples	The example below shows the event information.
	`DES-7200# show rmon event`
	`rmon event table:`
	`index = 1`
	`description = ifInNUcastPkts`
	`type = 4`
	`community = rmon`
	`lastTimeSent = 0 d:0 h:0 m:0 s`
	`owner = zhangsan`
	`status = 1`

Related commands	**Command**	**Description**
	rmon event *number* [**log**] [**trap** *community*] [**description** *description-string*] [**owner** *ownername*]	Add an event entry.

2.2.3 show rmon history

Use this command to show the history information.

show rmon history

Default	N/A.
Command mode	Privileged mode.
Usage guidelines	N/A.

Examples

The example below shows the history information.

```
DES-7200#  show rmon history
rmon history control table:
                index = 1
                interface = FastEthernet 0/1
                bucketsRequested = 10
                bucketsGranted = 10
                interval = 1800
                owner = zhangsan
                stats = 1

rmon history table:
                index = 1
                sampleIndex = 198
                intervalStart = 0d:14h:0m:47s
                dropEvents = 0
                octets = 67988
                pkts = 726
                broadcastPkts = 502
                multiPkts = 189
                crcAllignErrors = 0
                underSizePkts = 0
                overSizePkts = 0
                fragments = 0
                jabbers = 0
                collisions = 0
                utilization = 0
```

	Command	Description
Related commands	**rmon collection history** *index* [**owner** *ownername*] [**buckets** *bucket-number*] [**interval** *seconds*]	Add a history control entry.

2.2.4 show rmon statistics

Use this command to show the statistics.

show rmon statictics

Default	N/A.
Command mode	Privileged mode.
Usage guidelines	N/A.
Examples	The example below shows the statistics.

```
DES-7200#  show rmon statistics
ether statistic table:
                index = 1
                interface = FastEthernet 0/1
                owner = zhangsan
                status = 0
                dropEvents = 0
                octets = 1884085
                pkts = 3096
                broadcastPkts = 161
                multiPkts = 97
                crcAllignErrors = 0
                underSizePkts = 0
                overSizePkts = 1200
                fragments = 0
                jabbers = 0
                collisions = 0
                packets64Octets = 128
                packets65To127Octets = 336
```

```
packets128To255Octets = 229
packets256To511Octets = 3
packets512To1023Octets = 0
packets1024To1518Octets = 1200
```

Related commands

Command	Description
rmon collection stats *index* [**owner** *owner-string*]	Add a statistical entry.

3 NTP Configuration Commands

3.1 NTP Configuring Related Commands

3.1.1 no ntp

Use this command to disable the **ntp** synchronization service with the time server and clear all configuration information of **ntp**.

no ntp

Parameter description	N/A.
Default	Disabled.
Command mode	Global configuration mode.
Usage guidelines	By default, the NTP function is disabled. However, once the NTP server or the NTP security identificaiton mechanism is configured, the NTP function will be enabled.
Examples	The configuration example below disables the NTP service. `DES-7200(config)#no ntp`

Related commands

Command	Description
ntp server	Specify a NTP server.

3.1.2 ntp access-group

Use this command to configure the access control priority of the ntp service. Use the **no** form of this command to cancel the access control priority.

ntp access-group {peer | serve | serve-only | query-only} *access-list-number* | *access-list-name*

no ntp access-group {peer | serve | serve-only | query-only} *access-list-number* | *access-list-name*

Parameter description

Parameter	Description
peer	Not only allow to request for the time of and control the local NTP service, but also allow the time synchronization of the local and the peer.
serve	Allow to request for the time of and control the local NTP service only, the time synchronization of the local and the peer is not allowed.
serve-only	Allow to request for the time of local NTP service only.
query-only	Allow to control and search for the local NTP service.
access-list-number	The IP access control list number, in the range of 1-99 and 1300-1999.
access-list-name	The IP access control list name.

Default

No NTP access control rule has been configured by default.

Command mode

Global configuration mode.

Usage guidelines

Use this command to configure the access control priority of the ntp service. NTP services access control function provides a minimal security measures (more secure way is to use the NTP authentication mechanism).

When an access request arrives, NTP service matches the rules in accordance with the sequence from the smallest to the largest to access restriction, and the first matched rule shall prevail. The matching order is peer, serve, serve-only, query-only.

Caution:

Control query function is not supported in the current system. Although it matches with the order in accordance with the above rules, the related requests about the control and query are not supported.

If you do not configure any access control rules, then all accesses are allowed. However, once the access control rules are configured, only the rule that allows access can be carried out.

Examples

The following example shows how to allow the peer device in acl1 to control the query, request for and synchronize the time with the local device; and limit the peer device in acl2 to request the time for the local device:

```
DES-7200(config)# ntp access-group peer 1

DES-7200(config)# ntp access-group serve-only 2
```

Related commands

Command	Description
ip access-list	Create the IP access control list.

3.1.3 ntp authenticate

Use this command to enable NTP authentication globally.

ntp authenticate

no ntp authenticate

Parameter description	N/A.
Default	Disabled.
Command mode	Global configuration mode.
Usage guidelines	If the global security identification mechanism is not used, the synchronization communication is not encrypted. To enable encrypted communication on the server, enable the security identification mechanism and configure other keys globally. The authentication standard is the trusted key specified by **ntp authentication-key** and **ntp trusted-key**.

Examples	After an authentication key is configured and specified as the global trusted key, enable the authentication mechanism.
	`DES-7200(config)#ntp authentication-key 6 md5 wooooop`
	`DES-7200(config)#ntp trusted-key 6`
	`DES-7200(config)#ntp authenticate`

Related commands

Command	Description
ntp authentication-key	Set the global authentication key.
ntp trusted-key	Configure the global trusted key.

3.1.4 ntp authentication-key

Use this command to configure a global NTP authentication key for the NTP server.

ntp authentication-key *key-id* **md5** *key-string* [*enc-type*]

no ntp authentication-key *key-id*

Parameter description

Parameter	Description
key-id	Key ID
key-string	Key string
enc-type	(Optional) Whether this key is encrypted, where, 0 indicates the key is

		not encrypted, 7 indicates the key is encrypted simply.

Default	N/A.
Command mode	Global configuration mode.
Usage guidelines	Configure the global authentication key and adopt **md5** for encryption. Each key presents the unique *key-id* identification. Customers can use the **ntp trusted-key** to set the key of *key-id as* the global trusted key. The upeer limit of the keys is 1024. However, each server can only support one key.
Examples	The following example configures an authentication key with ID 6. `DES-7200(config)ntp authentication-key 6 md5 wooooop`

Related commands

Command	Description
ntp authenticate	Enable the global security identification mechanism.
ntp trusted-key	Configure the global trusted key.
ntp server	Specify a NTP server.

3.1.5 ntp disable

Use this command to disable the function of receiving the NTP message on the interface.

ntp disable

Parameter description	N/A.
Default	The NTP message is received on the interface, by default.
Command mode	Interface configuration mode.

Usage guidelines	The NTP message received on any interface can be provided to the client to carry out the clock adjustment. The function can be set to shield the NTP message received from the corresponding interface. Note: The interface that is configured with this command can receive and send IP packets. No this command is configured on other interfaces.
Examples	The configuration example below disables the function of receiving the NTP message on the interface. `DES-7200(config)#no ntp disable`

3.1.6 ntp master

Use this command to configure the local time as the NTP master(the local time reference source is reliable), providing the synchronizing time for other devices. Use the **no** form of this command to cancel the NTP master settings.

ntp master [*stratum*]

no ntp master

Parameter description

Parameter	Description
stratum	Specify the stratum where the local time is, in the range of 1-15. The defaut stratum is 8.

Default	No NTP master is configured, by default.
Command mode	Global configuration mode.

In general, the local system synchronizes the time from the external time source directly or indirectly. However, if the time synchronization of local system fails for the network connection trouble, ect, use the command to set the reliable reference source of the local time, providing the synchronized time for other devices.

Once set, the system time can not be synchronized to the time source with higher starum.

Usage guidelines

Caution:

Using this command to set the local time as the master (in particular, specify a lower starum value), is likely to be covered by the effective clock source. If multiple devices in the same network use this command, the time synchronization instability may occur due to the time difference between the devices.

In addition, before using this command, if the system has never been synchronized with an external clock source, it is necessary to manually calibrate the system clock to prevent too much bias.

Examples

The configuration example below configures the reliable local time reference source and set the time stratum 12:

```
DES-7200(config)# ntp master 12
```

3.1.7 ntp server

Use this command to specify a NTP server for the NTP client.

ntp server *ip-addr* [**version** *version*] [**source** *if-name*] [**key** *keyid*][**prefer**]

no ntp server *ip-addr*

Parameter description

Parameter	Description
ip-addr	Set the IP address of the NTP server.
version	(Optional) Specify the version (1-3) of NTP, NTPv3 by default.
if-name	(Optional) Specify the source interface from which the NTP message is sent (L3 interface).
keyid	(Optional) Specify the encryption key

	adopted when communication with the corresponding server.
prefer	(Optional) Specify the corresponding server as the prefer server.

Default No NTP server is configured, by default.

Command mode Global configuration mode.

Usage guidelines

At present, our system only support clients other than servers, and the upeer limit of supported synchronous servers are 20.

To carry out the encrypted communication with the server, set the global encryption key and global trusted key firstly, and then specify the corresponding key as the trusted key of the server to launch the encrypted communication of the server. It requires the server presents identical global encryption key and global trust key to complete the encrypted communication with the server.

In the same condition (for instance, precision), the prefer clock is used for synchronization.

It should be noted that the configured interface is that configured with the IP address and can communicate with the corresponding NTP server when you configure the source interface of the NTP message.

Examples

The configuration example below configures the equipment in the network as NTP server.

For IPv4: `DES-7200(config)# ntp server 192.168.210.222`

For IPv6: `DES-7200(config)# ntp server 10::2`

Related commands

Command	Description
no ntp	Disable the NTP service function.

3.1.8 ntp synchronize

Use this command to synchronize the realtime.

ntp synchronize

no ntp synchronize

Parameter description	N/A.
Default	N/A.
Command mode	Global configuration mode.
Usage guidelines	8 consecutive packets are synchronized for the first synchronization of NTP and each server. Then the synchronization occurs every one minute. This command is used to complete the instant synchronization during the interval of auto-sync.
Examples	The following example synchronizes the NTP realtime. `DES-7200(config)#ntp synchronize`

Related commands

Command	Description
ntp server	Specify a NTP server.

Platform description	Supported by parts of products.

3.1.9 ntp trusted-key

Use this command to set a key at the global trusted key.

ntp trusted-key *key-id*

no ntp trusted-key *key-id*

Parameter description

Parameter	Description
key-id	Global trusted key ID

Default	N/A.
Command mode	Global configuration mode.

Usage guidelines	The NTP communication parties must use the same trusted key. The key is identified by ID and is not transmitted to improve security.

Examples	The following configures an authentication key and sets it as the corresponding server trusted key.
	`DES-7200(config)#ntp authentication-key 6 md5 wooooop`
	`DES-7200(config)#ntp trusted-key 6`
	`DES-7200(config)#ntp server 192.168.210.222 key 6`

Related commands

Command	Description
ntp authenticate	Enable the security authentication mechanism.
ntp authentication-key	Set the NTP authentication key.
ntp server	Specify a NTP server.

3.1.10 ntp update-calendar

Use this command to update the calendar for the NTP client using the synchronization time of the external time source. Use the **no** form of this command to disable the update-calendar function

ntp update-calendar

no ntp update-calendar

Parameter description	N/A.
Default	By default, update the calendar periodically is not configured.
Command mode	Global configuration mode.
Usage guidelines	By default, the NTP update-calendar is not configured. After configuration, the NTP client updates the calendar at the same time when the time synchronization of external time source is successful. It is recommended to enable this function for keeping the accurate calendar.

Examples	The following configures the NTP update calendar periodically. `DES-7200(config)# ntp update-calendar`

3.2 Showing and Monitoring Commands

3.2.1 debug ntp

Use this command to show the NTP debugging information.

debug ntp

no debug ntp

Parameter description	N/A.
Default	Disabled.
Command mode	Privileged mode.
Usage guidelines	To carry out the NTP function debugging, output necessary debugging information to implement the failure diagnosis and troubleshooting by this command.
Examples	The example below enables the NTP debugging switch. `DES-7200(config)#debug ntp`

3.2.2 show ntp status

Use this command to show the NTP information.

show ntp status

Parameter description	N/A.
Default	N/A.
Command mode	Privileged mode.

Usage guidelines	If the NTP service of the system is enabled, show current NTP information. This command will not print any information before the synchronization server is added for the first time.
Examples	The example below shows the NTP information of current system. `DES-7200(config)#show ntp status`

4 SNTP Configuration Commands

4.1 Configuring Related Commands

4.1.1 sntp enable

Use this command to enable the SNTP function. Use the **no** form of this command to restore the default value.

[no] sntp enable

Default configuration	Disabled
Command mode	Global configuration mode.
Usage guidelines	This command shows the parameters of SNTP.
Examples	`DES-7200(config)# sntp enable`

Related commands

Command	Description
show sntp	Show the SNTP configuration.
clock update-calendar	Synchronize the software clock with the hardware clock.
clock set	Set the software clock.

Platform description	N/A

4.1.2 sntp interval

Use this command to set the interval for the SNTP Client to synchronize its clock with the NTP/SNTP Server.

sntp interva *seconds*

no sntp interval

Parameter description

Parameter	Description
seconds	Synchronization interval in 60 to 65535 seconds

Default configuration

1800s

Command mode

Global configuration mode.

Usage guidelines

The **show sntp** command shows the parameters of SNTP.

Caution

Note that the set interval will not take effect immediately. To this end, execute the **sntp enable** command after setting the interval.

Examples

```
DES-7200(config)# sntp interval 3600
```

Related commands

Command	Description
sntp enable	Enable SNTP.
show sntp	Show the SNTP configuration.
clock update-calendar	Synchronizes the software clock with the hardware clock.

Platform description

N/A

4.1.3 sntp server

Use this command to set the SNTP server. Since the SNTP protocol is completely compatible with the NTP protocol, you can configure the SNTP server as the public NTP server on the Internet.

sntp server *ip-address*

no sntp server

Parameter description

Parameter	Description
ip-address	The IP address of the NTP/SNTP server.

Default configuration No NTP/SNTP server is configured.

Command mode Global configuration mode.

Usage guidelines The **show sntp** command shows the parameters of SNTP.

Examples

```
DES-7200(config)# sntp server 192.168.4.12
```

Related commands

Command	Description
show sntp	Show the SNTP configuration.
sntp enable	Enable SNTP.

Platform description N/A

4.2 Showing Related Command

4.2.1 show sntp

Use this command to show the parameters of SNTP.

show sntp

Command mode

Privileged mode.

Usage guidelines

This command shows the parameters of SNTP.

Examples

```
DES-7200# show  sntp
SNTP state          : Enable
SNTP server         : 192.168.4.12
SNTP sync interval   : 60
Time zone            : +8
```

Related commands

Command	Description
sntp enable	Enable SNTP.
show sntp	Show the SNTP configuration.

Platform description

N/A

5 SPAN Configuration Commands

5.1 Configuration Related Commands

5.1.1 monitor session

Use this command to create a SPAN session and specify the destination port (monitoring port) and source port (monitored port). The **no** form of the command is used to delete the session or delete the source port or destination port separately.

monitor session *session_number* **{source interface** *interface-id* **[both | rx | tx] | destination interface** *interface-id* **{ encapsulation | switch } | mac {source** *mac-addr***| destination** *mac-addr* **} [both | rx | tx]} [acl** *name***]**

no monitor session *session_number* **[source interface** *interface-id* **[both | rx | tx] | destination interface** *interface-id* **{ encapsulation | switch }] | mac {source** *mac-addr***| destination** *mac-addr* **} [both | rx | tx] [acl** *name***]**

no monitor session all

Parameter description

Parameter	Description
session_number	SPAN session number
source interface *interface-id*	Specify the source port. *interface-id*: interface ID, which can be physical interface, not SVI. DES-7200 series support AP.
destination interface *interface-id*	Specify the destination port. *interface-id*: interface ID, which can be physical interface, not SVI.
mac source mac-addr	The source MAC address of the mirrored frame.
mac destination mac-addr	The destination MAC address of the mirrored frame.
both acl name	Monitor the inbounding and

	outbounding frames simultaneously. **acl** *name/id* of monitored flow
rx	Monitor only the inbounding frames.
tx	Monitor only the outbounding frames.
all	Delete all sessions.
encapsulation	Support the encapsulation function for the monitored port. Once this function is enabled, the tag of the mirrored frame is peeled off forcibly. This function is disabled by default.
switch	Enable switching on the mirroring destination port. It is disabled by default.

Command mode

Global configuration mode.

Usage guidelines

Both switch port and routed port can be configured as the source port or destination port. The SPAN session has no effect on the normal operation of the equipment. You can configure a SPAN session on disabled ports. However, the SPAN does not work unless you enable the source and destination ports.

A port can not be configured as the source port and the destination port at the same time.

You will remove the whole session if you do not specify the source port or the destination port.

Use **show monitor** to display SPAN session status.

Note: 1). session 1 supports global port mirroring crossing line cards. To configure the SPAN crossing the line cards, only the session 1 can be used.

Examples

The example below describes how to create a SPAN session: session 1: If this session is set previously, clear the configuration of current session 1 firstly, and then set the frame mapping of port 1 to port 8.

```
DES-7200(config)# no monitor session 1
DES-7200(config)# monitor session 1 source interface
gigabitEthernet 1/1 both
DES-7200(config)# monitor session 1 destination
interface gigabitEthernet 1/8
```

Related commands

Command	Description
show monitor	Use this command to display the SPAN configurations.

Platform description

- DES-7200 series switches support up to 128 sessions.
- DES-7200 series do not support the source/destination MAC-based frame mirror.

5.1.2 show monitor

Use this command to display the SPAN configurations.

show monitor [**session** *session_number*]

Default configuration

All SPAN sessions are displayed by default.

Parameter description

Parameter	Description
session *session_number*	SPAN session number.

Command mode

Privileged mode.

Usage guidelines

N/A.

Examples

This example shows how to use **show monitor** to display SPAN session 1**:**

```
DES-7200# show monitor session 1
sess-num: 1
src-intf:
GigabitEthernet 3/1 frame-type Both
dest-intf:
GigabitEthernet 3/8
```

Related

Command	Description

	monitor session	Specify a SPAN session and the destination port (mirroring port) and the source port (mirrored port).

6 RSPAN Configuration Commands

6.1 Configuration Related Commands

6.1.1 monitor session

Use this command to set RSPAN session.

Set mirror device attribute:

monitor session *session_num* {**remote-destination** | **remote-source**}

Set destination mirror:

monitor session *session-num* **destination remote vlan** *vlan-id* **interface** *interface-name* [**switch**]

Set remote source mirror:

monitor session *session-num* **source interface** *interface-id* [**rx** | **tx** | **both**]

Set mirror reflector port:

monitor session *session-num* **destination remote vlan** *vlan-id* **reflector-port interface** *interface-name* [**switch**]

Parameter description

Parameter	Description
session-num	Session number.
vlan-id	Remote span vlan id.
interface-id	Interface number .

Command mode

Global configuration mode.

Usage guidelines

Key in **end** or **Ctrl+C** to return to the privileged mode.

Key in **exit** to return to the global configuration mode.

Examples

The following example configures the source switch:

```
DES-7200(config)# monitor session 2 remote-source
DES-7200(config)# monitor session 2 source interface gigabitEthernet 1/2
DES-7200(config)# monitor session 2 destination remote vlan 7 interface gigabitEthernet 1/3 switch
DES-7200(config)# monitor session 2 destination remote vlan 7 reflector-port interface gigabitEthernet 1/1 switch
```

The following example configures the destination switch:

```
DES-7200(config)# monitor session 2 remote-destination
DES-7200(config)# monitor session 2 destination remote vlan 7 interface gigabitEthernet 1/1 switch
```

Related commands

Command	Description
show monitor	Show monitor session information.

Platform description

The reflector-port keyword is unnecessary for the products that do not support the reflector port.

6.1.2 remote-span

Use this command to set **RSPAN VLAN**.

[**no**] **remote-span**

Parameter description

N/A .

Command mode

VLAN configuration mode.

Usage guidelines

Key in **end** or **Ctrl+C** to return to the privileged mode.

Key in **exit** to return to the global configuration mode.

Examples

```
DES-7200(config)# vlan 5
DES-7200(config-vlan)# remote-span
```

Related commands	

Command	Description
show vlan	Show VLAN information.

Platform description	-