RG-S2600E/P

RGOS 10.4(2)

©2010

RGOS®10.4(2)

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،

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1.

Courier New 5

2.

Arial

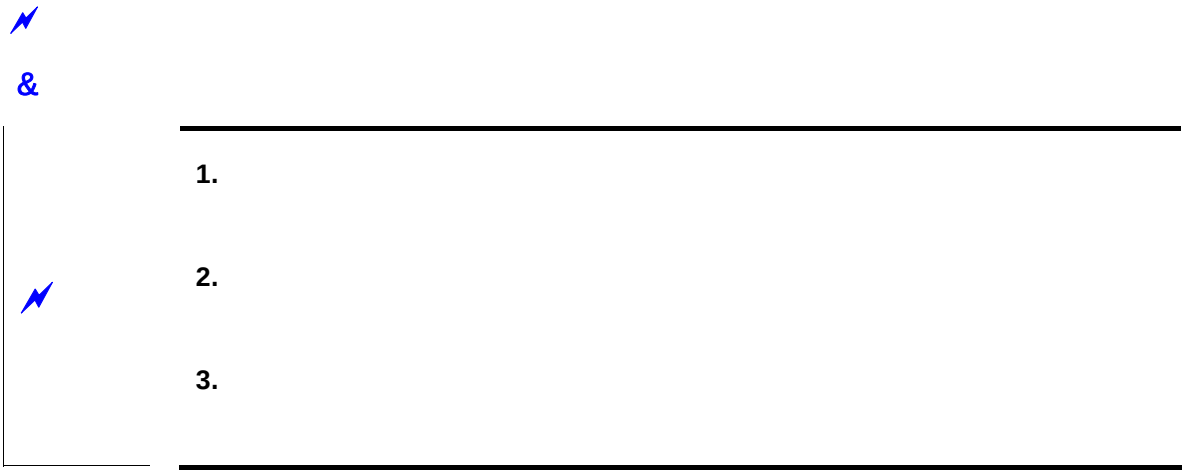
[] []

{ x | y | … }

[x | y | …]

//

3.



1 CLI

1.1

1.1.1 alias

alias no

alias *mode command-alias original-command*

no alias *mode* [*original-command*]

mode	
command-alias	
original-command	

EXEC

EXEC **h p s u un** **help ping show undebug undebug**

no alias exec

```
Ruijie# s?
*s=show  show  start-chat  start-terminal-service
```

EXEC

”sv” ”**show version**”

```
Ruijie# s?
*s=show  *sv=”show version” show  start-chat
start-terminal-service


Ruijie# s?
show  start-chat  start-terminal-service
```

”ia”

”ip address”

```
Ruijie(config-if)# ia ?
A.B.C.D  IP address
dhcp     IP Address via DHCP
Ruijie(config-if)# ip address
```

”**ip address**”

show aliases

”def-route” ”ip route 0.0.0.0 0.0.0.0 192.168.1.1”

```
Ruijie# configure terminal
Ruijie(config)# alias config def-route ip route 0.0.0.0 0.0.0.0
192.168.1.1
Ruijie(config)# def-route?
*def-route="ip route 0.0.0.0 0.0.0.0 192.168.1.1"
Ruijie(config)# def-route?
% Unrecognized command.
Ruijie(config)# end
Ruijie# show aliases config
globle configure mode alias:
def-route          ip route 0.0.0.0 0.0.0.0 192.168.1.1
```

show aliases	

-

privilege

ommand-string

mand-string

CLI
0-15

CLI

privilege ?

0.0.2 294.68 -139.2 -19.1Hp

```
Ruijie(config)# enable secret level 1 0 test
Ruijie(config)# privilege exec level 1 reload
            1     CLI                 reload
Ruijie> reload ?
<cr>
       reload                        1                 all
Ruijie(config)# privilege exec all level 1 reload
            1     CLI                 reload
Ruijie> reload ?
at                  reload at a specific time/date
cancel              cancel pending reload scheme
in                  reload after a time interval
<cr>
```

enable secret	CLI

EXEC

```
Ruijie# show aliases exec
exec mode alias:
h                   help
p                   ping
s                   show
u                   undebug
un                  undebug
```

2

2.1

2.1.1 disable

disable

disable [*privilege-level*]

privilege-level	

& **disable**

```
Ruijie# disable 10
```

enable	

-	-

2.1.2 enable

enable

-	-

-	-

-	-

2.1.3 enable password

enable password **no**

enable password [**level** *level*] {*password* | [**0** | **7**] *encrypted-password*}**no enable password**

Password	EXEC
Level	
0|7	0 7
encrypted-password	

Â 1 26

Â

EXEC

pw10

```
Ruijie(config)# enable password pw10
```

enable secret	

-	-

2.1.4 enable secret

enable secret **no**

enable secret [**level** *level*] {*secret* | [**0 | 5**] *encrypted-secret*}

no enable secret

Secret	EXEC
Level	
0|5	0 5
encrypted-password	

no enable service

enable service ssh-sesrver, SSH Server

```
Ruijie(Config  # enable service ssh-sesrver
```

Telnet

```
configure terminal
line tty 1 16
```

enable

Web **no ip http authentication**

Web local

```
Ruijie(config)# ip http authentication local
```

enable service	

-	-

2.1.9 ip telnet source-interface

IP Telnet **ip telnet source-interface**

ip telnet source-interface *interface-name*

interface-name	IP Telnet

IP Telnet telnet Telnet

no ip telnet source-interface

Loopback 1 IP Telnet

```
Ruijie(config)# ip telnet source-interface Loopback 1
```

telnet	Telnet

10.4(2)	

2.1.10 lock

EXEC **lock**

lock

-	-

Â **lock**

Â

“ Locked ”

Â

line **lockable**

line

```
Ruijie(config-line)# lockable
Ruijie(config-line)# end
Ruijie# lock
Password: <password>
Again: <password>
Locked
Password: <password>
```

lockable	

-	-

2.1.11 lockable

lock line **lockable**

lock **no**

lockable

no lockable

-	-

line

EXEC

lock

```
Ruijie(config)# line console 0
Ruijie(config-line)# lockable
Ruijie(config-line)# end
Ruijie# lock
Password: <password>
Again: <password>
Locked
Password: <password>
```

lock	

login

no login

-	-

line

AAA

VTY console

VTY

```
Ruijie(config)# no aaa new-model
Ruijie(config)# line vty 0
Ruijie(config-line)# password 0 normatest
Ruijie(config-line)# login
```

password	line

line

username

VTY

```
Ruijie(config)# no aaa new-model
Ruijie(config)# username  test password 0 test
Ruijie(config)# line vty 0
Ruijie(config-line)# login local
```

username	

-	-

2.1.15 privilege mode

CLI

-	-

CLI

CLI

CLI

CLI

-	-

-	-

2.1.16 password

line line **password** **no** line

password {*password* | [*0*|*7*] *encrypted-password*}

no password

password line

service password-encryption

interface *interface-name*	Telnet
/vrf *vrf-name*	VRF

telnet

	/ipv6	IPV6

1 telnet IPV4 192.168.1.1
vlan 1 VRF vpn1

```
Ruijie# telnet 192.168.1.1 /source interface vlan 1 /vrf vpn1
```

2 telnet IPV6 2AAA:BBBB::CCCC

```
Ruijie# telnet 2AAA:BBBB::CCCC
```

ip telnet source-interface	IP Telnet
show session	TTY
exit	

-	-

2.1.19 username

password	
0|7	0 7
encrypted-password	
privilege-level	

message	

```
Ruijie(config)
Ruijie(config)# banner login $ enter your password $
```

-	-

-	-

2.2.2 banner motd

banner motd

no banner motd

banner motd *c message c*

c	
message	

```
Ruijie#show boot system
system boot file: flash:/rgos.bin

Ruijie#dir
Directory of flash:/
   11015744 2008-01-01 08:00:46  rgos.bin
   12019754 2008-02-01 08:00:46  s5750_10_4.bin
       399 2006-01-01 08:01:37  config.text
33,030,144 bytes total. (10,590,592 bytes free)

Ruijie(config)# boot system s5750_10_4.bin
Ruijie(config)# show boot system
system boot file: flash:/ s5750_10_4.bin
                          s5750_10_4.bin
```

show boot system	

-

-	-

2.2.4 clock set

clock set

clock set *hh:mm:ss month day year*

hh:mm:ss	24 : :
day	1-31
month	1-12
year	1993-2035

clock set

2003 3 17 10 20 30

```
Ruijie# clock set 10:20:30 3 17 2003
Ruijie# show clock
clock: 2003-3-17 10:20:32
```

show clock	

-	-

2.2.5 clock update-calendar

clock update-calendar

-	-

calendar

```
Ruijie# clock update-calendar
```

-	- ÎB1u)ÚÐ Ð AGÀ´

10

```
Ruijie# reload in 10
Router will reload in 600 seconds.
```

-	-

-	-

2.2.10 session-timeout

LINE **session-timeout**

no session-timeout LINE

session-timeout *minutes* [**output**]

no session-timeout

minutes	
output	

0 min

LINE

LINE

LINE

line vty 0 5 30

```
Ruijie(config-line)# exec-timeout 5  30
```

-	-

-	-

2.2.11 speed

speed *speed*

no speed

speed *speed*

Speed	bps 9600 19200 38400 57600 115200 9600

9600

57600 bps

```
Ruijie(config)# line console 0
Ruijie(config-line)# speed 57600
```

-	-

-	-

2.2.12 write

running-config

write [**memory** | **network** | **terminal**]

memory	NVRAM **copy running-config startup-config**
network	TFTP **copy running-config tftp**
terminal	**show running-config**

```
[Failed]
The device [usb1] does not exist, write to the default config file
[/config.text]? [no] yes
Write to the default config file: [/config.text]
[OK]
```

boot config	
copy	
show running-config	

-	-

2.3

2.3.1 show clock

show clock

show clock

-	-

detail

show clock

```
Ruijie# show clock
clock: 2003-3-17 10:27:21
```

clock set	

-	-

2.3.2 show line

show line

show line [**console** *line-num* **| aux** *line-num* **| vty** *line-num* **|** *line-num*]

console	
aux	aux
vty	vty
line-num	line

console

```
Ruijie# show line console 0
CON     Type    speed   Overruns
* 0     CON     9600    45927
Line 0, Location: "", Type: "vt100"
Length: 24 lines, Width: 79 columns
Special Chars: Escape  Disconnect  Activation
             ^^x     none       ^M
Timeouts:      Idle EXEC    Idle Session
             never       never
History is enabled, history size is 10.
```

```
Total input: 53564 bytes
Total output:  395756 bytes
Data overflow:  27697 bytes
stop rx interrupt:  0 times
```

-	-

-	-

2.3.3 show reload

show reload

show reload

-	-

```
Ruijie# show reload
Reload scheduled in 595 seconds.
At 2003-12-29 11:37:42
Reload reason: test.
```

-	-

-	-

2.3.4 show running-config

show running-config

show running-config

-	-

-	-

z NVRAM

```
By Ruijie Network
System start time: 1970-6-14 11:49:53
System uptime: 3:17:1:17
System hardware version: 2.0
System software version: RGOS 10.3.00(4), Release(34679)
System boot version: 10.2.34077
System CTRL version: 10.2.24136
System serial number: 1234942570001
```

-	-

-	-

3 LINE

3.1 LINE

3.1.1 access-class

Line ACL **access-class** *acl-no* { **in | out** }

Line no **access-class** *access-list-number* {**in | out**}

LINE ACL

[**no**] **access-class** *access-list-number* {**in | out**}

-	-

3.1.2 line

LINE

line [**aux** | **console** | **tty** | **vty**] *first-line* [*last-line*]

aux	
console	
tty	
vty	telnet/ssh
First-line	first-line
Last-line	last-line

LINE

LINE VTY 1 3 LINE

```
Ruijie(config)# line vty 1 3
```

-	-

-	-

3.1.3 line vty

VTY **no**

VTY

line vty *line-number*

no line vty *line-number*

-	-

VTY 5 0--4

VTY

1 VTY 20 VTY 0--19

```
Ruijie(config)# line vty 19
```

2 VTY 10 VTY 0—9

```
Ruijie(config)# line vty 10
```

-	-

-	-

3.1.4 transport input

Line **transport input** Line

default transport input LINE

transport input {**all | ssh | telnet | none**}

default transport input

all	Line
ssh	Line SSH

telnet	Line Telnet
none	Line

VTY TTY NONE
default transport input

Line

Line VTY
VTY **show running** Line

&	d**efault transport inpu**t **no transport input** LINE **transport input none**

line vty 0 4 telnet

```
Ruijie# configure terminal
Ruijie(config)# line vty 0 4
Ruijie(config-line)# transport input telnet
```

show running	

RGOS10.1

-	-

4

4.1

4.1.1 ping

ping [**vrf** *vrf-name*] [**ip**] [*ip-address* [**length** *length*] [**ntimes** *times*] [**timeout** *seconds*] [**data** *data*] [**source** *source*] [**df-bit**] [**validate**]]

DNS

1 ping

```
Ruijie# ping 192.168.5.1
Sending 5, 100-byte ICMP Echoes to 192.168.5.1, timeout is 2 seconds:
  < press Ctrl+C to break >
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/10
ms
```

2 ping

```
Ruijie# ping 192.168.5.197 length 1500 ntimes 100 timeout 3 data ffff
source 192.168.4.10
 Sending 100, 1000-byte ICMP Echoes to 192.168.5.197, timeout is 3
seconds:
  < press Ctrl+C to break >
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Success rate is 100 percent (100/100), round-trip min/avg/max = 2/2/3
ms
```

-	-

-	-

4.1.2 ping ipv6

ping [**ipv6**] [*ip-address* [**length** *length*] [**ntimes** *times*] [**timeout** *seconds*] [**data** *data*] [**source** *source*]]

ip-address	IPv6

length	
times	
seconds	
data	
source	IPv6 ::1

2 5 100Byte IP

Ping ipv6

ping ipv6 ping ipv6

ping ipv6

2 5 100Byte IP

‘!’ ‘.’

‘C’ ping ipv6

ping

ping ipv6

-	-

ipv6

-	-

4.1.3 traceroute

traceroute .

traceroute [**vrf**] [*vrf-name*] [**ip** *ip-address*][*ip-adress* [**probe** *number*] [**source** *source*] [**timeout** *seconds*] [**ttl** *minimum maximum*]]

vrf-name	VRF
Ip-address	IPv4
number	
source	IPv4 127.0.0.1
seconds	
minimum maximum	

```
2     192.168.9.2     4 msec  4 msec 4 msec
3     192.168.9.1     8 msec  8 msec  4 msec
4     192.168.0.10    4 msec  28 msec  12 msec
5     202.101.143.130     4 msec  16 msec  8 msec
6     202.101.143.154    12 msec  8 msec  24 msec
7     61.154.22.36    12 msec  8 msec  22 msec
```

IP 61.154.22.36

1 6

2 traceroute

```
Ruijie# traceroute 202.108.37.42
< press Ctrl+C to break >
Tracing the route to 202.108.37.42
1     192.168.12.1    0 msec  0 msec  0 msec
2     192.168.9.2       0 msec  4 msec 4 msec
3     192.168.110.1    16 msec  12 msec  16 msec
4     *  *  *
5     61.154.8.129     12 msec  28 msec  12 msec
6     61.154.8.17       8 msec  12 msec  16 msec
7     61.154.8.250     12 msec  12 msec  12 msec
8     218.85.157.222   12 msec  12 msec  12 msec
9     218.85.157.130   16 msec  16 msec  16 msec
10     218.85.157.77   16 msec  48 msec  16 msec
11     202.97.40.65    76 msec  24 msec  24 msec
12     202.97.37.65    32 msec  24 msec  24 msec
13     202.97.38.162   52 msec  52 msec  224 msec
14     202.96.12.38     84 msec  52 msec  52 msec
15     202.106.192.226   88 msec  52 msec  52 msec
16     202.106.192.174   52 msec  52 msec  88 msec
17     210.74.176.158   100 msec  52 msec  84 msec
18     202.108.37.42    48 msec  48 msec  52 msec
```

IP 202.108.37.42

1 17 4

```
Ruijie# traceroute www.ietf.org
Translating " www.ietf.org "...[OK]
< press Ctrl+C to break >
Tracing the route to 64.170.98.32
1     192.168.217.1   0 msec  0 msec  0 msec
2     10.10.25.1        0 msec  0 msec  0 msec
```

```
3     10.10.24.1        0 msec  0 msec  0 msec
4     10.10.30.1        10 msec 0 msec  0 msec
5     218.5.3.254       0 msec  0 msec  0 msec
6     61.154.8.49       10 msec 0 msec  0 msec
7     202.109.204.210    0 msec  0 msec  0 msec
8     202.97.41.69      20 msec 10 msec 20 msec
9     202.97.34.65      40 msec 40 msec 50 msec
10    202.97.57.222     50 msec 40 msec 40 msec
11    219.141.130.122    40 msec 50 msec 40 msec
12    219.142.11.10     40 msec 50 msec 30 msec
13    211.157.37.14     50 msec 40 msec 50 msec
14    222.35.65.1       40 msec 50 msec 40 msec
15    222.35.65.18      40 msec 40 msec 40 msec
16    222.35.15.109     50 msec 50 msec 50 msec
17    *      *      *
18   64.170.98.32     40 msec 40 msec 40 msec
```

-	-

-

-	-

4.1.4 traceroute ipv6

traceroute ipv6

traceroute [**ipv6** *ip-address*][[**probe** *number*] [**timeout** *seconds*] [**ttl** *minimum maximum*]]

Ip-address	IPv6
number	
seconds	
minimum maximum	TTL

Traceroute ipv6

DNS

traceroute ipv6

1 traceroute ipv6

```
Ruijie# traceroute ipv6 3004::1
 < press Ctrl+C to break >
Tracing the route to 3004::1
1     3000::1        0 msec  0 msec  0 msec
2     3001::1        4 msec  4 msec 4 msec
3     3002::1        8 msec  8 msec  4 msec
4     3004::1        4 msec  28 msec  12 msec
```

IP *3004::1*

1 4

2 traceroute ipv6

```
Ruijie# traceroute ipv6 3004::1
 < press Ctrl+C to break >
Tracing the route to 3004::1
1     3000::1        0 msec  0 msec  0 msec
2     3001::1        4 msec  4 msec 4 msec
3     3002::1        8 msec  8 msec  4 msec
4     * * *
5     3004::1        4 msec  28 msec  12 msec
```

IP *3004::1*

1 5 4

-	-

-	-

5

5.1

5.1.1 carrier-delay

carrier-delay **no**

carrier-delay [*seconds*]

no carrier-delay

seconds	1 60

2

DCD Down Up
DCD

DCD

DCD

-	-

5.1.2 clear counters

clear counters [*interface-id*]

interface-id	

show interfaces **clear counters**

```
Ruijie# clear counters gigabitethernet 1/1
```

show interfaces	

-	-

5.1.3 clear interface

clear interface *interface-id*

interface-id	

Switch Port,L2 Aggregrate port ,Routed port,L3 Aggregate port

shutdown **no shutdown**

```
Ruijie# clear interface gigabitethernet 1/1
```

shutdown	

-	-

5.1.4 descriptioin

no

description *string*

no description

string	

show interfaces

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# description GBIC-1
```

show interfaces	

-	-

5.1.5 duplex

no

duplex {**auto** | **full** | **half**}

no duplex

auto	
full	
half	

show interfaces

```
Ruijie(config-if)# duplex full
```


no

flowcontrol {**auto** | **off** | **on**}

no flowcontrol

auto	
off	
on	

show interfaces

1/1

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# flowcontrol on
```

show interfaces	

-	-

5.1.7 interface aggregateport

no

interface aggregateport *port-number*

port-number	Aggregate port

```
start cable-diagnoses,please wait...
cable-daignoses end!this is result:
4 pairs
pair state     length(meters)
---- ---------- --------------
A    Ok        1
pair state     length(meters)
---- ---------- --------------
B    Ok        2
pair state     length(meters)
---- ---------- --------------
C    Short     1
pair state     length(meters)
---- ---------- --------------
D    Short     1
```

pairs	
state	OK Short Open A B OK C D Short A B C D OK
length	state OK Short Open length

-	-

86/96

M8600_48GT_4SFP_POE_II	M9600_48GT_4SFP_POE_II
M8600_48GT_4SFP_E	M9600_48GT_4SFP_E
M8600_48GT_4SFP_E_II	M9600_48GT_4SFP_E_II

5.1.12 medium-type

no

medium-type { **fiber | copper** }

no medium-type

fiber	
copper	

Ap SVI

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# medium-type copper
```

show interfaces	

24SFP/12GT 12 SFP 12 10/100/1000M BASE-T
SFP 10/100/1000M BASE-T

-	-

5.1.13 mtu

mtu

Mtu *num*

num	64 9216(65536)

1500

mtu

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# mtu 9216
```

show interfaces	

-	-

5.1.14 shutdown

no

shutdown

no shutdown

-	-

Ap SVI

show interfaces

&	**no shutdown**

1 Ap 1

```
Ruijie(config)# interface aggregateport 1
Ruijie(config-if)# shutdown
```

2 Ap 1

```
Ruijie(config)# interface aggregateport 1
```

```
Ruijie(config-if)# no shutdown
```

clear interface	

show interfaces

Ruijie(config-if)# **snmp trap link-status**	link trap
Ruijie(config-if)# **no snmp trap link-status**	link trap

-	-

5.1.16 speed

no

10	10Mbps
100	100Mbps
1000	1000Mbps
10G	10Gbps
auto	

Ap Ap

Ap **show interfaces**

SFP

È

switchport trunk {**allowed vlan** {**all |** [**add | remove | except**] *vlan-list* }**| native vlan** *vlan-id*}

no switchport trunk {**allowed vlan | native vlan**}

allowed vlan *vlan-list*	Trunk VLAN vlan-list VLAN VLAN VLAN ID VLAN ID - 10-20 , 1-10,20-25,30,33 all VLAN VLAN add VLAN VLAN remove VLAN VLAN except VLAN VLAN VLAN
native vlan *vlan-id*	Native VLAN

VLAN all Native VLAN VLAN 1

```
Acsess vlan is 1,Native vlan is 1
Protected is disabled
Vlan lists is
1,3-4094
```

show interfaces	
switchport access	statics accessport VLAN

-	-

5.2

5.2.1 show interfaces

show interfaces [*interface-id*] [**counters | description | status | switchport | trunk | transceiver [alarm | diagnosis]]**

interface-id	aggregateport SVI loopback
counters	
description	link
status	
switchport	
trunk	trunking port Aggregate port
transceiver	
alarm	“ None ”

diagnosis	

```
Ruijie# show interfacesgigabitEthernet
```

6 Aggregate Port

6.1

6.1.1 aggregateport load-balance

AP no

aggregateport load-balance {**dst-mac** | **src-mac** | **src-dst-mac** | **dst-ip** | **src-ip** | **src-dst-ip** }

no aggregateport load-balance

dst-mac	MAC AP MAC MAC
src-mac	MAC AP MAC MAC
src-dst-ip	IP IP IP—— IP IP—— IP
dst-ip	IP AP IP IP
src-ip	IP AP IP IP
src-dst-mac	MAC MAC MAC—— MAC MAC—— MAC

MAC

show aggregateport load-balance

```
Ruijie(config)# aggregateport load-balance dst-mac
```

show aggregateport load-balance	aggregateport

-	-

6.1.2 port-group

Aggregate Port no Aggregate Port

port-group *port-group-number*

no port-group

port-group-number	Aggregate Port Aggregate Port

Aggregate Port

AP VLAN trunk port native VLAN AP

1/3 AP 3

```
Ruijie(config)# interface gigabitethernet 1/3
Ruijie(config-if)# port-group 3
```

-	-

-	-

6.2

6.2.1 show aggregateport

aggregateport

aggregate-port-number	Aggregate Port
load-balance	aggregaye port
summary	aggregate port

aggregate port aggregate port

```
Ruijie# show aggregateport 1 summary
AggregatePort  MaxPorts       SwitchPort Mode   Ports
-------------  --------       --------------   ------
Ag1              8                Enabled     ACCESS
```

aggregateport load-balance	AP

-	-

7 VLAN

7.1

7.1.1 name

VLAN **no**

name *vlan-name*

no name

vlan-name	VLAN

VLAN VLAN VLAN ID VLAN 2 ”VLAN0002”

VLAN

show vlan vlan

```
Ruijie(config)# vlan 10
Ruijie(config-vlan)# name vlan10
```

show vlan	VLAN

-	-

7.1.2 switchport access

access port VLAN

no VLAN

switchport access vlan *vlan-id*

no switchport access vlan

access	switch port	access port
trunk	switch port	trunk port
hybrid	switch port	hybrid port

no switchport trunk {**allowed vlan** | **native vlan** }

allowed vlan *vlan-list*	Trunk VLAN vlan-list VLAN VLAN VLAN ID VLAN ID - 10-20 , 1-10,20-25,30,33 all VLAN VLAN add VLAN VLAN remove VLAN VLAN except VLAN VLAN VLAN
native vlan *vlan-id*	Native VLAN

VLAN all Native VLAN VLAN 1

Native VLAN

Trunk native VLAN native VLAN
UNTAG VLAN VLAN ID
IEEE 802.1Q PVID native VLAN VLAN ID Trunk
native VLAN UNTAG

VLAN

Trunk VLAN 1 4094
Trunk VLAN VLAN Trunk

show interfaces switchport

VLAN 2 1/15

```
Ruijie(config)# interface fastethernet 1/15
Ruijie(config-if)# switchport trunk allowed vlan remove 2
Ruijie(config-if)# end
Ruijie# show interfaces fastethernet1/15 switchport
Interface  Switchport Mode  Access Native Protected VLAN lists
--------- --------- --------- --------- --------- --------
FigabitEthernet 1/15  enabled  TRUNK  1   1   Disabled  1,3-4094
```


-	-

7.2

7.2.1 show vlan

VLAN

show vlan [**id** *vlan-id*]

vlan-id	VLAN ID

end **Ctrl+C**

exit

```
Ruijie# show vlan id 1
VLAN Name                             Status    Ports
---------- -------------- ------------ ---------- ----------
   1 VLAN0001                         STATIC    Fa0/1, Fa0/2
```

name	VLAN
switchport access	Vlan

-	-

8 Private VLAN

8.1

8.1.1 private-vlan association

secondary VLAN primary VLAN

private-vlan association {*svlist* | **add** *svlist* | **remove** *svlist*}

no private-vlan association

private-vlan mapping {*svlist* | **add** *svlist* | **remove** *svlist*}

no private-vlan mapping

svlist	secondary VLAN list
no	

Primary VLAN

```
Ruijie(config)# interface vlan 22
Ruijie(config-if)# private-vlan mapping add 24-26
```

show vlan private-vlan	-

RGOS10.1

-	-

8.1.3 private-vlan type

VLAN VLAN

private-vlan {*community* | *isolated* | *primary*}

no private-vlan {*community* | *isolated* | *primary*}

community	community VLAN
isolated	isolated VLAN
primary	primary VLAN
no	VLAN

VLAN

VLAN

```
Ruijie(config)# vlan 22
Ruijie(config-vlan)# private-vlan primary
```


show vlan private-vlan	-

RGOS10.1

-	-

8.1.5 switchport private-vlan host-association

private VLAN primary VLAN secondary VLAN

switchport private-vlan host-association *p_vid s_vid*

no switchport private-vlan host-association

p_vid	primary VID
s_vid	secondary VID
no	VLAN

```
Ruijie(config)# interface gigabitEthernet 0/1
Ruijie(config-if)# switchport mode private-vlan host
Ruijie(config-if)# switchport private-vlan host-association 22 23
```


OS 1 1.006 T0 1.994.02 0 0 10.0 2 439.32 12541 60 1 Tf1198 -0.

- -

show vlan private-vlan [**community** | **primary** | **isolated**]

primary	primary VLAN
community	community VLAN
isolated	isolated VLAN

private VLAN

```
Ruijie# show vlan private-vlan
```

-	-

RGOS10.1

-	-

8.3 Hybrid

8.3.1 switchport hybrid allowed vlan

switchport hybrid allowed vlan[[**add**][**tagged** | **untagged**] | **remove**] *vlist*

no switchport hybrid allowed vlan

hybrid

no	hybrid

	[redacted]

	[redacted]

	[redacted]

-	-

8.3.3 switchport mode hybrid

switchport mode hybrid

no switchport mode

hybrid

no	hybrid

```
Ruijie(config-if)# switchport mode hybrid
```


9 QinQ

9.1

-	-

9.1.2 dot1q relay-vid vid translate local-vid v-list

access trunk hybrid uplink vid

dot1q relay-vid *vid* **translate local-vid** *v-list*

no dot1q relay-vid *vid* **translate local-vid** *v-list*

v_list	vid
vid	tag vid
no	

tag vid 10-20 vid 100

```
ruijie(config)# interface gigabitEthernet 0/1
ruijie(config-if)# switchport mode access
ruijie(config-if)#
```

dot1q relay-vid *vid* **translate inner-vid** *v-list*

no dot1q relay-vid *vid* **translate inner-vid** *v-list*

v_list	vid
vid	tag vid
no	

tag tag

```
ruijie# configure
ruijie(config)# interface gigabitEthernet 0/2
ruijie(config-if)# dot1q-Tunnel cos 3 remark-cos 5
ruijie(config-if)# end
```

show interface intf-name remark	-

-	-

9.1.5 frame-tag tpid tpid

tpid

frame-tag tpid <*tpid*>

no frame-tag tpid

no	tpid

(5760)

tpid 0x9100

```
ruijie(config)# interface g 0/3
```

```
ruijie(config-if)# frame-tag tpid 0x9100
ruijie(config-if)# end
ruijie# show frame-tag tpid
Ports   tpid
------  ---------
Gi0/3    0x9100
```

	Q。

show inner-priority-trust	-

RGOS10.1

-	-

9.1.7 mac-address-mapping x source-vlan src-vlan-list destination-vlan dst-vlan-id

vlan mac vlan

mac-address-mapping x destination-vlan dst-vlan-id source-vlan src-vlan-list

no mac-address-mapping x destination-vlan dst-vlan-id source-vlan src-vlan-list

no	vlan vlan

tag tag

```
ruijie#configure
```


no	uplink

uplink

uplink

```
ruijie(config)#interface gigabitEthernet 0/1
ruijie(config-if)#switchport mode uplink
ruijie(config)#end
```

show vlan	-

RGOS10.1

-	-

9.1.10 switchport dot1q-tunnel allowed vlan

dot1q-tunnel vlan

switchport dot1q-tunnel allowed vlan [**add**] {**tagged|untagged**} *v_list*

switchport dot1q-tunnel allowed vlan remove *v_list*

no switchport dot1q-tunnel allowed vlan

tagged	tag
untagged	tag
v_list	vlan id
no	

vlan 1 untagged

dot1q-tunnel vlan 3-6 vlan tag

```
ruijie(config)#interface gigabitEthernet 0/1
ruijie(config-if)#switchport dot1q-tunnel allowed vlan tagged 3-6
ruijie(config)#end
```

show interface dot1q-tunnel	-

RGOS10.3

-	-

9.1.11 switchport dot1q-tunnel native vlan

dot1q-tunnel vlan id

switchport dot1q-tunnel native vlan *vid*

no switchport dot1q-tunnel native vlan

vid	vlan id
no	vlan 1

vlan 1

dot1q-tunnel vid 8

```
ruijie(config)# interface gigabitEthernet 0/1
ruijie(config-if)# switchport dot1q-tunnel native vlan 8
```

```
ruijie(config)#end
```

show interface dot1q-tunnel	-

RGOS10.3

-	-

9.1.12 traffic-redirect access-group acl outer-vlan

access,trunk,hybrid, uplink vid

traffic-redirect access-group *acl* **outer-vlan** *vid* **in**

no traffic-redirect access-group *acl* **outer-vlan**

acl	acl
vd	vid
no	vid

1.1.1.1 vid 3

```
ruijie#configure
ruijie(config)#ip access-list standard 2
ruijie(config-acl-std)#permit host 1.1.1.1
ruijie(config-acl-std)#exit
ruijie(config)# interface gigabitEthernet 0/1
ruijie(config-if)# switchport mode trunk
ruijie(config-if)# traffic-redirect access-group 2 outer-vlan 3 in
ruijie(config-if)# end
```

show traffic-redirect	-

RGOS10.3

-	-

9.1.13 traffic-redirect access-group acl nested-vlan

dot1q-tunnel vid

traffic-redirect access-group *acl* **nested-vlan** *vid* **in**

no traffic-redirect access-group *acl* **nested -vlan**

acl	acl
vid	vid
no	vid

1.1.1.3 vid 9

```
ruijie# configure
ruijie(config)# ip access-list standard 20
ruijie(config-acl-std)# permit host 1.1.1.3
ruijie(config-acl-std)# exit
ruijie(config)# interface gigabitEthernet 0/1
ruijie(config-if)# switchport mode dot1q-tunnel
ruijie(config-if)# traffic-redirect access-group 20 nested-vlan 10
in
ruijie(config-if)# end
```


show traffic-redirect	-

RGOS10.1

-	-

9.1.14 l2protocol-tunnel

dot1q-tunnel

l2protocol-tunnel {**stp|gvrp**}

no l2protocol-tunnel {**stp|gvrp**}

stp	stp
gvrp	gvrp
no	

gvrp stp

```
ruijie#configure
ruijie(config)# l2protocol-tunnel stp
ruijie(config)# l2protocol-tunnel gvrp
ruijie(config)#end
```

show l2protocol-tunnel {**gvrp|stp**}	-

RGOS10.3

-	-

9.1.15 l2protocol-tunnel *proto-type* enable

l2protocol-tunnel { **stp|gvrp** } **enable**

no l2protocol-tunnel { **stp|gvrp** } **enable**

stp	stp
gvrp	gvrp
no	

```
ruijie# configure
ruijie(config)# interface fa 0/1
ruijie(config-if)# l2protocol-tunnel gvrp enable
ruijie(config-if)# end
```

show l2protocol-tunnel { **gvrp|stp** }	-

RGOS10.3

-	-

9.1.16 l2protocol-tunnel *proto-type* tunnel-dmac *mac-address*

```
ruijie# show dot1q-tunnel
Ports   Dot1q-tunnel
-----   ---------
Gi0/1   Enable
```

-	-

RGOS10.3

-	-

9.2.2 show frame-tag tpid

tpid

show frame-tag tpid [**interface** *intf-id*]

intf-id	

tpid

```
ruijie# show frame-tag tpid
```

dot1q-tunnel

show interface [*intf-id*] **dot1q-tunnel**

```
Ruijie# show interface intf-name remark
Ports         Type        From value  To value
------------ ----------- ----------- --------
Gi0/1         Cos-To-Cos  3           5
```

-	-

RGOS10.1

-	-

9.2.6 show interface mac-address-mapping x

MAC

show mac-address-mapping *x*

-	-

```
ruijie# show mac-address-mapping 1
Ports         Destination-VID  Source-VID-list
------------ ---------------- ---------------
Gi0/1         5                1-3
```

-	-

QinQ

intf-id	

```
ruijie# show traffic-redirect
Ports          Type           VID   Match-filter
-------------- ------------ ---- ------------
Gi0/3          Mod-outer    23   11
Gi0/3          Mod-outer    3    4
Gi0/3          Mod-outer    6    5
Gi0/3          Mod-inner    8    inner-to-8
Gi0/6          Mod-inner    9    100
Gi0/7          Nested-vid   13   nest-13
```

-	-

RGOS10.3

-	-

9.2.9 show translation-table

access,trunk,hybrid vid

show translation-table [**interface** *intf-id*]

intf-id	

Destination mac : 01d0f8000006

L2protocol-tunnel : gvrp Disable

-	-

RGOS10.3

-	-

10 Share VLAN

10.1

10.1.1 share

share vlan

-	-

vlan

share vlan **no share**

end Ctrl+C

exit

```
Ruijie(config)#vlan 2
Ruijie(config-vlan)#share
```

-	-

-	-

10.2

10.2.1 show mac-address-table share

Status original
Status duplicated Status
share vlan

-	-

end Ctrl+C
exit

```
Ruijie# show mac-address-table share
Vlan  MAC Address     Type    Interface   Status
----  -------------- ------- ----------- ----------
   1   0040.4650.1e1e DYNAMIC Gigabit 0/1 original
   2   0040.4650.1e1e DYNAMIC Gigabit 0/1 duplicated
```

-	-

-	-

11 MAC

11.1

11.1.1 address-bind

ip mac

address-bind *ip-address mac-address*

no address-bind *ip-address*

ip-address	IP
mac-address	mac

IP MAC IP IP
MAC IP MAC

ip 3.3.3.3 mac 00d0.f811.1112

```
Ruijie(config)# address-bind 3.3.3.3 00d0.f811.1112
```

/

address-bind install

no address-bind install

-	-

fa 0/1

```
Ruijie(config)# address-bind uplink fa0/1
Ruijie(config)# address-bind install
```

show address-bind uplink	

RGOS10.1

-	-

11.1.3 address-bind ip-address

ip mac .

address-bind *ip-address mac-address*

no address-bind *ip-address*

ip-address	IP
mac-address	mac

IP MAC IP IP
MAC IP MAC

ip 3.3.3.3 mac 00d0.f811.1112

```
Ruijie(config)# address-bind 3.3.3.3 00d0.f811.1112
```

show address-bind	

-	-

11.1.4 address-bind ipv6-mode

ip IP

address-bind ipv6-mode compatible

address-bind ipv6-mode loose

address-bind ipv6-mode strict

-	-

:

	Ipv4
	IPV4+MAC
	IPV4+MAC
	IPV4+MAC

	IPV6	
	ipv6	
	IPV6	
	MAC MAC IPV6	

IP 192.168.5.2 00d0.f822.33aa

IPV6

```
Ruijie# configure t
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)# address-bind 00d0.f822.33aa ip 192.168.5.2
Ruijie(config)# address-bind ipv6-mode compatible
```

-	-

-	-

11.1.5 address-bind uplink

ip mac .

address-bind uplink *intf-id*

no address-bind uplink *intf-id*

intf-id	

IP MAC IP IP
MAC IP MAC
(address-bind install)

fa 0/1

```
Ruijie(config)#address-bind uplink fa0/1
```

show address-bind uplink	

RGOS10.1

-	-

11.1.6 clear mac-address-table dynamic

clear mac-address-table dynamic[**address** *mac-addr*] [**interface** *interface-id*] [**vlan** *vlan-id*]

dynamic	
address *mac-addr*	
interface *interface-id*	
vlan *vlan-id*	VLAN

show mac-address-table dynamic

```
Ruijie# clear mac-address-table dynamic
```

show mac-address-table dynamic	

-	-

11.1.7 clear mac-address-table filtering

clear mac-address-table filtering [**address** *mac-addr*][**vlan** *vlan-id*]

filtering	
address *mac-addr*	
vlan *vlan-id*	VLAN

show mac-address-table filtering

00d0.f800.0c0c

```
Ruijie# clear mac-address-table filtering address 00d0.f800.0c0c
```

mac-address-table filtering	
show mac-address-table filtering	

no mac-address-table aging-time

show mac-address-table filtering

```
Ruijie(config)# mac-address-table filtering 00d0f8000000 vlan 1
```

clear mac-address-table filtering	
show mac-address-table filtering	

-	-

11.1.11 mac-address-table notification

MAC **no**

mac-address-table notification [**interval** *value* | **history-size** *value*]

no mac-address-table notification [**interva**l | **history-size**]

interval *value*	MAC Trap 1
history-size *value*	MAC 50

1 50

MAC Trap

snmp-server enable traps mac-notification

MAC Trap

```
Ruijie(config)# mac-address-table notification
Ruijie(config)# mac-address-table notification interval 40
Ruijie(config)# mac-address-table notification history-size 100
```


show mac-address-table static	

-	

-	

11.1.14 mac-address-learning

/

mac-address-learning

MAC

1

Ruijie(config-if)# no mac-address-learning

11.2

11.2.1 show address-bind

show address-bind


```
Ruijie# show address-bind
IP Address     Binding MAC Addr
-----------    -----------------
3.3.3.3        00d0.f811.1112
3.3.3.4        00d0.f811.1117
```

address-bind	

-	-

11.2.2 show address-bind uplink

show address-bind uplink


```
Ruijie# show address-bind uplink
Ports        State
------------ ------
Fa0/1        Disabled
Fa0/2        Disabled
```

.....

address-bind uplink	

-	-

11.2.3 show mac-address-table address

MAC

show mac-address-table [**address** *mac-addr*] [**interface** *interface-id*] [**vlan** *vlan-id*]

address *mac-addr*	MAC
interface *interface-id*	
vlan *vlan-id*	VLAN

```
Ruijie#
```

show mac-address-table interface	
show mac-address-table vlan	VLAN
show mac-address-table count	
show mac-address-table static	
show mac-address-table filtering	

d d	**r e s**

-	-

11.2.5 show mac-address-table count

show mac-address-table count

-	-

```
Ruijie# show mac-address-table count
Dynamic Address Count  : 51
Static  Address Count  : 0
Filter  Address Count  : 0
Total Mac Addresses    : 51
Total Mac Address Space Available: 8139
```

show mac-address-table static	
show mac-address-table filtering	
show mac-address-table dynamic	
show mac-address-table address	
show mac-address-table interface	
show mac-address-table vlan	VLAN

-	-

11.2.6 show mac-address-table dynamic

show mac-address-table dynamic [**address** *mac-addr*] [**interface** *interface-id*] [**vlan** *vlan-id*]

mac-addr	MAC
vlan-id	VLAN
interface-id	(AggregatePort)

```
Ruijie# show mac-address-table dynamic
Vlan    MAC Address      Type       Interface
----   ------------    ------   ------------------
1    0000.0000.0001     DYNAMIC  gigabitethernet 1/1
1    0001.960c.a740     DYNAMIC  gigabitethernet 1/1
1    0007.95c7.dff9     DYNAMIC  gigabitethernet 1/1
1    0007.95cf.eee0     DYNAMIC  gigabitethernet 1/1
1    0007.95cf.f41f     DYNAMIC  gigabitethernet 1/1
1    0009.b715.d400     DYNAMIC  gigabitethernet 1/1
1    0050.bade.63c4     DYNAMIC  gigabitethernet 1/1
```

clear mac-address-table dynamic	

-	-

11.2.7 show mac-address-table filtering

show mac-address-table static [**addr** *mac-addr*] [**vlan** *vlan-id*]

mac-addr	

interface *interface-id*	MAC
history	MAC

MAC

```
Ruijie# show mac-address-table notification interface
Interface        MAC Added Trap  MAC Removed Trap
---------         --------------      --------------
GigabitEthernet1/14   Disabled       Disabled
Ruijie# show mac-address-table notification
MAC Notification Feature :  Disabled
Interval between Notification Traps : 1 secs
Maximum Number of entries configured in History Table :1
Current History Table Length : 0
Ruijie# show mac-address-table notification history
History Index : 0
MAC Changed Message :
Operation:ADD Vlan : 1 MAC Addr: 00f8.d012.3456 GigabitEthernet 3/1
```

mac-address-table notification	MAC
snmp trap mac-notification	MAC

-	-

11.2.10 show mac-address-table static

show mac-address-table static [**addr** *mac-addr*] [**interface** *interface-id*] [**vlan** *vlan-id*]

mac-addr	MAC
vlan-id	VLAN
interface-id	(AggregatePort)

```
Ruijie# show mac-address-table static
Vlan    MAC Address     Type        Interface
-----  -----------    --------  ------------------
1    00d0.f800.1001    STATIC   gigabitethernet 1/1
1    00d0.f800.1002    STATIC   gigabitethernet 1/1
1    00d0.f800.1003    STATIC   gigabitethernet 1/1
```

mac-address-table static	
clear mac-address-table static	

-	-

11.2.11 show mac-address-table vlan

VLAN

show mac-address-table vlan [*vlan-id*]

vlan-id	VLAN ID

```
Ruijie# show mac-address-table vlan 1
Vlan    MAC Address      Type       Interface
-----  -------------   -------  ------------------
1    00d0.f800.1001   STATIC   gigabitethernet 1/1
1    00d0.f800.1002   STATIC   gigabitethernet 1/1
1    00d0.f800.1003   STATIC   gigabitethernet 1/1
```

show mac-address-table static	
show mac-address-table filtering	
show mac-address-table dynamic	
show mac-address-table address	
show mac-address-table interface	
show mac-address-table count	

1

12 DHCP Snooping

12.1 DHCP snooping

12.1.1 ip dhcp snooping

DHCP Snooping no DHCP Snooping

[**no**] **ip dhcp snooping**

-	-

DHCP Snooping **show ip dhcp snooping** DHCP snooping

DHCP Snooping Private VLAN

DHCP snooping

```
Ruijie# configure terminal
Ruijie(config)# ip dhcp snooping
Ruijie(config)# end
Ruijie# show ip dhcp snooping
Switch DHCP snooping status   ENABLE
Verification of hwaddr field status   DISABLE
DHCP snooping database write-delay time: 0 seconds
DHCP snooping option 82 status: ENABLE
DHCP snooping Support Bootp bind status: ENABLE
Interface                Trusted    Rate limit (pps)
-----------------------  -------    ------------
```


show ip dhcp snooping	DHCP snooping

-	-

12.1.2 ip dhcp snooping bootp-bind

DHCP Snooping Bootp
no DHCP snooping Bootp

[**no**] **ip dhcp snooping bootp-bind**

-	-

DHCP Snooping Bootp DHCP Snooping Bootp Bootp DHCP Snooping Bootp

DHCP Snooping Bootp

```
Ruijie# configure terminal
Ruijie(config)# ip dhcp snooping bootp-bind
Ruijie(config)# end
Ruijie# show ip dhcp snooping
Switch DHCP snooping status   ENABLE
Verification of hwaddr field status   DISABLE
DHCP snooping database write-delay time: 0 seconds
DHCP snooping option 82 status: ENABLE
DHCP snooping Support Bootp bind status: ENABLE
Interface            Trusted       Rate limit (pps)
-----------------------  -------    ------------
```

---------- ------- ----------

show ip dhcp snooping	DHCP snooping

-	-

12.1.4 ip dhcp snooping database write-to-flash

DHCP Snooping FLASH

ip dhcp snooping database write-to-flash

-	-

-	-

12.1.5 ip dhcp snooping information option

DHCP option82

no

[**no**] **ip dhcp snooping information option**

-	-

DHCP option82 DHCP option82

DHCP option82

```
Ruijie# configure terminal
Ruijie(config)# ip dhcp snooping information option
Ruijie(config)# end
Ruijie# show ip dhcp snooping
Switch DHCP snooping status   ENABLE
Verification of hwaddr field status   DISABLE
DHCP snooping database write-delay time: 0 seconds
DHCP snooping option 82 status: ENABLE
DHCP snooping Support Bootp bind status: ENABLE
Interface                Trusted    Rate limit (pps)
-----------------------  -------    ------------
```

show ip dhcp snooping	DHCP snooping

DHCP

no

[**no**] **ip dhcp snooping limit rate** *rate-value*

rate-value	PPS[Packet Per Second]

DHCP Snooping VLAN

CPP[CPU Protect Protocol] CPP DHCP

CPP DHCP Snooping

CPP

show ip dhcp snooping

1 100pps

```
Ruijie# configure terminal
Ruijie(config)# interface fastEthernet 0/1
Ruijie(config-if)# ip dhcp snooping limit rate 100
Ruijie(config-if)# end
Ruijie# show ip dhcp snooping
Switch DHCP snooping status   ENABLE
Verification of hwaddr field status   DISABLE
DHCP snooping database write-delay time: 0 seconds
DHCP snooping option 82 status: ENABLE
DHCP snooping Support Bootp bind status: ENABLE
Interface                Trusted    Rate limit (pps)
-----------------------  -------    ------------
FastEthernet0/1           NO         100
```

show ip dhcp snooping	DHCP snooping

DHCP snooping TRUST
no UNTRUST

[**no**] **ip dhcp snooping trust**

-	-

UNTRUST

DHCP TRUST TRUST
DHCP UNTRUST DHCP

fastethernet 0/1 TRUST

```
Ruijie# configure terminal
Ruijie(config)# interface fastEthernet 0/1
Ruijie(config-if)# ip dhcp snooping trust
Ruijie(config-if)# end
Ruijie# show ip dhcp snooping
Switch DHCP snooping status   ENABLE
Verification of hwaddr field status   DISABLE
DHCP snooping database write-delay time: 0 seconds
DHCP snooping option 82 status: ENABLE
DHCP snooping Support Bootp bind status: ENABLE
Interface                Trusted    Rate limit (pps)
-----------------------  -------    ------------
FastEthernet0/1           YES         unlimited
```

12.3 DHCP snooping

12.3.1 show ip dhcp snooping

-	-

12.3.2 show ip dhcp snooping binding

DHCP Snooping

show ip dhcp snooping binding

-	-

DHCP Snooping

```
Ruijie# show ip dhcp snooping binding
Total number of bindings: 1

MacAddress    IpAddress   Lease(sec)  Type    VLAN  Interface
-----------   --------    --------    -----   ----  ---------
0000.0000.0001 1.1.1.1  78128  dhcp-snooping  1  FastEthernet 0/1
```

ip dhcp snooping binding	DHCP snooping
clear ip dhcp snooping binding	DHCP snooping

DHCP Snooping

debug ip dhcp snooping {

13 IGMP Snooping

13.1

13.1.1 deny

profile profile deny

deny

deny	profile

profile deny

profile

profile range profile

profile ˝H ƙ Ŷ Ń ط

profile profile permit profile

permit

permit	profile

profile deny

profile

profile range profile
profile

224.2.2.2 profile

```
Ruijie(config)# ip igmp profile 1
Ruijie(config-profile)# range 224.2.2.2
Ruijie(config-profile)# permit
```

ip igmp profile	profile
range	

-	-

13.1.3 range

profile profile range
no

range *low-ip-address* [*high-ip-address*]

no range *low-ip-address* [*high-ip-address*]

low-ip-address	

high-ip-address	

profile

profile deny
profile profile

224.2.2.2~224.2.2.244 profile

```
Ruijie(config)# ip igmp profile 1
Ruijie(config-profile)# range 224.2.2.2 224.2.2.244
```

ip igmp profile	profile
deny	profile deny
permit	profile permit

-	-

13.1.4 ip igmp profile

IGMP profile profile
profile profile-number igmp profile

ip igmp profile *profile-number*

no ip igmp profile *profile-number*

profile-number	profile 1-65535

IGMP Profiles “ SVGL ” “ ” “ IGMP Filtering ” profile profile

1 profile profile

```
Ruijie(config)# ip igmp profile 1
Ruijie(config-profile)#
```

range	profile
permit	profile permit
deny	profile deny

-	-

13.1.5 ip igmp snooping ivgl

igmp snooping ivgl **ip igmp snooping ivgl** no igmp snooping

ip igmp snooping ivgl

no ip igmp snooping

-	-

disable

VLAN VLAN VLAN VLAN

pim snooping igmp snooping IVGL IVGL-SVGL

no ip igmp snooping igmp snooping

pim snooping pim snooping

igmp snooping ivgl

```
Ruijie(config)# ip igmp snooping ivgl
```

ip igmp snooping svgl	igmp snooping svgl
ip igmp snooping ivgl-svgl	igmp snooping

-	-

13.1.6 ip igmp snooping vlan

vlan igmp snooping ivgl **ip igmp snooping vlan** no igmp snooping

ip igmp snooping vlan vid

no ip igmp snooping vlan vid

vid	vlan id

disable

vlan IGMP Snooping

vlan pim snooping igmp snooping

no ip igmp snooping vlan vlan igmp snooping

pim snooping VLAN pim snooping

-	-

13.1.8 ip igmp snooping svgl profile

profile SVGL

no ip igmp snooping dyn-mr-aging-time

time	, <1-3600>

300s

IGMP PIM Hello

100s

```
Ruijie(config)# ip igmp snooping dyn-mr-aging-time 100
```

IP IGMP

IP IGMP

igmp snooping fast-leave

```
Ruijie(config)# ip igmp snooping fast-leave enable
```

100s

```
Ruijie(config)# ip igmp snooping query-max-response-time 100
```

ip igmp snooping limit-ipmc	ip

IP

no IP

address **server** *saddress*

vid **address** **server**

vid ip vlan id	
( )	

IP

ip

```
Ruijie(config)# ip snooping limit-ipmc vlan 1 224.0.0.1
server 192.168.4.243
```

	IP IP

-	-

13.1.14 ip igmp snooping source-check port

igmp snooping

ip igmp snooping source-check port no

13.1.15 ip igmp snooping suppression enable

igmp snooping Report **ip igmp snooping suppression enable** no igmp snooping suppression

ip igmp snooping suppression enable

no ip igmp snooping suppression enable

vid	vlan id

VLAN VLAN

no

igmp snooping

vlan 1

```
Ruijie(config)# ip igmp snooping vlan 1 mrouter learn pim-dvmrp
```

ip igmp snooping mrouter learn pim-dvmrp	

-	-

13.2

13.2.1 show ip igmp snooping

igmp snooping

Show ip igmp snooping [**gda-table** | **interfaces** | **mrouter**| **statistics** [**vlan** *vlan-id*]]

	igmp snooping
gda-table	
interfaces	igmp snooping filtring
mrouter	
statistics [**vlan** *vlan-id*]	snooping
vlan	vlan snooping

EXEC

-	-

-	-

13.2.2 show ip igmp profile [profile-number]

	profile
profile-number	profile

EXEC

profile

-	-

-	-

13.2.3 debug igmp-snp

IGMP Snooping Debug no

debug igmp-snp

debug igmp-snp event

debug igmp-snp packet

debug igmp-snp msf

debug igmp-snp warning

undebug igmp-snp

undebug igmp-snp event

undebug igmp-snp packet

undebug igmp-snp msf

undebug igmp-snp warning

	IGMP Snooping
event	IGMP Snooping
packet	IGMP Snooping
msf	IGMP Snooping
warning	IGMP Snooping

,@ yp$ #&Fp [illegible] #&FR 8dx' =

14 DHCPV6 Snooping

14.1

14.1.1 ipv6 dhcp snooping

dhcpv6 snooping **no** dhcpv6 snooping

ipv6 dhcp snooping

no ipv6 dhcp snooping

-	-

dhcpv6 snooping **show ipv6 dhcp snooping** dhcpv6 snooping

1 dhcpv6 snooping

```
Ruijie(config)# ipv6 dhcp snooping
```

show ipv6 dhcp snooping	dhcpv6 snooping

no

ipv6 dhcp snooping binding-delay *seconds*

no ipv6 dhcp snooping binding-delay

time	

IPv6

1 10

```
Ruijie(config)# ipv6 dhcp snooping binding-delay 10
```


10.4	

14.1.3 ipv6 dhcp snooping database write-delay

dhcpv6 snooping flash **no**

ipv6 dhcp snooping database write-delay *time*

no ipv6 dhcp snooping database write-delay

dhcpv6 snooping flash

IP

1 flash 100

```
Ruijie(config)# ipv6 dhcp snooping database write-delay 100
```

show ipv6 dhcp snooping	dhcpv6 snooping

10.4	

14.1.4 ipv6 dhcp snooping database write-to-flash

dhcpv6 snooping flash

ipv6 dhcp snooping database write-to-flash

-	

dhcpv6 snooping flash

flash

10.4	

14.1.5 ipv6 dhcp snooping filter-dhcp-pkt

dhcpv6 no

ipv6 dhcp snooping filter-dhcp-pkt

no ipv6 dhcp snooping filter-dhcp-pkt

dhcpv6

dhcpv6

1 **fastethernet** 0/1 dhcpv6

```
Ruijie(config)# interface fastethernet 0/1
Ruijie(config-if)# ipv6 dhcp snooping filter-dhcp-pkt
```

-	-

10.4	

14.1.6 ipv6 dhcp snooping ignore dest-not-found

“ ” no DHCPv6

ipv6 dhcp snooping ignore dest-not-found

no ipv6 dhcp snooping ignore dest-not-found

DHCPv6 MAC DHCPv6
MAC
MAC

“ DHCPV6_SNOOPING-5-DEST_NOT_FOUND: Could not find destination port. Destination MAC [mac-address] ” DHCPv6
MAC VLAN

1

```
Ruijie(config)# ipv6 dhcp snooping ignore dest-not-found
```

show ipv6 dhcp snooping	dhcpv6 snooping

10.4	

14.1.7 ipv6 dhcp snooping link-detection

LINK DOWN no

ipv6 dhcp snooping link-detection

no ipv6 dhcp snooping link-detection

LINK DOWN

LINK DOWN

1 LINK DOWN

```
Ruijie(config)# ipv6 dhcp snooping link-detection
```

show ipv6 dhcp snooping	dhcpv6 snooping

10.4	

14.1.8 ipv6 dhcp snooping trust

dhcpv6 snooping trust no untrust

ipv6 dhcp snooping trust

no ipv6 dhcp snooping trust

untrust

dhcpv6 trust trust dhcpv6 Server untrust dhcpv6 Server

1 fastethernet 0/1 trust

```
Ruijie(config)# interface fastethernet 0/1
Ruijie(config-if)# ipv6 dhcp snooping trust
```

show ipv6 dhcp snooping	dhcpv6 snooping

10.4	

14.1.9 Ipv6 dhcp snooping vlan

vlan dhcpv6 snooping no vlan dhcpv6 snooping

ipv6 dhcp snooping {*vlan-list* | {*vlan-min* [*vlan-max*]}}

no ipv6 dhcp snooping {*vlan-list* | {*vlan-min* [*vlan-max*]}}

vlan-list	vlan 1,3-5,7,9-11
vlan-min	vlan id
vlan-max	vlan id

dhcpv6 snooping vlan

dhcpv6 snooping vlan dhcpv6 snooping vlan dhcpv6 snooping vlan dhcpv6 snooping

1 vlan 1 dhcpv6 snooping

```
Ruijie(config)# no ipv6 dhcp snooping vlan 1
```


-	-

10.4	

14.1.10 ipv6 source binding

no

ipv6 source binding *mac-address* **vlan** *vlan-id ipv6-address* **interface** *interface-name*

no ipv6 source binding *mac-address* **vlan** *vlan-id ipv6-address* **interface** *interface-name*

mac-address	MAC
vlan-id	VLAN
ipv6-address	IPV6
interface-name	

IPV6 DHCPV6 IPV6

1

```
Ruijie(config)# ipv6 source binding 00d0.f866.4777 vlan 10
2001:2002::2003 interface fastethernet 0/10
```


10.4	

14.1.11 ipv6 verify source

no

ipv6 verify source [**port-security**]

no ipv6 verify source

port-security	MAC + IPV6 MAC IPV6 IPV6 IPV6

IPV6 DHCPV6 IPV6

1 **fastethernet** 0/1 MAC+IPV6

```
Ruijie(config)# interface fastethernet 0/1
Ruijie(config-if)# ipv6 verify source port-security
```


10.4	

14.2

14.2.1 show ipv6 dhcp snooping

dhcpv6 snooping

show ipv6 dhcp snooping

-	-

dhcpv6 snooping

1 dhcpv6 snooping

```
Ruijie# show ipv6 dhcp snooping
Switch DHCPv6 snooping status  ENABLE
DHCPv6 snooping vlan: 1-4094
DHCPv6 snooping database write-delay time: 0 seconds
DHCPv6 ignore dest-not-found :DISABLE
DHCPv6 snooping link detection :DISABLE
Interface               Trusted    Filter DHCP
----------------------  -------    ---------
FastEthernet0/10          yes      DISABLE
```


10.4	

14.2.2 show ipv6 dhcp snooping binding

dhcpv6 snooping

show ipv6 dhcp snooping binding [*ipv6-address*] [*mac-address*] [**vlan** *vlan_id*] [**interface** *interface_name*]

vlan *vlan_id*	VLAN
interface *interface_name*	

dhcpv6 snooping

dhcpv6 snooping

show ipv6 source binding [*ipv6-address*] [*mac-address*] [**vlan** *vlan_id*] [**interface** *interface_name*] [**dhcp-snooping** | **static**]

14.3.1 clear ipv6 dhcp snooping binding

dhcpv6 snooping

clear ipv6 dhcp snooping binding [*ipv6-address*] [*mac-address*] [**vlan** *vlan_id*] [**interface** *interface_name*]

ipv6-address	ipv6
mac-address	mac
vlan *vlan_id*	VLAN
interface *interface_name*	

dhcpv6 snooping

1 dhcpv6 snooping

```
Ruijie# clear ipv6 dhcp snooping binding
```


10.4	

14.3.2 clear ipv6 dhcp snooping prefix

dhcpv6 snooping

clear ipv6 dhcp snooping prefix [*ipv6-prefix*] [*mac-address*] [**vlan** *vlan_id*] [**interface** *interface_name*]

ipv6-prefix	ipv6
mac-address	mac
vlan *vlan_id*	VLAN
interface *interface_name*	

dhcpv6 snooping

1 dhcpv6 snooping

```
Ruijie# clear ipv6 dhcp snooping prefix
```


10.4	

14.3.3 clear ipv6 dhcp snooping statistics

dhcpv6 snooping dhcpv6

clear ipv6 dhcp snooping statistics

-	-

dhcpv6 snooping dhcpv6

10.4	

15 ND Snooping

15.1

15.1.1 ipv6 nd snooping

IPv6 ND snooping no IPv6 ND Snooping

ipv6 nd snooping

no ipv6 nd snooping

ipv6 nd snooping

IPv6 ND snooping

Ruijie# **configure terminal**

Enter configuration commands, one per line. End with CNTL/Z.

Ruijie(config)# **ipv6 nd snooping**

show ipv6 nd snooping	ipv6 nd snooping

10.4(2)	

15.1.2 ipv6 nd snooping vlan

VLAN IPv6 ND snooping no VLAN IPv6 ND Snooping

ipv6 nd snooping vlan {*vlan-rng* | {*vlan-min* [*vlan-max*]}}

no ipv6 nd snooping vlan {*vlan-rng* | {*vlan-min* [*vlan-max*]}}

vlan-rng	vlan
vlan-min	vlan
vlan-max	vlan

vlan ipv6 nd snooping

1 VLAN 100 IPv6 ND Snooping

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)# no ipv6 nd snooping vlan 100
```

2 VLAN 4 5-7 15 IPv6 ND Snooping

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)# no ipv6 nd snooping vlan 4,5-7,15
```

show ipv6 nd snooping	ipv6 nd snooping

15.1.4 ipv6 nd snooping check address-resolution

ND no ND

ipv6 nd snooping check address-resolution [**key-node-only**]
no ipv6 nd snooping check address-resolution

key-node-only	ND

ND

1 ND

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)#ipv6 nd snooping check address-resolution
```

2 ND

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)#ipv6 nd snooping check address-resolution
key-node-only
```

c nfig-6(l)-f10.7ng c15on co.8 6 259.76059.76059 76059.76059.76059.76059.76059.76059.7606 onfigT5

15.1.5 ipv6 nd snooping detect gateway

no

ipv6 nd snooping detect gateway ra

no ipv6 nd snooping detect gateway ra

VLAN

```
Ruijie#
```

vlan-rng	vlan
vlan-min	vlan
vlan-max	vlan

VALN

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)# ipv6 nd snooping detect gateway vlan 8
```

show ipv6 nd snooping	nd snooping

10.4(2)	

15.1.7 ipv6 nd snooping key-node

ND no

ipv6 nd snooping key-node [link-local *vid***]***ipv6_address/prefix_len*
no ipv6 nd snooping key-node [link-local *vid***]** *ipv6_address/prefix_len*

vid	link-local VID

ipv6_address/prefix_len	IPv6

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)#ipv6 nd snooping key-node  2003::1/128
```

show ipv6 nd snooping key-node	nd snooping

10.4(2)	

15.1.8 ipv6 nd snooping monitor stateless-user

no

ipv6 nd snooping monitor stateless-user

no ipv6 nd snooping monitor stateless-user

ND

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)#no ipv6 nd snooping monitor stateless-user
```

show ipv6 nd snooping stateless-user	

10.4(2)	

15.1.9 ipv6 nd snooping stateless-user combine-security

no

ipv6 nd snooping stateless-user combine-security
no ipv6 nd snooping stateless-user combine-security


```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)# ipv6 nd snooping stateless-user combine-security
```

show ipv6 nd snooping	ipv6 nd snooping

10.4(2)	

15.1.10 ipv6 nd snooping stateless-user address-bind

IPv6 no

ipv6 nd snooping stateless-user address-bind [**strict**] [**ip-mac**]
no ipv6 nd snooping stateless-user address-bind

strict	link-local link-local link-local
ip-mac	IP+MAC IP

1

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)# ipv6 nd snooping stateless-user address-bind
  2                                IP+MAC
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)#ipv6 nd snooping stateless-user address-bind strict
ip-mac
```

show ipv6 nd snooping	ipv6 nd snooping

```
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)# ipv6 nd snooping stateless-user station-move
```


show ipv6 nd snooping	ipv6 nd snooping

10.4(2)	

15.1.13 ipv6 nd snooping stateless-user per-vlan prefix-limit

VLAN IPv6

ipv6 nd snooping stateless-user per-vlan prefix-limit *num*

no ipv6 nd snooping stateless-user per-vlan prefix-limit

num	VLAN IPv6

2

VLAN 4 IPv6

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)#ipv6 nd snooping stateless-user per-vlan
prefix-limit 4
```

show ipv6 nd snooping	ipv6 nd snooping

10.4(2)	

15.1.14 clear ipv6 nd snooping key-node

clear ipv6 nd snooping key-node [vlan *vid*]

vid	VLAN

```
Ruijie# clear ipv6 nd snooping key-node
```


10.4(2)	

15.1.15 clear ipv6 nd snooping stateless-user

clear ipv6 nd snooping stateless-user [vlan *vid*]

vid	VLAN

```
Ruijie# clear ipv6 nd snooping stateless-user
```


10.4(2)	

15.1.16 clear ipv6 nd snooping prefix

VLAN

clear ipv6 nd snooping prefix [vid *vlan***]**

vlan	VLAN

IPv6

```
Ruijie# clear ipv6 nd snooping prefix
```


10.4(2)	

15.2

15.2.1 show ipv6 nd snooping

IPv6 nd snooping

show ipv6 nd snooping [interface]

interface	

IPv6 nd snooping

```
Ruijie# show ipv6 nd snooping
```


15.2.2 show ipv6 nd snooping key-node

show ipv6 nd snooping key-node


```
Ruijie# show ipv6 nd snooping key-node
```


10.4(2)	

15.2.3 show ipv6 nd snooping stateless-user

ipv6

show ipv6 nd snooping stateless-user

ipv6

```
Ruijie# show ipv6 nd snooping stateless-user
```


10.4(2)	

ND Snooping

16 MSTP

16.1

16.1.1 bpdu src-mac-check

bpdu mac no bpdu mac

bpdu src-mac-check *H.H.H*

no bpdu src-mac-check

H.H.H	mac bpdu
no	bpdu

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# bpdu src-mac-check 00d0.f800.1e2f
```

-	-

RSTP BPDU BPDU

clear spanning-tree detected-protocols [**interface** *interface-id*]

interface-id	

Ruijie# **clear spanning-tree detected-protocols**

show spanning-tree interface	STP

-	-

16.1.3 spanning-tree

MSTP MSTP MSTP
no spanning-tree no
spanning tree

spanning-tree [**forward-time** *seconds* | **hello-time** *seconds* | **max-age** *seconds*]

no spanning-tree [**forwa Td[(no spannin)5(g)-10.001 Tc 0.0032 Tw 5.251 0 Td<01C4>TjTT1 1 Tf-0.000**

forward-time hello-time max-age

2*(Hello Time+1.0snd) <= Max-Age Time <= 2*(Forward-Delay – 1.0snd)

1 spanning-tree

```
Ruijie(config)# spanning-tree
```

2 BridgeForwardDelay

```
Ruijie(config)# spanning-tree forward-time 10
```

show spanning-tree	STP
spanning-tree mst cost	STP PathCost
spanning-tree tx-hold-count STP	TxHoldCount

-	-

16.1.4 spanning-tree autoedge

Autoedge disabled Autoedge

spanning-tree autoedge [**disabled**]

disabled	Autoedge

-	-

16.1.6 spanning-tree bpduguard

BPDU Guard enabled disabled

BPDU Guard

spanning-tree bpduguard [| disabled]

	EA 7
enabled	
disabled	BPDU Guard

Bä]×a ìÿ# Ã ðÀ % 3• Ð• HNb‚Ð€ ƒ”7Nf9€ v B NöhD‡vò ÑNû4B ñ e‰" 0Œ GBL≥ ×â4Ãb3\ LN b2'f"R C„

-	-

root guard

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# spanning-tree link-type point-to-point
```

show spanning-tree interface	STP

-	-

16.1.12 spanning-tree loopguard default

loop guard no loop guard loop guard bpdu

spanning-tree loopguard default

no spanning-tree loopguard default

-	-

loop guard

```
Ruijie(config)# spanning-tree loopguard default
```

-	-

16.1.14 spanning-tree mode

STP no

spanning-tree mode [**stp** | **rstp** | **mst***p*]

no spanning-tree mode

stp	Spanning tree protocol(IEEE 802.1d)
rstp	Rapid spanning tree protocol(IEEE 802.1w)
mstp	Multiple spanning tree protocol(IEEE 802.1s)

MSTP

.

```
Ruijie(config)# spanning-tree mode stp
```

show spanning-tree	

-	-

VLAN 3 Instance 1 MST

```
Ruijie(config-mst)# no instance 1 vlan 3
```

Instance 1

```
Ruijie(config-mst)# no instance 1
```

MST show

MSTP

[redacted]

Region

[redacted]

[redacted]ce 20 Gigabitethernet 1/1 10

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# spanning-tree mst 20 port-priority 0
```

show spanning-tree mst instance interface *interface-id*

[redacted]

.

Instance 20 8192

```
Ruijie(config-if)# spanning-tree mst 20 priority 8192
```

show spanning-tree mst instance interface interface-id

show spanning-tree interface	STP

-	-

16.1.20 spanning-tree portfast

Portfast disabled Portfast

spanning-tree portfast [**disabled**]

disabled	Portfast

-

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# spanning-tree portfast
```

show spanning-tree interface	STP

-	-

16.1.21 spanning-tree portfast bpdufilter default

BPDU filter no BPDU filter

spanning-tree portfast bpdufilter default

no spanning-tree portfast bpdufilter default

-	-

BPDU filter

BPDU Filter BPDU **show spanning-tree**

```
Ruijie(config)# spanning-tree portfast bpdufilter default
```

show spanning-tree interface	STP

-	-

16.1.22 spanning-tree portfast bpduguard default

BPDU guard no BPDU guard

spanning-tree portfast bpduguard default

no spanning-tree portfast bpduguard default

-	-

BPDU Guard.

```
Ruijie(config)# spanning-tree portfast bpduguard default
```

show spanning-tree interface	STP

-	-

16.1.23 spanning-tree portfast default

Portfast no Portfast

spanning-tree portfast default

no spanning-tree portfast default

-	-

Portfast

16.1.24 spanning-tree reset

spanning-tree no

spanning-tree reset

-	-

Ruijie(config)# **spanning-tree reset**

show spanning-tree	STP
show spanning-tree interface	STP

-	-

16.1.25 spanning-tree tc-guard

tc- guard no tc- guard tc-guard tc

spanning-tree tc-guard

no spanning-tree tc-guard

-	-

tc- guard

Ruijie(config-if)# **spanning-tree tc-guard**

-	-

-	-

16.1.26 spanning-tree tc-protection

tc- protection no tc- protection

spanning-tree tc- protection

no spanning-tree tc- protection

-	-

tc- protection

-	-

16.1.27 spanning-tree tc-protection tc-guard

tc- guard no tc- guard tc-guard
tc

spanning-tree tc-protection tc-guard

no spanning-tree tc-protection tc-guard

-	-

tc- guard

```
Ruijie(config)# spanning-tree tc-protection tc-guard
```

-	-

-	-

16.1.28 spanning-tree tx-hold-count

STP TxHoldCount

tx-hold-count	TxHoldCount 1 10

3

```
Ruijie(config)# spanning-tree tx-hold-count 5
```

show spanning-tree	

tx-hold-count	TxHoldCount
pathcost method	

```
Ruijie# show spanning-tree hello-time
```

link-type	linktype

```
Ruijie#  show spanning-tree interface gigabitethernet 1/5
```

spanning-tree bpdufilter	BPDU filter
spanning-tree portfast	portfast
spanning-tree bpduguard	BPDU guard
spanning-tree link-type	“ ”

-	-

16.2.3 show spanning-tree mst

MST Instance

show spanning-tree mst { **configuration** | *instance-id* [**interface** *interface-id*] }

configuration	mst
instance-id	*Instance*
interface-id	

Instance

.

```
Ruijie# show spanning-tree mst configuration
```

17 SPAN

17.1

17.1.1 monitor session

SPAN . no

monitor session *session_number* {**source interface** *interface-id* [**both** | **rx** | **tx**] | **destination interface** *interface-id* **switch** | [**acl**

SPAN

show monitor SPAN 1

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

monitor session	SPAN

-	-

18

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

show monitor	

reflector-port

-	-

18.1.2 remote-span

RSPAN VLAN

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

-	-

VLAN

end Ctrl+C

exit

```
Ruijie(config)# vlan 5
Ruijie(config)# remote-span
```


show vlan	Vlan

-	-

19 IP

19.1

19.1.1 ip address

IP no

C IP

Â IP

IP IP

Â

IP

P

IP 10.10.10.1 255.255.255.0

```
ip address 10.10.10.1 255.255.255.0
```

show interface	

Ę

Â

Â SLIP HDLC PPP LAPB Frame-relay
X.25

Â ping IP
SNMP

Â

ARP

RGOS ARP 32 IP 48 MAC

ARP ARP

1 SVI 1 ARP

```
Ruijie(config)# interface vlan 1
Ruijie(config-if)# arp gratuitous-send interval 1
```

2 SVI 1 ARP

```
Ruijie(config)# interface vlan 1
Ruijie(config-if)# no arp gratuitous-send
```


Arp retry times *number*	ARP

	-	-

19.2.5 arp timeout

ARP ARP no

arp timeout *seconds*

no arp timeout

ARP no

8192

arp unresolve *number*

no arp unresolve

number	ARP < 1-8192 > 8192

ARP 8192

ARP

500

```
arp unresolved 500
```

-	-

-	-

19.2.7 ip proxy-arp

ARP **ip proxy-arp** no

ARP

ip proxy-arp

no ip proxy-arp

-	-

10.2(3) (10.2(3)) ARP
ARP

ARP IP MAC
ARP ARP IP IP
IP ARP
MAC MAC ARP

FastEthernet 0/1

mask ARP

mask

vrf *vrf_name*	VRF VRF ARP
trusted	ARP VRF ARP
ip	IP IP ARP ***trusted*** ARP ARP
mask	IP ARP ; trusted ARP ARP
static	arp

mac-addre /û

Age (min)	ARP “-”
Hardware	IP
Type	ARPA
Interface	IP

2 show arp 192.168.195.68

```
Ruijie# show arp 192.168.195.68
Protocol  Address    Age(min)  Hardware       Type   Interface
Internet  192.168.195.68   1   0013.20a5.7a5f  arpa   VLAN 1
```

3 **show arp** 192.168.195.0 255.255.255.0

```
Ruijie# show arp 192.168.195.0 255.255.255.0
Protocol  Address    Age(min)  Hardware   Type   Interface
Internet  192.168.195.64   0   0018.8b7b.9106  arpa   VLAN 1
Internet  192.168.195.2    1   00d0.f8ff.f00e  arpa   VLAN 1
Internet  192.168.195.5    --   00d0.f822.33b1  arpa   VLAN 1
Internet  192.168.195.1    0   00d0.f8a6.5af7  arpa   VLAN 1
Internet  192.168.195.51   1   0018.8b82.8691  arpa   VLAN 1
```

4 **show arp** *001a.a0b5.378d*

```
Ruijie# show arp 001a.a0b5.378d
Protocol  Address  Age(min)  Hardware  Type   Interface
Internet  192.168.195.67   4   001a.a0b5.378d  arpa   VLAN 1
```

-	-

-	-

19.3.3 show arp counter

ARP arp

show arp counter

-	-

show arp counter

```
Ruijie# show arp counter
The Arp Entry counter:0
The Unresolve Arp Entry:0
```

	-	-

	-	-

19.3.4 show arp detail

ARP

show arp detail [*interface-type interface-number*| *ip* [*mask*] | *mac-address* | **static** | **complete** | **incomplete**]

interface-type interface-number	ARP
ip	ip ip ARP
ip mask	ip mask ARP

ma / *0 RP ma m0*

ARP ARP

show arp detail

```
Ruijie# show arp detail
```

IP Address	MAC Address	Type	Age(min)	Interface	Port
20.1.1.1	000f.e200.0001	Static	--	--	--
20.1.1.1	000f.e200.0001	Static	--	Vl3	--
20.1.1.1	000f.e200.0001	Static	--	Vl3	Gi2/0/1
193.1.1.70	00e0.fe50.6503	Dynamic	1	Vl3	Gi2/0/1
192.168.0.1	0012.a990.2241	Dynamic	10	Gi2/0/3	Gi2/0/3
192.168.0.1	0012.a990.2241	Dynamic	20	Ag1	Ag1
192.168.0.1	0012.a990.2241	Dynamic	30	Vl2	Ag2
192.168.0.39	0012.a990.2241	Local	--	Vl3	--
192.168.0.39	0012.a990.2241	Local	--	Gi2/0/3	--
192.168.0.1	0012.a990.2241	Local	--	Vl3	--
192.168.0.1	0012.a990.2241	Local	--	Gi2/3/2	--

ARP

IP Address	IP
MAC Address	IP
Type	ARP
Age	ARP
Interface	IP
Port	ARP

-	-

19.3.6 show ip arp

ARP

show ip arp

-	-

show ip arp

```
Ruijie# show ip arp
Protocol Address      Age(min)Hardware       Type
Interface
Internet 192.168.7.233  23   0007.e9d9.0488  ARPA FastEthernet 0/0
Internet 192.168.7.112  10   0050.eb08.6617  ARPA FastEthernet 0/0
Internet 192.168.7.79   12   00d0.f808.3d5c  ARPA FastEthernet 0/0
Internet 192.168.7.1    50   00d0.f84e.1c7f  ARPA FastEthernet 0/0
Internet 192.168.7.215  36   00d0.f80d.1090  ARPA FastEthernet 0/0
Internet 192.168.7.127  0    0060.97bd.ebee  ARPA FastEthernet 0/0
Internet 192.168.7.195  57   0060.97bd.ef2d  ARPA FastEthernet 0/0
Internet 192.168.7.183  --   00d0.f8fb.108b  ARPA FastEthernet 0/0
```

ARP

Protocol	Internet
Address	IP
Age (min)	ARP “-”
Hardware	IP
Type	ARPA
Interface	IP

-	-

-	-

19.3.7 show ip interface

IP

show ip interface [*interface-type interface-number*]

Interface-type	
Interface-number	

RGOS

RGOS RGOS

“ UP ”

“ UP ”

show ip interface

```
Ruijie# show ip interface FastEthernet 0/1
IP interface state is: UP
IP interface type is: BROADCAST
IP interface metric is: 0
IP interface MTU is: 1500
IP address is:
192.168.5.133/24 (primary)
IP address negotiate is: OFF
```

```
Forward direct-boardcast is: ON
ICMP mask reply is: ON
Send ICMP redirect is: ON
Send ICMP unreachabled is: ON
DHCP relay is: OFF
Fast switch is: ON
Route horizontal-split is: ON
Help address is: 0.0.0.0
Proxy ARP is: ON
Outgoing access list is not set.
Inbound access list is not set.
```

IP interface state is:	“UP”
IP interface type is:	
IP interface MTU is:	MTU
IP address is:	IP
IP address negotiate is:	IP
Forward direct-boardcast is:	
ICMP mask reply is:	ICMP
Send ICMP redirect is:	ICMP
Send ICMP unreachabled is:	ICMP
DHCP relay is:	DHCP
Fast switch is:	IP
Route horizontal-split is:	
Help address is:	helper IP
Proxy ARP is:	ARP
Outgoing access list is	
Inbound access list is	

-	-

19.4

19.4.1 ip default-gateway

ip default-gateway no

ip default-gateway

no ip default-gateway

-	-

show ip redirects

192.168.1.1

```
ip default-gateway 192.168.1.1
```

20 DHCP Relay

20.1

20.1.1 ip dhcp relay check server-id

DHCP Relay check server-id no
DHCP Relay check server-id

[**no**] **ip dhcp relay check server-id**

-	-

DHCP Relay DHCP option server-id
DHCP DHCP DHCP

DHCP relay check server-id

```
Ruijie# configure terminal
Ruijie(config)# ip dhcp relay check server-id
```

Service dhcp	DHCP

-	-

20.1.2 ip dhcp relay information option dot1x

DHCP Relay option dot1x no

[**no**] **ip dhcp relay information option dot1x**

-	-

DHCP 802.1x

DHCP option dot1x

```
Ruijie# configure terminal0xW& &!ñH@ ! 'ø ip#"¼F•Ü8SGÞN>RDF5ÞF¥sf"BDC>0D9¥f
```

ACL ACL ACE

dhcp option dot1x acl

```
Ruijie# configure terminal
Ruijie(config)# ip access-list extended DenyAccessEachOtherOfUnauthrize
Ruijie(config-ext-nacl)# permit ip any host 192.168.3.1
//
Ruijie(config-ext-nacl)# permit ip any host 192.168.4.1
Ruijie(config-ext-nacl)# permit ip any host 192.168.5.1
Ruijie(config-ext-nacl)# permit ip host 192.168.3.1 any
//      IP
Ruijie(config-ext-nacl)# permit ip host 192.168.4.1 any
Ruijie(config-ext-nacl)# permit ip host 192.168.5.1 any
Ruijie(config-ext-nacl)# deny ip 192.168.3.0 0.0.0.255 192.168.3.0 0.0.0.255
//
Ruijie(config-ext-nacl)#   deny   ip   192.168.3.0      0.0.0.255 192.168.4.0  0.0.0.255
Ruijie(config-ext-nacl)#   deny   ip   192.168.3.0      0.0.0.255 192.168.5.0  0.0.0.255
Ruijie(config-ext-nacl)#   deny   ip   192.168.4.0      0.0.0.255 192.168.4.0  0.0.0.255
Ruijie(config-ext-nacl)#   deny   ip   192.168.4.0      0.0.0.255 192.168.5.0  0.0.0.255
Ruijie(config-ext-nacl)#   deny   ip   192.168.5.0      0.0.0.255 192.168.5.0  0.0.0.255
Ruijie(config-ext-nacl)#   deny   ip   192.168.5.0      0.0.0.255 192.168.3.0  0.0.0.255
Ruijie(config-ext-nacl)#   deny   ip   192.168.5.0      0.0.0.255 192.168.4.0  0.0.0.255
Ruijie(config-ext-nacl)# exit
Ruijie(config)# ip dhcp relay information option dot1x access-group DenyAccessEachOtherOfUnauthrize
```

service dhcp	DHCP

ip dhcp relay information option dot1x	DHCP option dot1x

-	-

20.1.4 ip dhcp relay information option82

DHCP Relay option82 no

[**no**] **ip dhcp relay information option82**

-	-

option dot1x

DHCP opion82

```
Ruijie# configure terminal
Ruijie(config)# Ip dhcp relay information option82
```

Service dhcp	DHCP
ip dhcp relay information option dot1x	DHCP option dot1x

-	-

20.1.5 ip dhcp relay information option vpn

DHCP Relay DHCP Relay Aware VRF

no

1 192.168.1.1

2 vrf dep1

-	-

21 DNS

21.1

21.1.1 ip domain-lookup

DNS no DNS

ip domain-lookup

no ip domain-lookup

-	-

DNS

DNS DNS

DNS

```
Ruijie(config)# ip domain-lookup
```

show hosts	DNS

-	-

21.1.2 ip name-server

IP/IPv6

no

ip name-server {*ip-address* | *ipv6-address*}

no ip name-server [*ip-address* | *ipv6-address*]

ip-address	IP
ipv6-address	IPV6

DNS Server IP/IPv6 DNS Server
Server Server DNS

6 DNS Server ip-address ipv6-address
DNS

```
Ruijie(config)# ip name
```

ip-address	IP

no ip host host-name ip-address

```
Ruijie(config)# ip host switch 192.168.5.243
```

show hosts	DNS

-	-

21.1.4 ipv6 host

IPV6 no

Ipv6 host *host-name ipv6-address*

no ipv6 host *host-name ipv6-address*

host-name	
Ipv6-address	IPV6

no ipv6 host host-name ipv6-address

```
Ruijie(config)# ipv6 host ruijie 2001:0DB8:700:20:1::12
```

show hosts	DNS

-	-

21.2

21.2.1 clear host

clear host [*host-name*]

host-name	“*”

1 ip host ipv6 host

2 DNS DNS

-IP

```
clear host *
```

show hosts	

-	-

21.2.2 show hosts

DNS

show hosts [*hostname*]

-	-

DNS

```
Ruijie# show hosts
Name servers are:
static
host            type         address
switch          static       192.168.5.243
www.ruijie.com   dynamic      192.168.5.123
```

ip host	IP
Ipv6 host	IPV6
ip name-server	DNS

-	-

22 SNTP

22.1

22.1.1 sntp enable

SNTP **no** —Disable

[**no**] **sntp enable**

-	-

SNTP Disable

show sntp SNTP

```
Ruijie(config)# sntp enable
```

show sntp SNTP

```
Ruijie(config)# sntp server 192.168.4.12
```

	,D¼Ã6…“Ÿ 1”þ¾Fd¸P¶ðdl¤TFE‘Ø@eð
show sntp	SNTP

```
SNTP sync interval   : 60
Time zone            : +8
```

sntp enable	SNTP
show sntp	SNTP

RGOS10.0

-	-

23 NTP

23.1 NTP

23.1.1 no ntp

ntp ntp

no ntp

-	-

NTP

NTP NTP NTP
NTP

NTP
no ntp

ntp server	NTP

-	-

23.1.2 ntp access-group

NTP no

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*

peer	NTP
serve	NTP
serve-only	NTP
query-only	NTP
access-list-number	IP 1 99 1300 1999
access-list-name	IP

NTP

NTP

NTP

NTP

peer serve serve-only query-only

1

2

```
Ruijie(config)# ntp access-group peer 1
Ruijie(config)# ntp access-group serve-only 2
```

ip access-list	IP

-	-

23.1.3 ntp authenticate

NTP NTP

ntp authenticate

no ntp authenticate

-	-

NTP

ntp authentication-key ntp trusted-key

```
ntp authentication-key 6 md5 wooooop
ntp trusted-key 6
ntp authenticate
```

ntp authentication-key	
ntp trusted-key	

-	-

23.1.4 ntp authentication-key

NTP NTP

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

no ntp authentication-key *key-id* **md5** *key-string* [*enc-type*]

key-id	ID
key-string	
enc-type	0

	-	-

<18791B6B61C4]TJ/TT1 1 Tf-2.9940 Td( )TJET60.84 7404.5 0.24 20.43 ref66.84 7404.5 063.2 0 24

20

prefer

NTP IP

NTP

NTP server

IPv4 `Ruijie(config)# ntp server 192.168.210.222`

IPv6 `Ruijie(config)# ntp server 10::2`

no ntp	NTP

-	-

23.1.8 ntp synchronize

NTP

ntp synchronize

no ntp synchronize

-	-

NTP

NTP

```
Ntp synchronize
```

ntp server	NTP

-	-

23.1.9 ntp trusted-key

ID

ntp trusted-key *key-id*

no ntp trusted-key *key-id*

key-id	ID

-	-

NTP NTP

NTP

```
show ntp status
```

-	-

-	-

24 FTP Server

24.1

24.1.1 debug ftpserver

FTP no

debug ftpserver

no debug ftpserver

-	-

24.1.2 ftp-server enable

FTP no FTP

ftp-server enable

no ftp-server enable

-	-

FTP FTP

ftp-server topdir FTP

FTP

1 FTP syslog

ftp-server password [*type*] *password*

no ftp-server password

type	0 7 0 7
password	

FTP

1 25 4
52

FTP

1 pass

```
Ruijie(config)# ftp-server password pass
```

```
Ruijie(config)# ftp-server password 0 pass
```

2 8001

```
Ruijie(config)# ftp-server password 7 8001
```

3

```
Ruijie(config)# no ftp-server password
```

-	-

-	-

24.1.4 ftp-server topdir

FTP no

FTP

ftp-server topdir *directory*

no ftp-server topdir

directory	FTP

FTP

FTP

Â

Â IP Port

Â IP Port

Â

Â

Â

Â

FTP

```
Ruijie# show ftp-server
ftp-server information
=======================================
enable : Y
topdir : /
timeout: 20min
username config : Y
password config : Y
type: BINARY
control connect : Y
ftp-server: ip=192.167.201.245  port=21
ftp-client: ip=192.167.201.82  port=4978
port data connect : Y
ftp-server: ip=192.167.201.245  port=22
ftp-client: ip=192.167.201.82  port=4982
passive data connect : N
```

-	-

SNMP

no snmp

123456:

ver chassis-id *123456*

	SNMP

aclnumber	1-99 MIB ipv4 NMS
aclname	MIB ipv4 NMS
ipv6_aclname	ipv6 MIB ipv6 NM

text	

SNMP i-net800@i-net.com.cn

```
Ruijie(config)# snmp-server contact                    snmp-server con
```

	ipv6_aclname	ipv6 MIB ipv6 NMS

port-num	snmp
notification-type	snmp

SNMP

snmp-server enable traps NMS

SNMP

vrf [vrf]

SNMP SNMP

```
Ruijie(config)# snmp-server host 192.168.12.219 public snmp
```

snmp-server enable traps	

-	-

25.1.8 snmp-server location

SNMP **snmp-server location** no

SNMP

snmp-server location *text*

no snmp-server location

text	

Ruijie(config)# **snmp-server location** start-technology-city 4F of A Buliding

snmp-sever contact	SNMP

-	-

25.1.9 snmp-server packetsiz

SNMP **snmp-sever packetsize**

no

snmp-server packetsize *byte-count*

no snmp-server packetsize

byte-count	484 17876

1500

SNMP 1492

Ruijie(config)# **snmp-server packetsize** *1492*

snmp-server queue-length	SNMP

-	-

SNMP **snmp-server system-shutdown**
no SNMP

snmp-server system-shutdown

no snmp-server system-shutdown

-	-

SNMP

SNMP RGOS reload/reboot NMS

SNMP

```
Ruijie(config)# snmp-server system-shutdown
```

-	-

-	-

25.1.12 snmp-server trap-source

SNMP **snmp-server trap-source** no

snmp-server trap-source *interface*

no snmp-server trap-source

interface	SNMP

SNMP IP

SNMP IP

IP SNMP

0 IP SNMP

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

snmp-server enable traps	
snmp-server enable host	NMS

↵

-	-

25.1.13 snmp-server trap-timeout

snmp-server trap-timeout

no

snmp-server trap-timeout *seconds*

no snmp-server trap-timeout

seconds	1 – 1000

30

60

```
Ruijie(config)# snmp-server trap-timeout 60
```

snmp-server queue-length	
snmp-server enable host	NMS

-	-

25.1.14 snmp-server user

SNMP **snmp-server user** no

snmp-server user *username groupname* {**v1** | **v2** | **v3** [**encrypted**] [**auth** {**md5** | **sha**} *auth-password*] [priv des56 priv-password]}[access {[ipv6 ipv6_aclname] [aclnum | aclname]}]

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

username	
groupname	
v1	**v2**	**v3**	SNMP v3
encrypted	16 MD5 16 SHA 20
auth	

SHA

default MIB

MIB-2 oid 1.3.6.1

```
Ruijie(config)# snmp-server view mib2 1.3.6.1 include
```

show snmp view	SNMP

-	-

25.1.16 snmp trap link-status

25.2

25.2.1 show snmp

SNMP **show snmp**

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

-	-

show snmp SNMP

show snmp mib snmp mib

show snmp user snmp

show snmp view snmp

show snmp group snmp

show snmp host

SNMP

```
Ruijie# 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 1500)
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
```

snmp-server *chassis-id*	SNMP

-	-

26 RMON

26.1

26.1.1 rmon alarm

MIB no

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

no rmon alarm *number*

-	-

RGOS variable absolute/delta owner interval rising-threadhold/falling-threadhold event

MIB ifInNUcastPkts.6

```
Ruijie(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
```

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

-	-

26.1.2 rmon collection history

no

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

no rmon collection history *index*

-	-

1

trap

```
Ruijie(config)# rmon event
```

```
Event type : log-and-trap
Community : public
Last time sent : 0d:0h:0m:0s
Owner : zhangsan
Log : 1
Log time : 0d:0h:37m:47s
```

```
Ruijie#  show rmon event
Alarm : 1
Interval : 1
Variable : 1.3.6.1.2.1.4.2.0
Sample type : absolute
Last value : 64
Startup alarm : 3
Rising threshold : 10
Falling threshold : 22
Rising event : 0
Falling event : 0
Owner : zhangsan
```


rmon event *number* [**log**] [

```
Ruijie#  show rmon history
Entry : 1
Data source : Gi1/1
Buckets requested : 65535
Buckets granted : 10
Interval : 1
Owner : zhangsan
Sample : 198
Interval start : 0d:0h:15m:0s
DropEvents : 0
Octets : 67988
Pkts : 726
BroadcastPkts : 502
MulticastPkts : 189
CRCAlignErrors : 0
UndersizePkts : 0
OversizePkts : 0
Fragments : 0
Jabbers : 0
Collisions : 0
Utilization : 0
```

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

-	-

```
Ruijie#  show rmon statistics
Statistics : 1
Data source : Gi1/1
DropEvents : 0
Octets : 1884085
Pkts : 3096
BroadcastPkts : 161
MulticastPkts : 97
CRCAlignErrors : 0
UndersizePkts : 0
OversizePkts : 1200
Fragments : 0
Jabbers : 0
Collisions : 0
Pkts64Octets : 128
Pkts65to127Octets : 336
Pkts128to255Octets : 229
Pkts256to511Octets : 3
Pkts512to1023Octets : 0
Pkts1024to1518Octets : 1200
Owner : zhangsan
```

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

-	-

27 IPv6

27.1

27.1.1 ping ipv6

IPV6

ping ipv6 [*ipv6-address*]

ipv6-addres	*s*

```
Ruijie# ping ipv6 fec0::1
```

ping

!	
.	
U	
R	
F	
A	
D	Down IPV6 ( )
?	

-	-

-	-

27.1.2 ipv6 address

IPV6 , no

ipv6 address *ipv6-address*/*prefix-length*

ipv6 address *ipv6-prefix*/*prefix-length* **eui-64**

ipv6 address *prefix-name sub-bits/prefix-length* [**eui-64**]

no ipv6 address

no ipv6 address *ipv6-address*/*prefix-length*

no ipv6 address *ipv6-prefix*/*prefix-length* **eui-64**

no ipv6 address *prefix-name sub-bits/prefix-length* [**eui-64**]

ipv6-address	IPV6 RFC4291 16 .
fix	IPV6 RFC4291 16 .
ength	IPV6 IPV6
prefix-name	
sub-bits	RFC4291

IPV6 UP IPV6 @ ш

default

2 IPv6 **ipv6 enable** ,
IPv6

IPv6 IPv6
no ipv6 enable IPV6

```
Ruijie(config-if)# ipv6 enable
```

show ipv6 interface	

-	-

27.1.5 ipv6 general-prefix

IPv6 **ipv6 general-prefix**

ipv6 general-prefix *prefix-name ipv6-prefix/prefix-length*

no ipv6 general-prefix *prefix-name ipv6-prefix/prefix-length*

prefix-name	
ipv6-prefix	RFC4291
prefix-length	

IPv6

my-prefix

```
Ruijie(config)# ipv6 general-prefix my-prefix 2001:1111:2222::/48
```

ipv6 address prefix-name sub-bits/prefix-length	
show ipv6 general-prefix	

RGOS10.4	RGOS10.4

27.1.6 ipv6 hop-limit

ipv6 hop-limit value

no ipv6 hop-limit

-	-

64

```
Ruijie(config)# ipv6 hop-limit 100
```


-	-

-	-

27.1.7 ipv6 nd dad attempts

IPV6 (NS)

no

ipv6 nd dad attempts *value*

no ipv6 nd dad attempts

IPv6

no

ipv6 neighbor *ipv6-address interface-id hardware-address*

no ipv6 neighbor *ipv6-address interface-id*

ipv6-address	IPV6 RFC4291
interface-id	Routed Port,L3 AP SVI
hardware-address	XXXX.XXXX.XXXX 48 MAC 'X'

ARP IPV6 NDP Reachble IPV6 IPV6 mac inactive show ipv6 neighbor static

clear ipv6 neighbors (NDP)

show ipv6 neighbors

```
Ruijie(conifg)# ipv6 neighbor 2001::1 vlan 1 00d0.f811.1111
```

show ipv6 neighbors	
clear ipv6 neighbors	

-	-

27.1.10 ipv6 ns-linklocal-src

“ **no ipv6**

ns-linklocal-src“ IPv6

RFC3484

ipv6 ns-linklocal-src

no ipv6 ns-linklocal-src

-	-

Ruijie(config)# **no ipv6 ns-linklocal-src**

-	-

-	-

27.1.11 ipv6 route

IPV6 no

ipv6 route *ipv6-prefix*/*prefix-length* {*ipv6-address* | *interface-id* [*ipv6-address*]}

no ipv6 route *ipv6-prefix*/*prefix-length* {*ipv6-address* | *interface-id* [*ipv6-address*]}

ipv6-prefix	IPV6 RFC4291
prefix-length	IPV6 ’/’

ipv6-address	RFC4291
interface-id	

```
Ruijie(config)# ipv6 route 2001::/64 vlan 1 2005::1
```

show ipv6 route	IPV6

-	-

27.1.12 ipv6 source-route

IPv6 no

IPv6

ipv6 source-route

no ipv6 source-route

-	-

IPv6

0

IPv6 0

IPv6

```
Ruijie(conifg)# no ipv6 source-route
```

-	-

27.2

27.2.1 clear ipv6 neighbors

clrear ipv6 neighbors

-	-

Ruijie# **clear ipv6 neighbors**

ipv6 neighbor	
show ipv6 neighbors	

-	-

27.2.2 show ipv6 general-prefix

show ipv6 general-prefix

show ipv6 general-prefix

-	-

```
Ruijie# show ipv6 interface vlan 1
Interface vlan 1 is Up, ifindex: 2001
address(es):
Mac Address: 00:00:00:00:00:01
INET6: fe80::200:ff:fe00:1 , subnet is fe80::/64
INET6: 2001::1 , subnet is 2001::/64 [TENTATIVE]
Joined group address(es):
ff01:1::1
ff02:1::1
ff02:1::2
ff02:1::1:ff00:1
MTU is 1500 bytes
ICMP error messages limited to one every 10 milliseconds
ICMP redirects are enabled
ND DAD is enabled, number of DAD attempts: 1
ND reachable time is 30000 milliseconds
ND advertised reachable time is 0 milliseconds
ND retransmit interval is 1000 milliseconds
ND advertised retransmit interval is 0 milliseconds
ND router advertisements are sent every 200 seconds<240--160>
ND router advertisements live for 1800 seconds
```

INET6: 2001::1 , subnet is 2001::/64

[TENTATIVE] INET6 [ ]

ANYCAST	
TENTATIVE	(DAD)
DUPLICATED	
DEPRECATED	
NODAD	
AUTOIFID	EUI-64
PRE	
GEN	

```
Ruijie# show ipv6 interface vlan 1 ra-info
```

total	
fec0:1:1:1::/64	
Def	
Auto | CFG	Auto IPV6 , CFG
!Adv	
vltime	( )
pltime	( )
L | !L	L on-link !L
A | !A	A

1 SVI 1

```
Ruijie# show ipv6 neighbors vlan 1
IPv6 Address Linklayer Addr   Interface
fa::1        00d0.0000.0002   vlan 1
fe80::200:ff:fe00:2  00d0.0000.0002  vlan 1
```

2

```
Ruijie# show ipv6 neighbors verbose
IPv6 Address  Linklayer Addr Interface
2001::1      00d0.f800.0001 vlan 1
       State: Reach/H Age: - asked: 0
fe80::200:ff:fe00:1    00d0.f800.0001 vlan 1
       State: Reach/H Age: - asked: 0
```

IPv6 Address	IPV6
Linklayer Addr	Mac incomplete
Interface	

state/H(R)

STATE

INCMP(Incomplete)—

(NS)

(NA)

REACH(Reachable) —

STALE —

NUD

(Neighbor Unreachability Detection)

DELAY— STALE

State STALE DELAY

DELAY_FIRST_PROBE_TIME seconds(5)

DELAY PROBE

(NS) NUD

PROBE— NUD

RetransTimer milliseconds

(NS)

MAX_UNICAST_SOLICIT(3)

?—

/R—

Interface

G Q ¸Á/ P Yb Q V@Idr Q)b Sc“hG / Q`Ab •a-a ðÀ R T

show ipv6 router

IPv6

```
Ruijie# show ipv6 router
Router FE80::2D0:F8FF:FEC1:C6E1 on VLAN 2, last update 62 sec
  Hops 64, Lifetime 1800 sec, ManagedFlag=0, OtherFlag=0, MTU=1500
  Preference=MEDIUM
  Reachable time 0 msec, Retransmit time 0 msec
  Prefix 6001:3::/64 onlink autoconfig
    Valid lifetime 2592000 sec, preferred lifetime 604800 sec
  Prefix 6001:2::/64 onlink autoconfig
    Valid lifetime 2592000 sec, preferred lifetime 604800 sec
```

-	-

28 MLD Snooping

28.1

28.1.1 ipv6 mld profile

MLD profile profile profile-number mld profile

10.4	

28.1.3 deny

profile profile deny

deny

profile deny

profile

profile range

FF77::100 profile :

```
Ruijie(config)# ipv6 mld profile 1
Ruijie(config-profile)# range FF77::100
Ruijie(config-profile)# deny
```

ipv6 mld profile	profile
range	
permit	profile permit

10.4	

28.1.4 permit

profile profile permit

permit

VLAN VLAN
VLAN
VLAN

mld snooping ivgl

```
Ruijie(config)# ipv6 mld snooping ivgl
```

ipv6 mld snooping svgl	mld snooping svgl
ipv6 mld snooping ivgl-svgl	mld snooping

10.4	

28.1.6 ipv6 mld snooping svgl profile

SVGL **ipv6 mld snooping profile** *profile-number*, **no ipv6 mld snooping profile**

ipv6 mld snooping profile *profile-number*

no ipv6 mld snooping profile

profile-number	profile 1-1024

mld snooping

mld snooping SVGL IVGL-SVGL
SVGL profile SVGL
VLAN
VLAN
profile SVGL

10.4	

28.1.8 ipv6 mld snooping query-max-response-time

ipv6 mld snooping query-max-response-time *time* MLD

no ipv6 mld snooping query-max-response-time

ipv6 mld snooping query-max-response-time *time*

no ipv6 mld snooping query-max-response-time

time	MLD 1-65535

10s

MLD

0

mld snooping

MLD

0

mld snooping

MLD

MLD 15s

```
Ruijie(config)# ipv6 mld snooping query-max-response-time 15
```


10.4	

28.1.9 ipv6 mld snooping vlan

ipv6 mld snooping vlan *vid* vlan mld snooping **no ipv6 mld snooping vlan** *vid* vlan mld snooping

ipv6 mld snooping vlan *vid*

no ipv6 mld snooping vlan *vid*

vid	vlan id 1-4094

mld snooping vlan mld snooping

mld snooping vlan mld snooping vlan mld snooping

VLAN 1 mld snooping

```
Ruijie(config)# no ipv6 mld snooping vlan 1
```


10.4	

28.1.10 ipv6 mld snooping vlan mrouter learn

MLD query PIM

ipv6 mld snooping vlan mrouter learn no

ipv6 mld snooping vlan *vid* **mrouter learn**

no ipv6 mld snooping vlan *vid* **mrouter learn**

MLD Snooping

10.4	

28.1.15 ipv6 mld source-check port

mld snooping

ipv6 mld snooping source-check port

no

ipv6 mld snooping source-check port

no ipv6 mld snooping source-check port

mld snooping MLD

mld snooping

mld snooping

mld snooping

```
Ruijie(config)# ipv6 mld snooping source-check port
```

，	，

10.4	

28.1.16 ipv6 mld snooping filter

profile no profile

ipv6 mld snooping filter *profile-number*

no ipv6 mld snooping filter *profile-number*

profile-num	profile

MLD Profile MLD Report
MLD Profile
profile filter

0/1 profile 1

```
Ruijie(config)# interface fastEthernet 0/1
Ruijie(config-if)# ipv6 mld snooping filter 1
```

ipv6 mld profile	profile

, **ipv6 mld snooping max-groups** no

ipv6 mld snooping max-groups *number*

no ipv6 mld snooping max-groups

Number	0 – 1024

1024

MLD Report

0/1 100

```
Ruijie(config)# interface fastEthernet 0/1
Ruijie(config-if)# ipv6 mld snooping max-group 100
```

ipv6 mld snooping filter	

10.4	

28.1.18 clear ipv6 mld snooping gda-table

, **clear ipv6 mld snooping gda-table**

clear ipv6 mld snooping gda-table


```
Ruijie# clear ipv6 mld snooping gda-table
```


10.4	

28.1.19 debug mld-snp

mld , **debug mld-snp**

10.4	

28.2

28.2.1 show ipv6 mld snooping

mld snooping

Show ipv6 mld snooping [**gda-table** | **interfaces** | **mrouter**| **statistics** [**vlan** *vlan-id*]]

	mld snooping
gda-table	
interfaces	mld snooping Filtering
mrouter	
statistics [**vlan** *vlan-id*]	snooping

mld snooping

1 **show ipv6 mld snooping** mld snooping

```
Ruijie# show ipv6 mld snooping
MLD-snooping mode      : IVGL
SVGL vlan-id           : 1
SVGL profile number    : 0
Source check port      : Disabled
Query max respone time : 10(Seconds)
```

2 **show ipv6 mld snooping statistics** mld snooping

```
Ruijie# show ipv6 mld snooping statistics
GROUP    Interface    Last report       Last leave     Last
                         time          time         reporter
```

```
-------------- ----------- ------------  -------------   -
FF88::1 VL1:Gi4/2   0d:0h:0m:7s     ----    2003::1111
                        Report pkts: 1          Leave pkts: 0
```

3	**show ipv6 mld snooping mrouter**	mld snooping

```
Ruijie# show ipv6 mld snooping mrouter
Vlan   Interface       State     MLD profile number
----     --------         -------     -------------------
1   GigabitEthernet 0/7   static       1
1   GigabitEthernet 0/12  dynamic      0
```

4	**show ipv6 mld snooping gda-table**	GDA

```
Ruijie# show ipv6 mld snooping gda-table
Abbr: M - mrouter
     D - dynamic
     S - static
VLAN  Address            Member ports
-----------------------------------------------------------
1      FF88::1          GigabitEthernet 0/7(S)
```

5	show ipv6 mld snooping interface	mld snooping Filtering

```
Ruijie# show ipv6 mld snooping interface GigabitEthernet 0/7
Interface         Filter Profile number     max-groups
----------       ----------------------    -----------
GigabitEthernet 0/7          1              4294967294
```


10.4	

28.2.2 show ipv6 mld profile

MLD profile

show ipv6 mld profile [*profile-number*]

	profile
profile-number	profile

mld profile

```
  1      show ipv6 mld profile        MLD profile
Ruijie# show ipv6 mld profile 1
MLD Profile 1
permit
range FF77::1 FF77::100
range FF88::123
```


29

29.1

29.1.1 strom-control

no

storm-control {**broadcast** | **multicast** | **unicast**} [{**level** *percent* | **pps** *packets* | *rate-bps*}]

no storm-control {**broadcast** | **multicast** | **unicast**} [{**level** *percent* | **pps** *packets* | *rate-bps*}]

broadcast	
multicast	
unicast	
percent	20 20%
packets	pps packets per second
Rate-bps	
64k-2M	64k
2-100M	1M
100M	8M

show storm-control

GigabitEthernet 1/1

4M

```
Ruijie# configure terminal
Ruijie(config)# interface GigabitEthernet 1/1
Ruijie(config-if)# storm-control multicast 4096
Ruijie(config-if)# end
```

show storm-control	

86 **pps**

-	-

29.1.2 switchport protected

no

switchport protected

no switchport protected

-	-

3 **show interfaces**

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# switchport protected
```

show interfaces	

-

-	-

29.1.3 switchport port-security

no

switchport port-security [**violation** {**protect** | **restrict** | **shutdown**}]

no switchport port-security [**violation**]

port-security	
violation protect	
violation restrict	trap
violation shutdown	Trap

MAC IP(

) ( )

1

M

Gigabitethernet 1/1

shutdown

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# switchport port-security
Ruijie(config-if)# switchport port-security violation shutdown
```


show port-security

show port-security	

switchport port-security	
switchport port-security binding interface	
Switchport port-security mac-address	
switchport port-security aging	
show port-security	

-	-

29.1.6 switchport port-security binding interface

IP+ MAC IP

no

[**no**] **switchport port-security binding interface** i*nterface-id mac-address* **vlan** *vlan_id ipv4-address* | *ipv6-address*

[**no**] **switchport port-security binding interface** i*nterface-id ipv4-address* | *ipv6-address*

i*nterface-id*	ID
mac-address	MAC
Vlan_id	MAC VID
Ipv4-address	Ipv4 Ip
Ipv6-address	Ipv6 Ip

1 192.168.1.100 10

Ruijie(config)# **switchport port-security binding interface** *g0/10 192.168.1.100*

2 192.168.1.100 MAC 00d0.f800.5555, VID= 1 10

Ruijie(config)# **switchport port-security binding interface** *g0/10 00d0.f800.5555* **vlan** *1 192.168.1.100*

switchport port-security	
switchport port-security binding	
Switchport port-security mac-address	
switchport port-security aging	
show port-security	

1 TRUNK 10

```
  1       TRUNK      10                00d0.f800.5555 VID=2
Ruijie(config)#  switchport  port-security  interface  g0/10
mac-address 00d0.f800.5555 vlan 2
```

switchport port-security	
switchport port-security aging	
switchport port-security mac-address	

-	-

30 802.1X

30.1 dot1x

30.1.1 dot1x auto-req

802.1X **dot1x auto-req** **no**

[**no**] **dot1x auto-req**

-	-

30.1.3 dot1x auto-req req-interval

no

dot1x auto-req req-interval *interval*

no dot1x auto-req req-interval

interval	s

30

show dot1x auto-req

802.1x 60s

30.1.4 dot1x auto-req user-detect

no

dot1x auto-req user-detect

no dot1x auto-req user-detect

-	-

show dot1x auto-req

```
Ruijie# configure terminal
Ruijie(config)# dot1x auto-req user-detect
Ruijie(config)# end
Ruijie# show dot1x auto-req
Auto-Req: Enabled
User-Detect : Enabled
Packet-Num  : 0
Req-Interval: 60 Second
```

show dot1x auto-req	

-	-

30.2 dot1x

30.2.1 dot1x timeout quiet-period

no

dot1x timeout quiet-period *seconds*

no dot1x timeout quiet-period

seconds	0 65535 s

10

show dot1x

1000s

```
Ruijie# configure terminal
Ruijie(config)# dot1x timeout quiet-period 1000
Ruijie(config)# end
Ruijie# show dot1x
802.1X Status:       Enabled
Authentication Mode:  EAP-MD5
Authed User Number:   0
Re-authen Enabled:    Disabled
Re-authen Period:     3600 sec
Quiet Timer Period:   1000 sec
Tx Timer Period:      3 sec
Supplicant Timeout:   3 sec
Server Timeout:       5 sec
Re-authen Max:        3 times
Maximum Request:      3 times
Filter Non-RG Supp:   Disabled
```

```
Client Oline Probe:   Disabled
Eapol Tag Enable:     Disabled
Authorization Mode:   Group Server
```

show dot1x	802.1x

	-

[redacted]period

[redacted]*econds*

```
Re-authen Period:    1000 sec
Quiet Timer Period:   1000 sec
Tx Timer Period:     3 sec
Supplicant Timeout:   3 sec
Server Timeout:      5 sec
Re-authen Max:       3 times
Maximum 2Request:     3 times
Filter Non-RG Supp:   Disabled
Client Oline Probe:   Disabled
Eapol Tag Enable:    Disabled
Authorization Mode:   Group Server
```

-	-

30.2.5 dot1x timeout tx-period

no

dot1x timeout tx-period *seconds*

no dot1x timeout tx-period

seconds	0 65535

3

show dot1x 802.1x

10s

```
Ruijie# configure terminal
Ruijie(config)# dot1x timeout tx-period 10
Ruijie(config)# end
Ruijie# show dot1x
802.1X Status:       Enabled
Authentication Mode:  EAP-MD5
Authed User Number:   0
Re-authen Enabled:    Disabled
Re-authen Period:     1000 sec
Quiet Timer Period:   1000 sec
Tx Timer Period:      10 sec
Supplicant Timeout:   10 sec
Server Timeout:       10 sec
Re-authen Max:        3 times
Maximum Request:      3 times
Filter Non-RG Supp:   Disabled
Client Oline Probe:   Disabled
Eapol Tag Enable:     Disabled
```

```
Authorization Mode:   Group Server
```

show dot1x	802.1x

```
Re-authen Period:    1000 sec
Quiet Timer Period:   1000 sec
Tx Timer Period:     10 sec
Supplicant Timeout:   10 sec
Server Timeout:      10 sec
Re-authen Max:       3 times
Maximum Request:     3 times
Filter Non-RG Supp:   Disabled
Client Oline Probe:   Disabled
Eapol Tag Enable:    Disabled
Authorization Mode:   Group Server
```

show dot1x	802.1x

-	-

30.3.2 dot1x reauth-max

no

dot1x reauth-max *count*

no dot1x reauth-max

count	

3

show dot1x

802.1x

```
Ruijie# configure terminal
Ruijie(config)# dot1x reauth-max 5
Ruijie(config)# end
Ruijie# show dot1x
802.1X Status:       Enabled
Authentication Mode:  EAP-MD5
Authed User Number:   0
Re-authen Enabled:    Enabled
Re-authen Period:     1000 sec
Quiet Timer Period:   1000 sec
Tx Timer Period:      10 sec
Supplicant Timeout:   10 sec
Server Timeout:       10 sec
Re-authen Max:        5 times
Maximum Request:      3 times
Filter Non-RG Supp:   Disabled
Client Oline Probe:   Disabled
Eapol Tag Enable:     Disabled
Authorization Mode:   Group Server
```

show dot1x	802.1x

-	-

30.4 dot1x

30.4.1 dot1x probe-timer

.

dot1x probe-timer{**interval** | **alive**}*interval*

no dot1x probe-timer

no	
interval	hello
alive	
interval	

Hello 20

250

show dot1x 802.1x

hello 30 , 120

```
Ruijie# configure terminal
Ruijie(config)# dot1x probe-timer interval 30
Ruijie(config)# dot1x probe-timer alive 120
Ruijie(config)# end
Ruijie# show dot1x probe-timer
Hello Interval: 30 Seconds
Hello Alive: 120 Seconds
```

Show dot1x probe-timer	

-	-

```
Ruijie# configure terminal
Ruijie(config)# dot1x client-probe enable
Ruijie(config)# end
Ruijie# show dot1x
802.1X Status:       Enabled
Authentication Mode:  EAP-MD5
Authed User Number:   0
Re-authen Enabled:    Enabled
Re-authen Period:     1000 sec
Quiet Timer Period:   1000 sec
Tx Timer Period:      10 sec
Supplicant Timeout:   10 sec
Server Timeout:       10 sec
```

30.5 dot1x

30.5.1 dot1x authentication

AAA AAA

no

dot1x authentication {**default** | *list-name*}

no dot1x authentication {**default** | *list-name*}

default	
list-name	

AAA AAA

AAA dot1x

group radius

```
Ruijie# configure terminal
Ruijie(config)# aaa new-model
Ruijie(config)# aaa authentication dot1x default group radius
Ruijie(config)# interface fastEthernet0/1
Ruijie(config-if)# dot1x authentication default
Ruijie(config-if)# end
```

aaa new-model	AAA
aaa authentication dot1x	

-	-

30.5.2 dot1x auth-address-table

802.1X **no**

dot1x auth-address-table address *mac-addr* **interface** *interface*

no dot1x auth-address-table address *mac-addr* **interface** *interface*

mac-addr	
Interface	

S*ï 802.1X **show dot1x auth-address table**

dot1x auth-mode {**eap-md5** | **chap** | **pap**}

no dot1x auth-mode

eap-md5	802.1x	EAP-MD5
chap	802.1x	CHAP
pap	802.1x	PAP

EAP-MD5

show dot1x 802.1x

802.1x

```
Ruijie# configure terminal
Ruijie(config)# dot1x auth-mode chap
Ruijie(config)# end
Ruijie#
```

show dot1x	802.1x

show dot1x 802.1x

802.1x

```
Ruijie# configure terminal
Ruijie(config)# dot1x default
Ruijie(config)# end
Ruijie# end
```

show dot1x	802.1x

```
Ruijie(config)# dot1x dynamic-vlan enable
Ruijie(config)# end
Ruijie#
```

show dot1x	802.1x

-	-

30.5.6 dot1x guest-vlan

guest vlan **no**

dot1x dynamic-vlan <1 - 4094>

no dot1x guest-vlan

vid	<1 - 4094>

Â guest vlan **dot1x dynamic-vlan enable**
guest vlan

Â guest vlan
vlan

Â **show running-config** 802.1x

802.1x guest vlan

```
Ruijie# configure terminal
Ruijie(config)# dot1x guest-vlan 10
Ruijie(config)# end
Ruijie#
```

show running-config	802.1x

-	-

30.5.7 dot1x eapol-tag

EAPOL TAG

dot1x eapol-tag

no dot1x eapol-tag

-	-

show dot1x 802.1x

802.1X tag

```
Ruijie# configure terminal
Ruijie(config)# dot1x eapol-tag
Ruijie(config)# end
Ruijie#
```

show dot1x	802.1x

-	-

30.5.8 dot1x max-req

DOT1X DOT1X
DOT1X

no

dot1x max-req *count*

no dot1x max-req

show dot1x private-supplicant-only 802.1x

```
Ruijie# configure t
Ruijie(config)# dot1x private-supplicant-only
Ruijie(config)# end
Ruijie#
```

show dot1x private-supplicant-only	

-	-

30.5.10 dot1x port-control auto

no

dot1x port-control auto

no dot1x port-control

Ruijie#

show dot1x	802.1x

-	-

30.5.11 dot1x port-control-mode

802.1x MAC

dot1x port-control-mode {**mac-based** | {**port-based** [**single-host**]} }

no dot1x port-control-mode

mac-based	mac 802.1X
port-based	802.1X
single-host	802.1x

mac-based

show dot1x port-control 802.1x
single-host 802.1x **show dot1x port-control**
port-based **show running-config** **dot1x port-control-mode**
port-based single-host
single-host default-user-limit single-host
single-host default-user-limit

single-host

1 802.1x

```
Ruijie(config)# interface g 0/1
Ruijie(config-if)# dot1x port-control auto
Ruijie(config-if)# dot1x port-control-mode port-based
Ruijie(config-if)# end
Ruijie#
```

2 802.1x

```
Ruijie(config)# interface g 0/1
Ruijie(config-if)# dot1x port-control auto
Ruijie(config-if)# dot1x port-control-mode port-based single-host
Ruijie(config-if)# end
Ruijie#
```

show dot1x port-control	802.1x
Show running-config	

-	-

30.5.12 dot1x stationarity enable

802.1x

802.1X

dot1x stationarity enable

no dot1x stationarity enable

-	-

1 ruijie.net/web

```
Ruijie(config)# dot1x redirect url http://ruijie.net/web
```

dot1x redirect url	
dot1x redirect time-out	
dot1x redirect num for special source-ip	
show dot1x	dot1x

-	-

30.5.15 dot1x redirect time-out

( ), 3 1-10 no

dot1x redirect time-out port *time-out-interval*

no dot1x redirect time-out port

time-out-interval	

3

1 5

```
Ruijie(config)# dot1x redirect time-out 5
```

dot1x redirect url	ip ip web

dot1x redirect for special tcp-destination port	
dot1x redirect num for special source-ip	
show dot1x	dot1x

-	-

30.5.16 dot1x redirect num for special source-ip

1 1-10 no

dot1x redirect num for special source-ip *num*

no dot1x redirect num for special source-ip

num	

1

1 3

```
Ruijie(config)# dot1x redirect num for special source-ip 3
```

dot1x redirect url	
dot1x redirect for special tcp-destination port	

show dot1x	dot1x

-	-

30.6 dot1x

30.6.1 show dot1x

802.1x

show dot1x

-	-

```
Ruijie# show dot1x
802.1X Status:       Enabled
Authentication Mode:  EAP-MD5
Authed User Number:   0
Re-authen Enabled:    Disabled
Re-authen Period:     3600 sec
Quiet Timer Period:   10 sec
Tx Timer Period:      3 sec
Supplicant Timeout:   3 sec
Server Timeout:       5 sec
Re-authen Max:        3 times
Maximum Request:      3 times
```

```
Filter Non-RG Supp:   Disabled
Client Oline Probe:   Disabled
Eapol Tag Enable:     Disabled
Authorization Mode:   Group Server
Ruijie#
```

dot1x auth-mode	802.1x
dot1x max-req	
dot1x port-control auto	
dot1x reauth-max	
dot1x re-authentication	
dot1x timeout quiet-period	
dot1x timeout re-authperiod	
dot1x timeout server-timeout	
dot1x timeout supp-timeout	
dot1x timeout tx-period	

-	-

802.1X

show dot1x auth-address-table[*addressmac-addr*][*interface interface*]

mac-addr	
interface	

```
Ruijie# show dot1x auth-address-table
interface:g3/1
-----------------------------------
mac addr: 00D0.F800.0001
Ruijie#
```

dot1x auth-mode	802.1x
dot1x max-req	
dot1x port-control auto	
dot1x reauth-max	
dot1x re-authentication	
dot1x timeout quiet-period	
dot1x timeout re-authperiod	
dot1x timeout server-timeout	
dot1x timeout supp-timeout	
dot1x timeout tx-period	

-	-

30.6.3 show dot1x auto-req

802.1x

show dot1x auto-req

-	-

```
Ruijie# show dot1x auto-req
Auto-Req: Disabled
User-Detect : Enabled
Packet-Num  : 0
Req-Interval: 30 Seconds
```

dot1x auth-mode	802.1x
dot1x max-req	
dot1x port-control auto	
dot1x reauth-max	
dot1x re-authentication	
dot1x timeout quiet-period	
dot1x timeout re-authperiod	
dot1x timeout server-timeout	
dot1x timeout supp-timeout	
dot1x timeout tx-period	

-	-

30.6.4 show dot1x private-supplicant-only

show dot1x private-supplicant-only

-	-

```
Ruijie# show dot1x private-supplicant-only
private-supplicant-only:: disabled
Ruijie#
```

dot1x timeout supp-timeout	
dot1x timeout tx-period	

-	-

30.6.5 show dot1x max-req

show dot1x max-req

-	-

```
Ruijie# show dot1x max-req
max-req: 2 times
Ruijie#
```

dot1x auth-mode	802.1x
dot1x max-req	
dot1x port-control auto	
dot1x reauth-max	
dot1x re-authentication	
dot1x timeout quiet-period	
dot1x timeout re-authperiod	
dot1x timeout server-timeout	
dot1x timeout supp-timeout	
dot1x timeout tx-period	

-	-

30.6.6 show dot1x port-control

show dot1x port-control [**interface** *interface*]

interface	

```
Ruijie# show dot1x port-control
interface dyn-user static-user max-user qos
ctrl-mode status
--------- -------- ----------- -------- ------- ------
Gi0/1     0        1           6000     dscp: 0 mac-base Authed
Ruijie#
```

dot1x auth-mode	802.1x
dot1x max-req	
dot1x port-control auto	
dot1x reauth-max	
dot1x re-authentication	
dot1x timeout quiet-period	
dot1x timeout re-authperiod	

	dot1x timeout server-timeout	
	dot1x timeout supp-timeout	
	dot1x timeout tx-period	

dot1x reauth-max	
dot1x re-authentication	
dot1x timeout quiet-period	
dot1x timeout re-authperiod	
dot1x timeout server-timeout	
dot1x timeout supp-timeout	
dot1x timeout tx-period	

-	-

30.6.8 show dot1x re-authentication

show dot1x re-authentication

-	-

```
Ruijie# show dot1x re-authentication
reauth-enabled: disabled
Ruijie#
```

dot1x auth-mode	802.1x
dot1x max-req	
dot1x port-control auto	
dot1x reauth-max	
dot1x re-authentication	
dot1x timeout quiet-period	
dot1x timeout re-authperiod	
dot1x timeout server-timeout	
dot1x timeout supp-timeout	
dot1x timeout tx-period	

-	-

30.6.9 show dot1x reauth-max

show dot1x reauth-max

-	-

```
Ruijie# show dot1x reauth-max
reauth-max: 2 times
Ruijie#
```

dot1x auth-mode	802.1x
dot1x max-req	
dot1x port-control auto	
dot1x reauth-max	
dot1x re-authentication	
dot1x timeout quiet-period	
dot1x timeout re-authperiod	
dot1x timeout server-timeout	
dot1x timeout supp-timeout	
dot1x timeout tx-period	

-	-

30.6.10 show dot1x summary

802.1X

show dot1x summary

-	-

```
Ruijie# show dot1x summary
ID   MAC       Interface VLAN Auth-State
Backend-State Port-Status Type
--------------- -------------- ---------------
1 00d0f8000000 Gi0/1       1  Authenticated Idle
Authed     Static
Ruijie#
```

dot1x auth-mode	802.1x
dot1x max-req	
dot1x port-control auto	
dot1x reauth-max	
dot1x re-authentication	
dot1x timeout quiet-period	
dot1x timeout re-authperiod	
dot1x timeout server-timeout	
dot1x timeout supp-timeout	
dot1x timeout tx-period	

-	-

30.6.11 show dot1x user id

802.1X

show dot1x user id <*id*>

id	show summary id

```
Ruijie# show dot1x user id 1
User name: caikov
id: 1
Type: static
Mac address is 0013.2049.8272
Vlan id is 217
Access from port Gi0/13
User ip address is 192.168.217.64
Max user number on this port is 6000
COS on this port is 5
Up-bandwidth is 1024 kbps
Down-bandwidth is 1024 kbps
Authorization vlan is dep7
Authorization seesion time is 1000000 seconds
Authorization ip address is 192.168.217.64
Start accounting
Permit proxy user
Permit dial user
IP privilige is 2
```

dot1x auth-mode	802.1x

dot1x max-req	
dot1x port-control auto	

```
Ruijie# show dot1x timeout quiet-period
quiet-period: 60 sec
Ruijie#
```

dot1x auth-mode	802.1x
dot1x max-req	
dot1x port-control auto	
dot1x reauth-max	
dot1x re-authentication	

dot1x timeo/Tpf-0.0024 Tw 1.198 <4-0.0024 Tw 1.] 0.47A48 20.1 33.36 394.9840.1 F909B>E20804

31 AAA

31.1

31.1.1 aaa authentication dot1x

AAA

aaa new-model	AAA
dot1x authentication	802.1X
username	

-	-

31.1.2 aaa authentication enable

AAA Enable **aaa authentication enable** Enable no

aaa authentication enable default *method1* [*method2*...]

no aaa authentication enable default

default	Enable Enable
method	“ local none group ” 4
local	
none	
group	RADIUS TACACS+

AAA Enable AAA Enable **aaa authentication enable** AxA•#Ä AAA

AAA Enable RADIUS
RADIUS

Ruijie(config)# **aaa authentication enable default group radius local**

aaa new-model	AAA
enable	
username	

-	-

31.1.3 aaa authentication login

AAA Login **aaa authentication login**
Login no

aaa authentication login {**default** | *list-name*} *method1* [*method2*...]

no aaa authentication login {**default** | *list-name*}

default	Login
list-name	Login
method	“ local none group ” 4
local	
none	
group	RADIUS TACACS+

AAA AAA Login
aaa authentication login Login

Login Login

list-1 AAA Login
RADIUS RADIUS

```
Ruijie(config)# aaa authentication login list-1 group radius local
```

aaa new-model	AAA
username	
login authentication	Login

-	-

31.1.4 aaa authentication ppp

AAA PPP **aaa authentication ppp** PPP

local	
none	
group	RADIUS TACACS+

AAA PPP AAA PPP
aaa authentication ppp PPP

rds_ppp AAA PPP
RADIUS RADIUS

```
Ruijie(config)# aaa authentication ppp rds_ppp group radius local
```

aaa new-model	AAA
ppp authentication	PPP
username	

-	-

31.1.5 login authentication

Login **login authentication** Login no

login authentication {**default** | *list-name*}

no login authentication

default	Login
list-name	Login

Login

Login

Login Login

list-1 AAA Login

VTY 0 - 4

```
Ruijie(config)# aaa authentication login list-1 local
Ruijie(config)# line vty 0 4
Ruijie(config-line)# login authentication list-1
```

no aaa authorization commands *level* {**default** | *list-name*}

level	0~15

default

31.2.2 aaa authorization config-commands

AAA

aaa authorization config-commands no AAA

aaa authorization config-commands

no aaa authorization config-commands

-	-

no

```
Ruijie(config)# aaa authorization config-commands
```

aaa new-model	AAA
aaa authorization commands	AAA

-	-

31.2.3 aaa authorization console

AAA **aaa authorization console** no AAA

aaa authorization console

no aaa authorization console

-	-

RGOS

```
Ruijie(config)# aaa authorization console
```

aaa new-model	AAA
aaa authorization commands	AAA
authorization commands	

-	-

31.2.4 aaa authorization exec

AAA NAS CLI Exec

aaa authorization exec no AAA Exec

aaa authorization exec {**default** | *list-name*} *method1* [*method2*...]

no aaa authorization exec {**default** | *list-name*}

default	Exec
list-name	Exec

AAA

default	Network

“

method

authorization

commands no

authorization commands *level* {**default** | *list-name*}

no authorization commands *level*

level	0~15
default	
list-name	

AAA

cmd 15 TACACS+
none VTY 0 – 4

```
Ruijie(config)# aaa authorization commands 15 cmd group tacacs+ none
Ruijie(config)# line vty 0 4
Ruijie(config-line)# authorization commands 15 cmd
```

aaa new-model	AAA
aaa authorization commands	AAA

-	-

Exec **authorization exec**
no Exec

authorization exec {**default** | *list-name*}

no authorization exec

default	Exec
list-name	Exec

AAA Exec

Exec
Exec
Exec Exec

exec-1 Exec RADIUS
none VTY 0 – 4

```
Ruijie(config)# aaa authorization exec exec-1 group radius none
Ruijie(config)# line vty 0 4
Ruijie(config-line)# authorization exec exec-1
```

aaa new-model	AAA
aaa authorization commands	AAA Exec

-	-

31.3

NAS

aaa accounting commands no

aaa accounting commands *level* {**default** | *list-name*} **start-stop** *method1* [*method2*...]

no aaa accounting commands *level* {**default** | *list-name*}

level	0~15
default	
list-name	
method	“ **none** **group** ” 4

-	-

31.3.2 aaa accounting exec

NAS **aaa accounting exec** no Exec

aaa accounting exec {**default** | *list-name*} **start-stop** *method1* [*method2*...]

no aaa accounting exec {**default** | *list-name*}

default	Exec
list-name	Exec
method	“ **none** **group** ” 4
none	

aaa new-model	AAA
aaa authentication	AAA
accounting commands	Exec

-	-

31.3.3 aaa accounting network

aaa accounting network no

aaa accounting network {**default** | *list-name*} **start-stop** *method1* [*method2*...]

no aaa accounting network {**default** | *list-name*}

	Network
default	i

```
Ruijie(config)# aaa accounting network default start-stop group
radius
```

aaa new-model	AAA
aaa authorization network	AAA
aaa authentication	AAA
username	

-	-

31.3.4 aaa accounting update

aaa accounting update

no

aaa accounting update

no aaa accounting update

-	-

AAA AAA

```
Ruijie(config)# aaa new-model
Ruijie(config)#
```


aaa new-model	AAA
aaa accounting network	

-	-

31.3.6 accounting commands

accounting commands

no

accounting commands *level* {**default** | *list-name*}

no accounting commands *level*

level	0~15
default	

-	-

31.3.7 accounting exec

Exec **accounting exec**
no Exec

accounting exec {**default** | *list-name*}

no accounting exec

default	Exec
list-name	Exec

Exec
Exec
Exec Exec

exec-1 Exec RADIUS
none VTY 0 – 4

```
Ruijie(config)# aaa accounting exec exec-1 group radius none
Ruijie(config)# line vty 0 4
Ruijie(config-line)# accounting exec exec-1
```

aaa new-model	AAA
aaa accounting commands	AAA Exec

-	-

31.4 AAA

31.4.1 aaa domain

no

aaa domain {**default** | *domain-name*}

no aaa domain {**default** | *domain-name*}

default	
domain-name	

AAA default

domain-name

32

```
Ruijie(config)# aaa domain ruijie.com
Ruijie(config-aaa-domain)#
```

aaa new-model	AAA
aaa domain enable	AAA

31.4.2 aaa domain enable

AAA

AAA no

aaa domain enable

no aaa domain enable

-	-

AAA

AAA

AAA

```
Ruijie(config)# aaa domain enable
```

aaa new-model	AAA
show aaa domain	

-	-

31.4.3 access-limit

no access-limit

num	IEEE802.1x

default

Network

Network

```
Ruijie(config)# aaa domain ruijie.com
Ruijie(config-aaa-domain)# accounting network default
```

aaa new-model	AAA
aaa domain enable	AAA
show aaa domain	

-	-

31.4.5 authentication dot1x

IEEE802.1x no

authentication dot1x {**default** | *list-name*}

no authentication dot1x

default	
list-name	

default

IEEE802.1x

IEEE802.1x

```
Ruijie(config)# aaa domain ruijie.com
Ruijie(config-aaa-domain)# authentication dot1x default
```

aaa new-model	AAA
aaa domain enable	AAA
show aaa domain	

-	-

31.4.6 authorization network

Network no

authorization network {**default** | *list-name*}

no authorization network

default	
list-name	

default

```
Ruijie(config)# aaa domain ruijie.com
```

```
Ruijie(config-aaa-domain)# authorization network default
```

aaa new-model	AAA
aaa domain enable	AAA
show aaa domain	

-	-

31.4.7 state

no

state {**block** | **active**}

no state

block	
active	

```
Ruijie(config)# aaa domain ruijie.com
Ruijie(config-aaa-domain)# state block
```


aaa new-model	AAA
aaa domain enable	AAA
show aaa domain	

aaa new-model	AAA

-	-

31.5 AAA

31.5.1 aaa group server

AAA no

aaa group server {**radius** | **tacacs+**} *name*

no aaa group server {**radius** | **tacacs+**} *name*

name	“ radius ” “ tacacs+ ” RADIUS TACACS+

AAA RADIUS TACACS+

```
Ruijie(config)# aaa group server radius ss
Ruijie(config-gs-radius)# end
Ruijie# show aaa group
Group Name:  ss
Group Type:  radius
Referred:   1
Server List:
```

show aaa group	aaa

-	-

31.5.2 ip vrf forwarding

AAA vrf no

ip vrf forwarding *vrf_name*

no ip vrf forwarding

vrf_name	vrf

vrf

```
Ruijie(config)# aaa group server radius ss
Ruijie(config-gs-radius)# server 192.168.4.12
Ruijie(config-gs-radius)# server 192.168.4.13
Ruijie(config-gs-radius)# ip vrf forwarding vrf_name
Ruijie(config-gs-radius)# end
```

aaa group server	aaa
show aaa group	aaa

AAA no

server *ip-addr* [**authen-port** *port1*] [**acct-port** *port2*]

no server

	-	-

31.5.4 show aaa group

AAA

show aaa group

31.6.1 aaa local authentication attempts

login

aaa local authentication attempts *max-attempts*

max-attempts	1~2147483647

3

Login

D

login

```
Ruijie# configure terminal
Ruijie(config)# aaa local authentication lockout-time 5
```

Show running-config	
Show aaa lockout	login

-	-

31.6.3 aaa new-model

RGOS AAA **aaa new-model** AAA
no AAA

aaa new-model

no aaa new-model

-	-

AAA

AAA AAA **aaa new-model**
AAA AAA AAA

AAA

```
Ruijie(config)# aaa new-model
```

aaa authentication	
aaa authorization	
aaa accounting	

-	-

31.6.4 clear aaa local user lockout

clear aaa local user lockout {**all** | **user-name** <*word*>}

<*word*>	ID

31.6.5 debug aaa

AAA **no**

debug aaa event

no debug aaa event

-	-

EXEC

-	-

-	-

31.6.6 show aaa method-list

AAA

show aaa method-list

-	-

« ẩ

AAA

AAA

```
Ruijie# show aaa method-list
Authentication method-list
aaa authentication login default group radius
aaa authentication ppp default group radius
aaa authentication dot1x default group radius
aaa authentication dot1x san-f local  group angel group rain none
aaa authentication enable default group radius
Accounting method-list
aaa accounting network default start-stop group radius
Authorization method-list
aaa authorizating network default group radius
```

```
Ruijie# show aaa user lockout all
```

show running-config	
show aaa lockout	login

-	-

32.1.2 radius attribute

radius ttribute{*<id>* | **down-rate-limit** | **dscp** | **mac-limit** | **up-rate-limit**} **vendor-type** *<type>*

no radius attribute {*<id>*|**down-rate-limit** | **dscp** | **mac-limit** | **up-rate-limit**} **vendor-type**

id	id <1-255>
type	type

id		type
1	max down-rate	1
2	qos	2
3	user ip	3
4	vlan id	4
5	version to client	5
6	net ip	6
7	user name	7
8	password	8
9	file-diractory	9
10	file-count	10
11	file-name-0	11
12	file-name-1	12
13	file-name-2	13
14	file-name-3	14
15	file-name-4	15
16	max up-rate	16
17	version to server	17
18	flux-max-high32	18
19	flux-max-low32	19
20	proxy-avoid	20
21	dailup-avoid	21
22	ip privilige	22

23	login privilige	42

radius-server key	RADIUS
radius-server retransmit	RADIUS

RADIUS

radius-server timeout **no**

radius-server timeout *seconds*

no radius-server timeout

seconds	1-1000

5

10

```
Ruijie(config)# radius-server timeout 10
```

radius-server host	RADIUS
radius-server retransmit	RADIUS
radius-server key	RADIUS

-	-

32.1.8 radius set qos cos

radius qos cos

radius set qos cos

no radius set qos cos

-	-

qos dscp

qos

radius attribute	
radius set	qos cos

-	-

32.2 RADIUS

32.2.1 debug radius

RADIUS no RADIUS

debug radius [**event | detail**]

no debug radius [**event | detail**]

-	-

EXEC

-	-

RADIUS

show radius parameter

-	-

radius

```
Ruijie# show radius parameter
Server Timout:   5 Seconds
Server Deadtime: 5 Minutes
Server Retries:  3
Server Key:      ******
```

radius-server host	RADIUS
radius-server retransmit	RADIUS
radius-server key	RADIUS
radius-server timeout	RADIUS

-	-

radius

```
Ruijie# show radius server
server ip : 192.168.4.12
acct  port: 23
authen  port: 77
server state: ready
server ip : 192.168.4.13
acct  port: 45
authen  port: 74
server state: ready
```

radius-server host	RADIUS
radius-server retransmit	RADIUS
radius-server key	RADIUS
radius-server timeout	RADIUS

-	-

32.2.4 show radius vendor-specific

RADIUS

show radius vendor-specific

-	-

radius

```
Ruijie# show radius vendor-specific
id    vendor-specific       type-value
----- --------------------- ----------
1     max down-rate         76
2     qos                   77
3     user ip               3
4     vlan id               4
5     version to client     5
6     net ip                6
7     user name             7
8     password              8
```

-	-

33 TACACS+

33.1 TACACS+

33.1.1 aaa group server tacacs+

TACACS+ TACACS+

aaa group server tacacs+ *group-name*

no aaa group server tacacs+ *group-name*

group-name	TACACS+

TACACS+

TACACS+

tac1 TACACS+ 1.1.1.1

TACACS+

```
Ruijie(config)# aaa group server tacacs+ tac1
Ruijie(config-gs-tacacs+)# server 1.1.1.1
```

server	TACACS+ server
ip vrf forwarding	TACACS+ VRF

-	-

33.1.2 ip tacacs source-interface

TACACS+

ip tacacs source-interface *interface*

no ip tacacs source-interface

vrf-name	vrf

aaa group server tacacs+ TACACS+

TACACS+ **tacacs-server host**

TACACS+

tac1 TACACS+ 1.1.1.1

TACACS+

```
Ruijie(config)# aaa group server tacacs+ tac1
Ruijie(config-gs-tacacs+)# server 1.1.1.1
```

TACACS+ AAA TACACS+
tacacs-server TACACS+

TACACS+

```
Ruijie(config)# tacacs-server host 192.168.12.1
Ruijie(config)# tacacs-server host 2001::1
```

aaa authentication	AAA
tacacs-server key	TACACS+
tacacs-server timeout	TACACS+

host key

key key

TACACS+ aaa

```
Ruijie(config)#tacacs-server key aaa
```

tacacs-server host	TACACS+
tacacs-server timeout	TACACS+

-	-

33.1.7 tacacs-server timeout

TACACS+

tacacs-server timeout *seconds*

no tacacs-server timeout

seconds

tacacs-server host	TACACS+
tacacs-server key	TACACS+

-	

33.2 TACACS+

33.2.1 debug tacacs+

TACACS+ no TACACS+

debug tacacs+

no debug tacacs+

33.2.2 show tacacs

TACACS+

show tacacs

-	-

TACACS+

```
Ruijie# show tacacs
Tacacs+ Server : 172.19.192.80/49
Socket Opens: 0
Socket Closes: 0
Total Packets Sent: 0
Total Packets Recv: 0
Reference Count: 0
```

tacacs-server host	TACACS+

-	-

34 SSH

34.1 SSH

34.1.1 crypto key generate

crypto key generate {**rsa | dsa**}

rsa	RSA
dsa	DSA

SSH Server

SSH Server SSH
enable service ssh-server SSH Server SSH 1 RSA SSH 2 RSA DSA RSA SSH1 SSH2 DSA SSH2

no crypto key generate
crypto key zeroize

```
Ruijie# configure terminal
Ruijie(config)# crypto key generate rsa
```

show ip ssh	SSH Server
crypto key zeroize {**rsa	dsa**}	DSA RSA SSH Server

RGOS10.1

-	-

34.1.2 crypto key zeroize

SSH

crypto key zeroize {**rsa** | **dsa**}

rsa	RSA
dsa	DSA

SSH Server DISABLE

SSH Server **no enable service ssh-server**

```
Ruijie# configure terminal
Ruijie(config)# crypto key zeroize rsa
```

show ip ssh	SSH Server
crypto key generate {**rsa|dsa**}	DSA RSA

RGOS10.1

-	-

34.1.3 ip ssh authentication-retries

SSH Server no

ip ssh authentication-retries *retry times*

no ip ssh authentication-retries

retry times	

3 **no ip ssh authentication-retries**

SSH Server SSH Server **show ip ssh** SSH Server

2

```
Ruijie# configure terminal
Ruijie(config)# ip ssh ssh authentication-retries 2
```

show ip ssh	SSH Server

RGOS10.1

-	-

34.1.4 ip ssh time-out

SSH Server **no**

ip ssh time-out *time*

no ip ssh time-out

time	

120s **no ip ssh time-out**

SSH Server

120s

2

```
Ruijie# configure terminal
Ruijie(config)# ip ssh version 2
```

show ip ssh	SSH Server

RGOS10.1

Clear line vty *line_number*	VTY

RGOS10.1

-	-

34.2.2 show crypto key mypubkey

SSH Server

show crypto key mypubkey {***rsa***|***dsa***}

rsa	RSA
dsa	DSA

SSH Server

```
Ruijie# show crypto key mypubkey rsa
```

crypto key generate {**rsa	dsa**}	DSA RSA

RGOS10.1

-	-

34.2.3 show ip ssh

SSH Server

show ip ssh

-	-

SSH Server SSH Server

SSH
SSH

```
Ruijie# show ip ssh
```

Ip ssh version {**1**	**2**}	SSH Server
ip ssh time-out time	SSH Server
Ip ssh authentication-retries retry times	SSH Server

RGOS10.1

-	-

34.2.4 show ssh

SSH

show ssh

-	-

SSH VTY SSH

```
Ruijie# show ssh
```

-	-

RGOS10.1

35 CPU

35.1

35.1.1 cpu-protect type packet-type pps pps_value

CPU

cpu-protect type { **arp** | **bpdu** | **dhcp** | **ipv6mc** | **igmp** | **rip** | **ospf** | **vrrp** | **pim** | **ttl1** | **unknown-ipmc** | **dvmrp** | …} **pps** *pps_value*

CPU

CPU

S9610 CPU

```
Ruijie# show cpu-protect mboard
ype        Pps      Total    Drop
------------ --------- --------- ---------
arp         500       19       0
bpdu        200       24       0
dhcp        0         0        0
gvrp        0         0        0
ipv6-mc     0         0        0
dvmrp       0         0        0
igmp        0         0        0
ospf        0         0        0
pim         0         0        0
rip         0         0        0
vrrp        0         0        0
unknow-ipmc  0         0        0
ttl1        0         0        0
...
```

show cpu-protect slot *slot-num*	CPU

-	-

35.2.2 show cpu-protect slot

CPP

show cpu-protect slot *slot_num*

slot_num	1-16

CPP

2 CPU

```
Ruijie(config)# show cpu-protect slot 2
Type        Pps      Total    Drop
----------- --------- --------- ---------
arp         200      200       15
bpdu        200        8        0
dhcp        200        0        0
gvrp        200        0        0
ipv6-mc     200        0        0
dvmrp       200        0        0
igmp        200        0        0
ospf        200        0        0
pim         200        0        0
rip         200        0        0
vrrp        200        0        0
unknow-ipmc  200       0        0
ttl1         20        3        0
```

show cpu-protect mboard	CPU

-	-

35.2.3 show cpu-protect type

show cpu-protect type { **arp** | **bpdu** | **dhcp** | **ipv6mc** | **igmp** | **rip** | **ospf** | **vrrp** | **pim** | **ttl1** | **unknown-ipmc** | **dvmrp | …**} *dvmrp*

slot_num	1-16

show cpu-protect type bpdu BPDU

```
Ruijie(config)# show cpu-protect type arp
Slot      Type         Pps       Total      Drop
--------- ------------ --------- --------- ---------
MainBoard bpdu          100         30         0
Slot-2    bpdu          100         30         0
```

show cpu-protect type *packet-type*	CPU

-

-	-

CPP ”…” CPP

36 DoS

36.1

36.1.1 ip deny invalid-l4port

no

ip deny invalid-l4port

no ip deny invalid-l4port

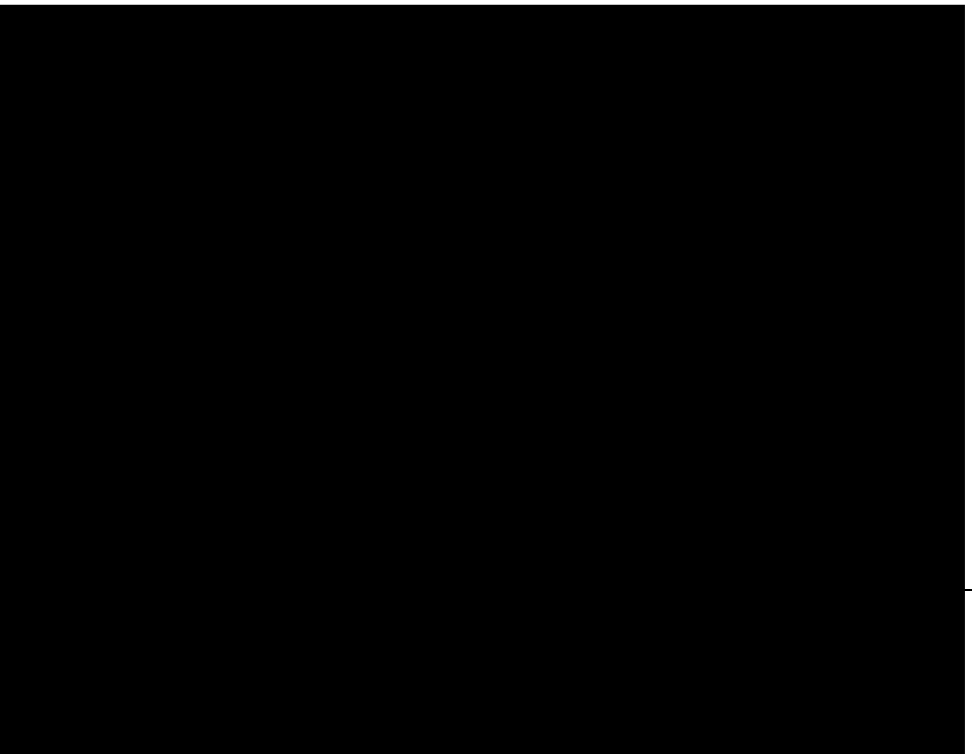
-	-

1

```
Ruijie(config)# ip deny invalid-l4port
```

2

```
Ruijie(config)# no ip deny invalid-l4port
```



no ip deny invalid-tcp


```
  1               Land
Ruijie(config)# ip deny land
  2               Land
Ruijie(config)# no ip deny land
```

show ip deny land	Land

-	-

36.2

36.2.1 show ip deny invalid-l4port

show ip deny invalid-l4port

-	-

```
Ruijie# show ip deny invalid-l4port
 DoS Protection Mode                    State
-------------------------------        -----
 protect against invalid l4port attack  Off
```

-	-

-	-

36.2.2 show ip deny invalid-tcp

TCP

show ip deny invalid-tcp

-	-

```
Ruijie# show ip deny land
DoS Protection Mode              State
-------------------------------  -----
protect against land attack      On
```

(**no**) **ip deny land**	Land

-	-

37 GSN

37.1

37.1.1 security address-bind enable

security address-bind enable

no security address-bind enable

-	-

AP AP

GSN

```
Ruijie(config-if)# security address-bind enable
```

security gsn enable	GSN

RGOS10.1

-	-

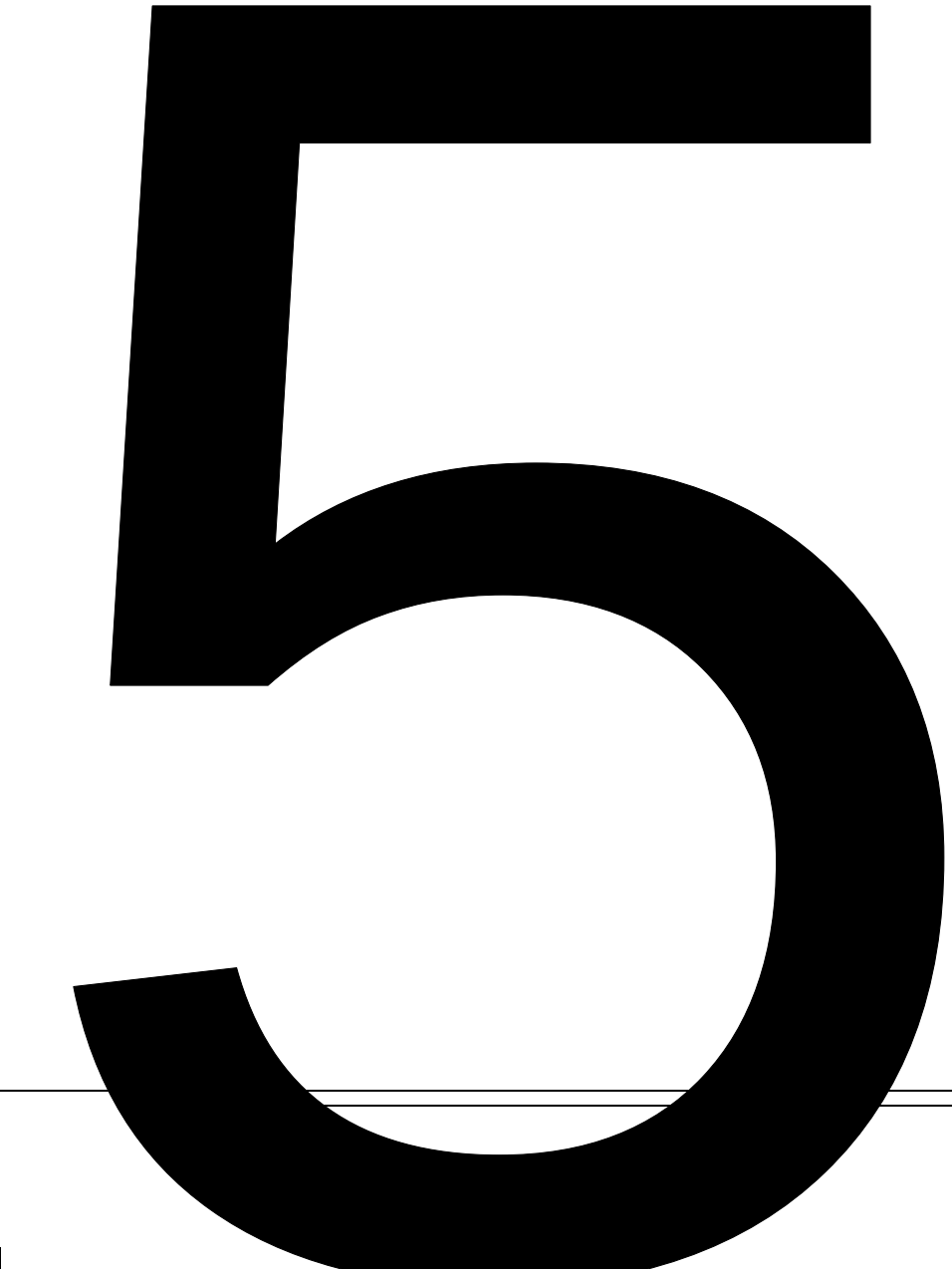
37.1.2 security community

smp

security { [**v1 | v2**] **community** *community* | **v3 user** *username* }

no security { [**v1 | v2**] **community** *community* | **v3 user** *username* }

community	*community*
username	v3



-	-

RGOS10.1

-	-

37.1.5 smp-server host

smp-server ip

smp-server host *ip-address*

no smp-server host

ip-address	smp server ip

smp server

show smp-server

```
Ruijie(config)#smp-server host 192.168.4.243
```

show smp-server	smp server

RGOS10.1

-	-

37.2

37.2.1 show security evnet interval

-	-

```
Ruijie# show security event interval
Event sending interval(Seconds):5
```

security event interval *interval*	

RGOS10.1

-	-

37.2.2 show smp-server

smp server IP

-	-

smp server IP

```
Ruijie# show smp-server
```

SMP-Server IP 192.168.20.30

smp-server host	smp server ip

RGOS10.1

-	-

38 DAI

38.1 VLAN DAI

38.1.1 ip arp inspection vlan

vlan-id VLAN DAI no *vlan-id* VLAN DAI *vlan-id* VLAN DAI

ip arp inspection vlan *vlan-id*

no ip arp inspection vlan [*vlan-id*]

vlan-id	vlan

38.2

38.2.1 ip arp inspection trust

ip arp inspection trust **no**

ip arp inspection trust

no ip arp inspection trust

-	-

ARP DAI

ARP

NFPP( )	NFPP
& DAI	**show ip arp inspection interface**

gigabitEthernet 0/19

```
Ruijie(config)# interface gigabitEthernet 0/19
Ruijie(config-if)# ip arp inspection trust
```

show ip arp inspection interface	DAI

-	-

38.3 DHCP Snooping

Ş ‹ t

39 arp

arp

show anti-arp-spoofing


```
Ruijie#show anti-arp-spoofing
                port            ip
                -------         -----------
                Fa0/1           192.168.1.1
```

anti-arp-spoofing ip	arp

-	-

40 IP Source Guard

40.1 IP Source Guard

40.1.1 ip source binding

IP **no**

[**no**] **ip source binding** *mac-address* **vlan** *vlan-id ip-address* **interface** *interface-id*

mac-address	MAC
vlan-id	vlan id
ip-address	IP
interface-id	

IP Source Guard DHCP

1

```
Ruijie# configure terminal
Ruijie(config)# ip source binding 0000.0000.0001 vlan 1 1.1.1.1
interface FastEthernet 0/1
Ruijie(config)# end
Ruijie# show ip source binding
MacAddress    IpAddress  Lease(sec)   Type    VLAN  Interface
------------- --------- ----------   ----    ----  ------------
0000.0000.0001 1.1.1.1   infinite    static    1  FastEthernet 0/1
Total number of bindings: 1
```


show ip source binding	IP

-	-

40.2 IP Source Guard

40.2.1 ip verify source

IP Source Guard **no**

[**no**] **ip verify source** [**port-security**]

port-security	IP Source Guard IP+MAC

IP Source Guard IP IP+MAC

IP Source Guard DHCP Snooping Trust DHCP Snooping IP Source Guard IP Source Guard

1 IP Source Guard

```
Ruijie# configure terminal
Ruijie(config)# interface fastEthernet 0/1
Ruijie(config-if)# ip verify source
Ruijie(config-if)# end
```

-	-

40.3 IP Source Guard

40.3.1 show ip source binding

IP

show ip source binding [*ip-address*] [*mac-address*] [**dhcp-snooping**] [**static**] [**vlan** *vlan-id*] [**interface** *interface-id*]

ip-address	ip
mac-address	mac
dhcp-snooping	
static	
vlan-id	vlan
interface-id	

```
Ruijie# show ip source binding static
MacAddress    IpAddress  Lease(sec)   Type    VLAN  Interface
------------- --------- ----------   ----    ----  ------------
0000.0000.0001 1.0.0.1   infinite    static    1  FastEthernet 0/1
Total number of bindings: 1
```

-	-

-	-

cpu-protect sub-interface {*manage*|*protocol*|*route*} **percent** *percent_vaule*

percent_vaule	1 100

(Manage) 30
(Route) 25
(Protocol) 45

```
Ruijie(config)# cpu-protect sub-interface manage percent 60
```

cpu-protect sub-interface { *manage* | *protocol* | *route* } **pps**	

41.3 ARP

41.3.1 arp-guard attack-threshold

arp-guard attack-threshold {**per-src-ip** | **per-src-mac** | **per-port**} *pps*

per-src-ip	IP
per-src-mac	MAC
per-port	
pps	[1,9999]

IP MAC 8
200

NFPP

```
Ruijie(config)#
```

41.3.2 arp-guard enable

ARP

arp-guard enable

-	-

ARP

NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# arp-guard enable
```

nffp arp-guard enable	ARP
show nfpp arp-guard summary	

-	-

41.3.3 arp-guard isolate-period

arp-guard isolate-period {*seconds* | **permanent**} ,Q A

NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# arp-guard isolate-period 180
```

nfpp arp-guard isolate-period	
show nfpp arp-guard summary	

-	-

41.3.4 arp-guard monitor-period

arp-guard monitor-period *seconds*

seconds	[180, 86400]

600

NFPP

Â 0

0

Â

```
Ruijie(config)# nfpp
```

```
Ruijie(config-nfpp)# arp-guard monitor-period 180
```

show nfpp arp-guard summary

-	-

41.3.7 arp-guard scan-threshold

arp-guard scan-threshold *pkt-cnt*

pkt-cnt	[1,9999]

15 10

NFPP

10 15 ARP MAC IP
MAC IP IP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# arp-guard scan-threshold 20
```

nfpp arp-guard scan-threshold	
show nfpp arp-guard summary	لجي

clear nfpp arp-guard hosts [**vlan** *vid*] [**interface** *interface-id*] [*ip-address* | *mac-address*]

vid	
interface-id	
ip-address	IP
mac-address	MAC

VLAN 1 g 0/1

```
Ruijie# clear nfpp arp-guard hosts vlan 1 interface g0/1
```

arp-guard attack-threshold	
nfpp arp-guard policy	
show nfpp arp-guard hosts	

-	-

41.3.9 clear nfpp arp-guard scan

ARP

clear nfpp arp-guard scan

-	-

Ruijie# **clear nfpp arp-guard scan**

arp-guard scan-threshold	
nfpp arp-guard scan-threshold	
show nfpp arp-guard scan	ARP

-	-

41.3.10 nfpp arp-guard enable

ARP

nfpp arp-guard enable

-	-

ARP

ARP ARP

Ruijie(config)# **interface G0/1**
Ruijie(config-if)# **nfpp arp-guard enable**

arp-guard enable	ARP
show nfpp arp-guard summary	

10.4	

41.3.11 nfpp arp-guard isolate-period

nfpp arp-guard isolate-period {*seconds* | **permanent**}

seconds	0 [30, 86400] 0
permanent	

```
Ruijie(config)# interface G 0/1
Ruijie(config-if)# nfpp arp-guard isolate-period 180
```

nfpp arp-guard policy {**per-src-ip** | **per-src-mac** | **per-port**} *rate-limit-pps attack-threshold-pps*

per-src-ip	IP
per-src-mac	MAC
per-port	
rate-limit-pps	1 9999
attack-threshold-pps	1 9999

```
Ruijie(config)# interface G 0/1
Ruijie(config-if)# nfpp arp-guard policy per-src-ip 2 10
Ruijie(config-if)# nfpp arp-guard policy per-src-mac 3 10
Ruijie(config-if)# nfpp arp-guard policy per-port 50 100
```

arp-guard attack-threshold	
arp-guard rate-limit	
show nfpp arp-guard summary	
show nfpp arp-guard hosts	
clear nfpp arp-guard hosts	

10.4	

41.3.13 nfpp arp-guard scan-threshold

nfpp arp-guard scan-threshold *pkt-cnt*

pkt-cnt	[1,9999]

ARP ARP

```
Ruijie(config)# interface G 0/1
Ruijie(config-if)# nfpp arp-guard scan-threshold 20
```

arp-guard scan-threshold	
show nfpp arp-guard summary	
show nfpp arp-guard scan	ARP
clear nfpp arp-guard scan	ARP

10.4	

41.4 DHCP

41.4.1 dhcp-guard attack-threshold

dhcp-guard attack-threshold { **per-src-mac** | **per-port**} *pps*

per-src-mac	MAC
per-port	

pps	[1,9999]

MAC 10 300

NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# dhcp-guard attack-threshold per-src-mac 15
Ruijie(config-nfpp)# dhcp-guard attack-threshold per-port 200
```

nfpp dhcp-guard policy	
show nfpp dhcp-guard summary	
show nfpp dhcp-guard hosts	
clear nfpp dhcp-guard hosts	

-	-

41.4.2 dhcp-guard enable

DHCP

dhcp-guard enable

-	-

DHCP

NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# dhcp-guard enable
```

nffp dhcp-guard enable	DHCP
show nfpp dhcp-guard summary	

-	-

41.4.3 dhcp-guard isolate-period

dhcp-guard isolate-period {*seconds* | **permanent**}

seconds	0 [30, 86400] 0
permanent	

0

NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# dhcp-guard isolate timeout 180
```

nfpp dhcp-guard isolate-period	

show nfpp dhcp-guard summary	

-	-

41.4.4 dhcp-guard monitor-period

dhcp-guard monitor- period *seconds*

seconds	[180, 86400]

600

NFPP

Â 0

0

Â

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# dhcp-guard monitor-period 180
```

show nfpp dhcp-guard summary	
show nfpp dhcp-guard hosts	
clear nfpp dhcp-guard hosts	

ò

NFPP

dhcp-guard rate-limit { **per-src-mac** | **per-port**} *pps*

per-src-mac	MAC
per-port	
pps	[1,9999]

MAC 5 150

NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# dhcp-guard rate-limit per-src-mac 8
Ruijie(config-nfpp)# dhcp-guard rate-limit per-port 100
```


41.4.10 nfpp dhcp-guard policy

nfpp dhcp-guard policy { **per-src-mac** | **per-port**} *rate-limit-pps attack-threshold-pps*

per-src-mac	MAC
per-port	
rate-limit-pps	1 9999
attack-threshold-pps	1 9999

```
Ruijie(config)# interface G 0/1
Ruijie(config-if)# nfpp dhcp-guard policy per-src-mac 3 10
Ruijie(config-if)# nfpp dhcp-guard policy per-port 50 100
```

dhcp-guard attack-threshold	
dhcp-guard rate-limit	
show nfpp dhcp-guard summary	
show nfpp dhcp-guard hosts	
clear nfpp dhcp-guard hosts	

10.4	

41.5 DHCPv6

41.5.1 dhcpv6-guard attack-threshold

dhcpv6-guard attack-threshold { **per-src-mac** | **per-port**} *pps*

per-src-mac	MAC
per-port	

-	-

DHCPv6

NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# dhcpv6-guard enable
```

nffp dhcpv6-guard enable	DHCPv6
show nfpp dhcpv6-guard summary	

10.4	

41.5.3 dhcpv6-guard isolate-period

dhcpv6-guard isolate-period {*seconds* | **permanent**}

seconds	0 [30, 86400] 0
permanent	

42.32 380.18 18.02 0220C04194C6 0.4.2B4 168.8 1.5 ref296.7 199.58 00062.6404 Tm( )Tj52531 33j/C2_

show nfpp dhcpv6-guard summary	
show nfpp dhcpv6-guard hosts	
clear nfpp dhcpv6-guard hosts	

10.4	

41.5.5 dhcpv6-guard monitored-host-limit

dhcpv6-guard monitored-host-limit *number*

number	1 4294967295

1000

NFPP

1000

1000 “ %ERROR The value that you configured is smaller than current monitored hosts 1000 please clear a part of monitored hosts. ”

“ % NFPP_DHCP_GUARD-4-SESSION_LIMIT: Attempt to exceed limit of 1000 monitored hosts. ”

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# dhcp-guard monitored-host-limit 200
```

show nfpp dhcpv6-guard summary	

10.4	

41.5.6 dhcpv6-guard rate-limit

dhcpv6-guard rate-limit { **per-src-mac** | **per-port**} *pps*

per-src-mac	MAC
per-port	
pps	[1,9999]

MAC 5 150

NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# dhcpv6-guard rate-limit per-src-mac 8
Ruijie(config-nfpp)# dhcpv6-guard rate-limit per-port 100
```

nfpp dhcpv6-guard policy	

clear nfpp dhcpv6-guard hosts [*vlan vid*] [**interface** *interface-id*] [*mac-address*]

DHCPv6 DHCP

```
Ruijie(config)# interface G0/1
Ruijie(config-if)# nfpp dhcpv6-guard enable
```

dhcpv6-guard enable	DHCPv6
show nfpp dhcpv6-guard summary	

10.4	

41.5.9 nfpp dhcpv6-guard isolate-period

nfpp dhcpv6-guard isolate-period {*seconds* | **permanent**}

seconds c<17EA35D9>1 Tf 0.0001 Tc 7.1412 T- 2 3198 -0.0 ( )Tj ET [30, 86400]0 1 Tf 0 Tc 0 Tw 25.

dhcpv6-guard isolate-period	
show nfpp dhcpv6-guard summary	

10.4	

41.6 ICMP

41.6.1 icmp-guard attack-threshold

icmp-guard attack-threshold { **per-src-ip** | **per-port**} *pps*

per-src-ip	IP
per-port	
pps	[1,9999]

IP 1200 1500

NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# icmp-guard attack-threshold per-src-ip 600
Ruijie(config-nfpp)# icmp-guard attack-threshold per-port 1200
```

nfpp icmp-guard policy	
show nfpp icmp-guard summary	
show nfpp icmp-guard hosts	
clear nfpp icmp-guard hosts	

-	-

41.6.2 icmp-guard enable

ICMP

icmp-guard enable

-	-

ICMP

NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# icmp-guard enable
```

nffp icmp-guard enable	ICMP
show nfpp icmp-guard summary	

-	-

41.6.3 icmp-guard isolate-period

icmp-guard isolate-period {*seconds* | **permanent**}

seconds	0 [30, 86400] 0
permanent	

0

NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# icmp-guard isolate-period 180
```

nfpp icmp-guard isolate-period	
show nfpp icmp-guard summary	

-	-

41.6.4 icmp-guard monitor-period

icmp-guard monitor-period *seconds*

seconds	[180, 86400]

600

NFPP

Â 0

exceed limit of 1000 monitored hosts. ”

41.6.8 clear nfpp icmp-guard hosts

clear nfpp icmp-guard hosts [*vlan vid*] [**interface** *interface-id*] [*ip-address*]

vid	
interface-id	
ip-address	IP

VLAN 1 g 0/1

```
Ruijie# clear nfpp icmp-guard hosts vlan 1 interface g 0/1
```

icmp-guard attack-threshold	
nfpp icmp-guard policy	
show nfpp icmp-guard hosts	

-	-

41.6.9 nfpp icmp-guard enable

ICMP

nfpp icmp-guard enable

ICMP

ICMP ICMP

```
Ruijie(config)# interface G0/1
Ruijie(config-if)# nfpp icmp-guard enable
```

icmp-guard enable	ICMP
show nfpp icmp-guard summary	

10.4	

41.6.10 nfpp icmp-guard isolate-period

nfpp icmp-guard isolate-period {*seconds* | **permanent**}

seconds	0 [30, 86400] 0
permanent	

```
Ruijie(config)# interface G 0/1
Ruijie(config-if)# nfpp
```


icmp-guard isolate-period

clear nfpp icmp-guard hosts	

10.4	

41.7 ND

41.7.1 nd-guard attack-threshold

nd-guard attack-threshold per-port {**ns-na** | **rs** | **ra-redirect**} *pps*

ns-na	
rs	
ra-redirect	
pps	[1,9999]

/ 30

30 / 30

NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# nd-guard attack-threshold per-port ns-na 20
Ruijie(config-nfpp)# nd-guard attack-threshold per-port rs 10
Ruijie(config-nfpp)# nd-guard attack-threshold per-port ra-redirect 10
```

nfpp nd-guard policy	

10.4	

41.7.2 nd-guard enable

ND

nd-guard enable

-	-

ND

NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# nd-guard enable
```

nffp nd-guard enable	ND
show nfpp nd-guard summary	

10.4	

41.7.3 nd-guard rate-limit

nd-guard rate-limit per-port { {

ND

```
Ruijie(config)# interface G0/1
Ruijie(config-if)# nfpp nd-guard enable
```

nd-guard enable	ND
show nfpp nd-guard summary	

10.4	

41.7.5 nfpp nd-guard policy

nfpp nd-guard policy per-port {**ns-na** | **rs** | **ra-redirect**} *rate-limit-pps attack-threshold-pps*

ns-na	
rs	
ra-redirect	
rate-limit-pps	1 9999
attack-threshold-pps	1 9999

ND snooping

ND snooping ND snooping

ND guard 800

900

ND guard ND snooping

ND snooping

```
Ruijie(config)# interface G 0/1
Ruijie(config-if)# nfpp nd-guard policy per-port ns-na 50 100
Ruijie(config-if)# nfpp nd-guard policy per-port rs 10 20
Ruijie(config-if)# nfpp nd-guard policy per-port ra-redirect 10 20
```

Ruijie# **clear nfpp log**
32 log-buffer entries were cleared.

show nfpp log	NFPP

10.4	

41.8.2 log-buffer entries

NFPP

log-buffer entries *number*

number	[0,1024]

256

NFPP

NFPP 50
Ruijie(config)# **nfpp**
Ruijie(config-nfpp)# **log-buffer entries** *50*

log-buffer logs number_of_message **interval** length_in_seconds	NFPP
show nfpp log	NFPP

10.4	

41.8.3 log-buffer logs

NFPP

log-buffer logs *number_of_message* **interval** *length_in_seconds*

number_of_message	0-1024 0
length_in_seconds	0-86400 1 0 number_of_message length_in_seconds 0 number_of_message /length_in_second

Td <38D70CC8040E>Tj /T8 Tf -17.88 -5Tj8

10.4	

41.8.4 logging

NFPP VLAN

logging vlan *vlan-range*

logging interface *interface-id*

vlan-range	VLAN “ 1-3,5 ”
interface-id	

NFPP

VLAN

VLAN 1 VLAN 2 VLAN 3 VLAN 5

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# logging vlan 1-3,5
```

G 0/1

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# logging interface G 0/1
```

show nfpp log summary	NFPP

10.4	

- - - - - - - - -

10.4	

41.9 ARP

41.9.1 show nfpp arp-guard hosts

show nfpp arp-guard hosts [**statistics** | [[*vlan vid*] [**interface** *interface-id*] [*ip-address* | *mac-address*]]]

statistics	
vid	
interface-id	
ip-address	IP
mac-address	MAC

1

```
Ruijie# show nfpp arp-guard hosts statistics
success    fail    total
-------    ----    -----
100        20       120
```

120 100 20

2 “ remain-time(seconds) ”

```
Ruijie# show nfpp arp-guard hosts
If column 1 shows '*', it means "hardware do not isolate user" .
VLAN  interface IP address   MAC address     remain-time(s)
----  --------   ---------    -----------     -------------
1     Gi0/1      1.1.1.1      -               110
2     Gi0/2      1.1.2.1      -               61
*3    Gi0/3      -            0000.0000.1111  110
```

```
4     Gi0/4      -           0000.0000.2222   61
Total  4 hosts
```

clear nfpp arp-guard hosts	

-	-

41.9.2 show nfpp arp-guard scan

ARP

show nfpp arp-guard scan [**statistics** | [[**vlan** *vid*] [**interface** *interface-id*] [*ip-address*] [*mac-address*]]]

statistics	ARP
vid	
interface-id	
ip-address	IP
mac-address	MAC

```
Ruijie# show nfpp arp-guard scan statistics
ARP scan table has 4 record(s).
```

“ ARP 4 ”

```
Ruijie# show nfpp arp-guard scan
VLAN    interface   IP address   MAC address     timestamp
```

```
----    --------    ----------  -----------     ----------
1       Gi0/1       N/A         0000.0000.0001   2008-01-23
16:23:10
2       Gi0/2       1.1.1.1     0000.0000.0002   2008-01-23
16:24:10
3       Gi0/3       N/A         0000.0000.0003   2008-01-23
16:25:10
4       Gi0/4       N/A         0000.0000.0004   2008-01-23
16:26:10
Total  4 record(s)
```

“ timestamp ” ARP “ 2008-01-23 16:23:10 ”
2008 1 23 16 23 10 ARP

```
Ruijie# show nfpp arp-guard scan vlan 1 interface G 0/1
0000.0000.0001
VLAN    interface   IP address   MAC address     timestamp
----    --------    ----------    -----------     ----------
1       Gi0/1       N/A          0000.0000.0001   2008-01-23
16:23:10
Total  1 record(s)
```

arp-guard scan-threshold	
nfpp arp-guard scan-threshold	
clear nfpp arp-guard scan	ARP

-	-

41.9.3 show nfpp arp-guard summary

show nfpp arp-guard summary

-	-

```
Ruijie# show nfpp arp-guard summary
  Format of column Rate-limit and  Attack-threshold is per-src-ip
/per-src-mac/per-port.
Interface  Status  Isolate-period Rate-limit Attack-threshold Sc
an-threshold
Global     Enable  300           4/5/60    8/10/100          15
Gi 0/1      Enable  180           5/-/-      8/-/-             -
Gi 0/2      Disable 200           4/5/60    8/10/100          20

Maximum count of monitored hosts: 1000
Monitor period  300s
```

1 Interface Global

2 Status

3 Rate-limit IP / MAC / Attack-threshold “ - ”

arp-guard attack-threshold	
arp-guard enable	ARP
arp-guard isolate-period	
arp-guard monitor-period	
arp-guard monitored-host-limit	
arp-guard rate-limit	
arp-guard scan-threshold	
nfpp arp-guard enable	ARP
nfpp arp-guard isolate-period	

-	-

41.10 DHCP

41.10.1 show nfpp dhcp-guard hosts

show nfpp dhcp-guard hosts [**statistics** | [[**vlan** *vid*] [**interface** *interface-id*] [*mac-address*]]]

statistics	
vid	
interface-id	
mac-address	MAC

Ruijie# **show nfpp dhcp-guard hosts statistics**

success fail total

------- ---- -----

100 20 120

120 100 20

“ remain-time(seconds) ”

Ruijie# **show nfpp dhcp-guard hosts**

If column 1 shows '*', it means "hardware failed to isolate host".

VLAN interface MAC address remain-time(seconds)

```
----    ---------    -----------          -------------------
 1      gi0/2        0000.0000.0001       10
 *2     gi0/1        0000.0000.0002       20
Total   2 host(s)
```

clear nfpp dhcp-guard hosts	

10.4	

41.10.2 show nfpp dhcp-guard summary

show nfpp dhcp-guard summary

-	-

```
Ruijie# show nfpp dhcp-guard summary
  Format of column Rate-limit and  Attack-threshold is per-src-ip
/per-src-mac/per-port.
Interface  Status  Isolate-period Rate-limit Attack-threshold
Global     Enable  300            -/5/150     -/10/300
Gi 0/1      Enable  180            -/6/-       -/8/-
Gi 0/2      Disable 200            -/5/30      -/10/50

Maximum count of monitored hosts: 1000
Monitor period  300s
```

1 Interface Global

2 Status

3 Rate-limit IP / MAC / Attack-threshold “ - ”

dhcp-guard attack-threshold	
dhcp-guard enable	DHCP
dhcp-guard isolate-period	
dhcp-guard monitor-period	
dhcp-guard monitored-host-limit	
dhcp-guard rate-limit	
nfpp dhcp-guard enable	DHCP
nfpp dhcp-guard isolate-period	
nfpp dhcp-guard policy	

10.4	

41.11 DHCPv6

41.11.1 show nfpp dhcpv6-guard hosts

show nfpp dhcpv6-guard hosts [**statistics** | [[**vlan** *vid*] [**interface** *interface-id*

mac-address	MAC

Ruijie# **show nfpp dhcpv6-guard hosts statistics**

success fail total

------- ---- -----

100 20 120

120 100 20

“ remain-time(seconds) ”

Ruijie# **show nfpp dhcpv6-guard hosts**

If column 1 shows '*', it means "hardware failed to isolate host".

VLAN	interface	MAC address	remain-time(seconds)
1	gi0/2	0000.0000.0001	10
*2	gi0/1	0000.0000.0002	20

Total 2 host(s)

-	-

```
Ruijie# show nfpp dhcpv6-guard summary
  Format of column Rate-limit and  Attack-threshold is per-src-ip
/per-src-mac/per-port.
Interface  Status  Isolate-period Rate-limit Attack-threshold
Global     Enable  300            -/5/150     -/10/300
Gi 0/1      Enable  180            -/6/-       -/8/-
Gi 0/2      Disable 200            -/5/30      -/10/50

Maximum count of monitored hosts: 1000
Monitor period  300s
```

1 Interface Global

2 Status

3 Rate-limit IP / MAC / Attack-threshold “ - ”

10.4	

41.12 ICMP

41.12.1 show nfpp icmp-guard hosts

غه

```
2       Gi0/2        1.1.2.1       61
Total  2 host(s)
```

clear nfpp icmp-guard hosts	

10.4	

41.12.2 show nfpp icmp-guard summary

show nfpp icmp-guard summary

-	-

```
Ruijie# show nfpp icmp-guard summary
  Format of column Rate-limit and  Attack-threshold is per-src-ip
/per-src-mac/per-port.
Interface  Status  Isolate-period Rate-limit Attack-threshold
Global     Enable  300            4/-/60     8/-/100
Gi 0/1      Enable  180            5/-/-      8/-/-
Gi 0/2      Disable 200            4/-/60     8/-/100

Maximum count of monitored hosts: 1000
Monitor period  300s

  1         Interface     Global
```

2 Status

3 Rate-limit IP / MAC / Attack-threshold " - "

icmp-guard attack-threshold	
icmp-guard enable	ICMP
icmp-guard isolate-period	
icmp-guard monitor-period	
icmp-guard monitored-host-limit	
icmp-guard rate-limit	
nfpp icmp-guard enable	ICMP
nfpp icmp-guard isolate-period	
nfpp icmp-guard policy	

10.4	

41.12.3 show nfpp icmp-guard trusted-host

show nfpp icmp-guard trusted-host

-	-

```
Ruijie# show nfpp icmp-guard trusted-host
IP address      mask
---------       ------
1.1.1.0         255.255.255.0
```

```
Gi 0/1      Enable  15/15/15    30/30/30
Gi 0/2      Disable -/5/30       -/10/50
```

1 Interface Global

2 Status

3 Rate-limit / /
/ / Attack-threshold
“ - ”
“ -/5/30 ” G 0/2 /
5 / 30

nd-guard attack-threshold	
nd-guard enable	ND
nd-guard rate-limit	
nfpp nd-guard enable	ND
nfpp nd-guard policy	

42 ACL

id	IP ACL 1-99 1300-1999 IP ACL 100-199 2000-2699 MAC ACL 700–799 ACL 2700–2899
name	ACL
sn	ACL ( )
start-sn	
inc-sn	
deny	
permit	
prot	IPv6 ipv6 icmp tcp udp 0-255 IPv4 eigrp gre ipinip igmp nos ospf icmp udp

precedence precedence	0-7
range	
time-range tm-rng-name	tm-rng-name
tos tos	0-15
cos cos	cos (0-7)
cos inner cos	tag cos
icmp-type	ICMP 0-255
icmp-code	ICMP 0-255
icmp-message	ICMP
operator port[port]	Operator lt- eq- gt- neq- range- port

	B	MAC	6	P		35
	C		12	Q	IP	36
	D	VLAN tag	14	R	ip	38
	E	DSAP( )	18	S	ip	42
	F	SSAP( )	19	T	TCP	46
	G	Ctrl	20	U	TCP	48
	H	Org Code	21	V		50
	I					

4) Expert 2700 - 2899

access-list *id* {**deny** | **permit**} [**protocol** | [*ethernet-type*][**cos** [*out*][**inner** *in*]]] [**VID** [*out*][**inner** *in*]] {*source source-wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any**} {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**}][**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

Â Ethernet-type cos

access-list *id* {**deny** | **permit**} {*ethernet-type*| **cos** [*out*][**inner** *in*]} [**VID** [*out*][**inner** *in*]] {**s***ource source-wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any** } {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [**time-range** *time-range-name*]

Â Protocol

access-list *id* {**deny** | **permit**} **protocol** [**VID** [*out*][**inner** *in*]] {*source source-wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any** }{*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

Â Expert

Internet Control Message Protocol (ICMP)

access-list *id* {**deny** | **permit**} **icmp** [**VID** [*out*][**inner** *in*]] {*source source-wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any** } {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [*icmp-type*] [[*icmp-type* [*icmp-code*]] | [*icmp-message*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**time-range** *time-range-name*]

Transmission Control Protocol (TCP)

access-list *id* {**deny** | **permit**} **tcp** [**VID** [*out*][**inner** *in*]]{*source source-wildcard* | **host** *Source* | **any**} {**host** *source-mac-address* | **any** } [**operator** port [*port*]] {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [**operator port** [*port*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*] [**match-all** *tcp-flag*]

User Datagram Protocol (UDP)

access-list *id* {**deny** | **permit**} **udp**[**VID** [*out*][**inner** *in*]] {*source source –wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any** } [**operator port** [*port*]] {*destination destination-wildcard* | **host** *destination* | **any**}{**host** *destination-mac-address* | **any**} [**operator port** [*port*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

5)

access-list *list-remark text*

Id	1-99 100-199 1300-1999 2000-2699 2700 – 2899 700 - 799
Deny	
Permit	
Source	
source-wildcard	0.255.0.32
protocol	IP EIGRP GRE IPINIP IGMP NOS OSPF ICMP UDP TCP IP IP 0-255 ICMP/TCP/UDP
Destination	
destination-wildcard	0.255.0.32
fragments	

precedenoB/TT5 -0.0 Tc 0.98<01C3D9.4SPF ,XE$

match-all	*tcp flag*
tcp-flag	tcp flag

ACL

access-list

R R Ó B

- dod-host-prohibited
- dod-net-prohibited
- echo
- echo-reply
- fragment-time-exceeded
- general-parameter-problem
- host-isolated
- host-precedence-unreachable
- host-redirect
- host-tos-redirect
- host-tos-unreachable
- host-unknown
- host-unreachable
- information-reply
- information-request
- mask-reply
- mask-request
- mobile-redirect
- net-redirect
- net-tos-redirect
- net-tos-unreachable
- net-unreachable
- network-unknown
- no-room-for-option
- option-missing
- packet-too-big
- parameter-problem
- port-unreachable
- precedence-unreachable
- protocol-unreachable
- redirect
- router-advertisement
- router-solicitation
- source-quench
- source-route-failed
- time-exceeded
- timestamp-reply
- timestamp-request

- Â ttl-exceeded
- Â unreachable

TCP	TCP

- Â bgp
- Â chargen
- Â cmd
- Â daytime
- Â discard
- Â domain
- Â echo
- Â exec
- Â finger
- Â ftp
- Â ftp-data
- Â gopher
- Â hostname
- Â ident
- Â irc
- Â klogin
- Â kshell
- Â login
- Â nntp
- Â pim-auto-rp
- Â pop2
- Â pop3
- Â smtp
- Â sunrpc
- Â syslog
- Â tacacs
- Â talk
- Â telnet
- Â time
- Â uucp
- Â whois
- Â www

UDP	UDP

- Â biff
- Â bootpc

- bootps
- discard
- dnsix
- domain
- echo
- isakmp
- mobile-ip
- nameserver
- netbios-dgm
- netbios-ns
- netbios-ss
- ntp
- pim-auto-rp
- rip
- snmp
- snmptrap
- sunrpc
- syslog
- tacacs
- talk
- tftp
- time
- who
- xdmcp

Ethernet-type

- aarp
- arp
- appletalk
- decnet-iv
- diagnostic
- etype-6000
- etype-8042
- lat
- lavc-sca
- mop-console
- mop-dump
- mumps
- netbios

Â vines-echo
accessMAC
Â xns-idp

1 IP

IP 192.168.1.64 - 192.168.1.127

```
Ruijie(config)# access-list 1 permit 192.168.1.64 0.0.0.63
```

2 IP

IP DNS ICMP

```
Ruijie(config)# access-list 102 permit tcp any any eq domain
Ruijie(config)# access-list 102 permit udp any any eq domain
Ruijie(config)# access-list 102 permit icmp any any echo
Ruijie(config)# access-list 102 permit icmp any any echo-reply
```

3 MAC

MAC 00d0f8000c0c 100

config)# config)#

42.1.2 deny

(deny)

1 IP

[*sn*] **deny** {*source source-wildcard* 1

[*sn*] **d**{] [(s)-8(()3)8()]TJ/C2_)]5-J0T0007 T 3 0 0 6 0 1 Tc 1)0 5 7 T0 T 2 8 (1 P f 4 /C 2 T 6 3 7 .4 8 6 0 T j 3 4 1 p T 6 0 e 0 3 2 4 6

destination-wildcard | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [**time-range** *time-range-name*]

b) protocol

[*sn*] **deny protocol** [[**VID** [*out*][**inner** *in*]]] {*source source-wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any** } {*destinationdestination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

c) expert

Â **Internet Control Message Protocol** (ICMP)

[*sn*] **deny icmp** [[**VID** [*out*][**inner** *in*]]] {*source source-wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any**} {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [*icmp-type*] [[*icmp-type* [*icmp-code*]] | [*icmp-message*]] [**precedence** *precedence*] [**tos** *tos*] [**frag-6( )]931 Tf0(upper)c 0 Tw 2.571 0 Td[(icmp-)-65 Tf2BE3C02D6>TJTT0 1 Tf7**

[[*icmp-type* [*icmp-code*]] | [*icmp-message*]] [**dscp** *dscp*] [**flow-label** *flow-label*] [**fragments**] [**time-range** *time-range-name*]

Â **Transmission Control Protocol** (TCP)

[*sn*] **deny tcp** {*source-ipv6-prefix / prefix-length* | **host***source-ipv6-address* | **any**}[*operator* **port**[*port*]] {*destination-ipv6-prefix /prefix-length* | **host** *destination-ipv6-address* | **any**} [*operator* **port** [*port*]] [**dscp** *dscp*] [**flow-label** *flow-label*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*] [**match-all** *tcp-flag*]

Â **User Datagram Protocol** (UDP)

[sn] **deny udp** {*source-ipv6-prefix/prefix-length* | **host** *source-ipv6-address* | **any**} [*operator* **port** [*port*]] {*destination-ipv6-prefix /prefix-length* | **host** *destination-ipv6-address* | **any**}[*operator* **port** [*port*]] [**dscp** *dscp*] [**flow-label** *flow-label*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

Sn	ACL
source-ipv6-prefix	IPv6 .
destination-ipv6-prefix	IPv6
prefix-length	
source-ipv6-address	IPv6
destination-ipv6-address	IPv6
dscp	
dscp	0-63.
flow-label	
flow-label	0-1048575
protocol	IPV6 IPV6 | icmp | tcp | udp <0-255>

IPv6#[illegible]

1

```
Ruijie(config)# ipv6 access-list extended v6-acl
Ruijie(config-ipv6-nacl)# 11 deny ipv6 host 192.168.4.12 any
Ruijie(config-ipv6-nacl)# show access-lists
ipv6 access-list extended v6-acl
11 deny ipv6 host 192.168.4.12 any
Ruijie(config-ipv6-nacl)# exit
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# ipv6 traffic-filter v6-acl in
```

show access-lists	
ipv6 traffic-filter	IPV6
ip access-group	IP ACL
mac access-group	MAC ACL
ip access-list	IP ACL
mac access-list	MAC ACL
expert access-list	ACL
ipv6 access-list	IPV6 ACL
permit	

V10.0	V10.0 arp V10.2(3)

42.1.3 expert access-group

EXPERT ACL **no**

expert access-group {*id* | *name*} {**in** | **out**}

no expert access-group {*id* | *name*} {**in** | **out**}

id	Expert 2700-2899
name	Expert

ACL

show expert access-lists

1 ACL

```
Ruijie(config)# expert access-list extended exp-acl
Ruijie(config-exp-nacl)# show expert access-lists
expert access-list extended exp-acl
Ruijie(config-exp-nacl)#
```

2 ACL

```
Ruijie(config)# expert access-list extended 2704
Ruijie(config-exp-nacl)# show expert access-lists
expert access-list extended 2704
Ruijie(config-exp-nacl)#
```

show expert access-lists	

V10.0	V10.0

42.1.5 ip access-group

ip access-group no

ip access-group {*id* | *name*} {**in** | **out**}

no ip access-group { *id* | *name*} {**in** | **out**}

id	IP 1-199 1300-2699
name	IP
in	
out	

ip access-group

fastEthernet0/0 120

```
Ruijie(config)# interface fastEthernet 0/0
Ruijie(config-if)#ip access-group 120 in
```

access-list	
show access-lists	
show ip access-list	IP 1-199 1300 – 2699 3000 3199

1 ACL

```
Ruijie(config)# ip access-list standard std-acl
Ruijie(config-std-nacl)# show ip access-lists
ip access-list standard std-acl
Ruijie(config-std-nacl)#
```

2 ACL

```
Ruijie(config)# ip access-list extended 123
Ruijie(config-ext-nacl)# show ip access-lists
ip access-list extended 123
```

show ip access-lists	IP

V10.0	V10.0

42.1.7 ip access-list resequence

ip ACL IPV6 ACL

no

ip access-list resequence {*id* | *name*} **start-sn inc-sn**

no ip access-list resequence {*id* | *name*}

Id	ACL
name	ACL
start-sn	
inc-sn	

start-sn 10

inc-sn 10

show access-lists

ACL

```
Ruijie#
```

ACL **show ipv6 traffic-filter**

access-list v6-acl Gigabit 1

```
Ruijie(config)# interface GigaEthernet 0/1
Ruijie(config-if)# ipv6 traffic-filter v6-acl in
```

show access-group	ACL

V10.0	V10.0

42.1.9 ipv6 access-list

IPV6 ACL **no** ACL

ipv6 access-list *name*

no ipv6 access-list *name*

name	ACL

show access-lists

IPV6 ACL

```
Ruijie(config)# ipv6 access-list v6-acl
Ruijie(config-ipv6-nacl)# show access-lists
ipv6 access-list extended v6-acl
Ruijie(config-ipv6-nacl)#
```

V10.0	V10.0

42.1.11 MAC access-group

MAC ACL **no**

mac access-group {*id* | *name*}{**in** | **out**}

no mac access-group {*id* | *name*} {**in** | **out**}

id	MAC 700-799
name	MAC
in	
out	

ACL

show running-config

access-list accept_00d0f8xxxxxx_only Gigabit 1

```
Ruijie(config)# interface GigaEthernet 1/1
Ruijie(config-if)# mac access-group accept_00d0f8xxxxxx_only in
```

show access-group	ACL

MAC ACL **no** ACL

mac access-list extended {*id* | *name*}

no mac access-list extended {*id* | *name*}

Id	MAC 700-799
name	MAC

MAC ACL

show mac access-lists

1 MAC ACL

```
Ruijie(config)# mac access-list extended mac-acl
Ruijie(config-mac-nacl)# show mac access-lists
mac access-list extended mac-acl
```

2 MAC ACL

```
Ruijie(config)# mac access-list extended 704
Ruijie(config-mac-nacl)# show mac access-lists
mac access-list extended 704
```

show mac access-lists	mac

V10.0	V10.0

42.1.13 no sn

ACL

no *sn*

1) IP

[*sn*] **permit** {*source source-wildcard* | **host** *source* | **any**}

2) IP

[*sn*] **permit protocol** *source source-wildcard destination destination-wildcard* [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

IP

Â **Internet Control Message Protocol** (ICMP)

[*sn*] **permit icmp** {*source source-wildcard* | **host** *source* | **any**} {*destination destination-wildcard* | **host** *destination* | **any**} [*icmp-type*] [[*icmp-type* [*icmp-code*]] | [*icmp-message*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**time-range** *time-range-name*]

Â **Transmission Control Protocol** (TCP)

[*sn*] **permit tcp** {*source source-wildcard* |

[*sn*] **permit protocol** [**VID** [*out]*[**inner** *in*]] {*source source-wildcard* | **host** *Source* | **any**} {**host** *source-mac-address* | **any** } {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

Expert

Â **Internet Control Message Protocol** (ICMP)

[*sn*] **permit icmp** [**VID** [*out*][**inner** *in*]] {*source source-wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any** } {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**}[*icmp-type*] [[*icmp-type* [*icmp-code*]] | [*icmp-message*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**time-range** *time-range-name*]

Â **Transmission Control Protocol** (TCP)

[*sn*] **permit tcp** [**VID** [*out*][**inner** *in*]]{*source source-wildcard* | **host** *Source* | **any**} {**host** *source-mac-address* | **any** } [*operator* **port** [*port*]] {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [*operator* **port** [*port*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*] [**match-all** *tcp-flag*]

Â **User Datagram Protocol** (UDP)

[*sn*] **permit udp** [**VID** [*out*][**inner** *in*]]{*source source –wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any** } [*operator* **port** [*port*]] {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [*operator* **port** [*port*]] [**precedenceprecedence**] [**tos** *tos*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

Â **Address Resolution Protocol** (ARP)

[*sn*] **permit arp** {**vid** *vlan-id***}** [**host** *source-mac-address* | **any**] [**host** *destination –mac-address* | **any**] {*sender-ip sender-ip–wildcard* | **host** *sender-ip* | **any**} {*sender-mac sender-mac-wildcard* | **host** *sender-mac* | **any**} {*target-ip target-ip–wildcard* | **host** *target-ip* | **any**}

5) IPV6

[*sn*] **permit protocol** {*source-ipv6-prefix* / *prefix-length* | **any** | **host** *source-ipv6-address*} {*destination-ipv6-prefix* / *prefix-length* | **any**| *hostdestination-ipv6-address*} [**dscp** *dscp*] [**flow-label** *flow-label*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

IPV6

Â **Internet Control Message Protocol** (ICMP)

[*sn*] **permit icmp** {*source-ipv6-prefix* / *prefix-length* | **any** *source-ipv6-address* | **host**} {*destination-ipv6-prefix* / *prefix-length*| **host** *destination-ipv6-address* | **any**} [*icmp-type*] [[*icmp-type* [*icmp-code*]] | [*icmp-message*]] [**dscp** *dscp*] [**flow-label** *flow-label*][**fragments**] [**time-range** *time-range-name*]

Â **Transmission Control Protocol** (TCP)

[*sn*] **permit tcp** {*source-ipv6-prefix* / *prefix-length* | **host** *source-ipv6-address* | **any**} [*operator* **port** [*port*]] {*destination-ipv6-prefix* / *prefix-length* | **host** *destination-ipv6-address* | **any**} [*operator* **port** [*port*]] [**dscp** *dscp*] [**flow-label** *flow-label*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*] [**match-all** *tcp-flag*]

Â **User Datagram Protocol** (UDP)

[*sn*] **permit udp** {*source-ipv6-prefix* / *prefix-length* | **host** *source-ipv6-address* | **any**} [*operator* **port** [*port*]] {*destination-ipv6-prefix* / *prefix-length* | **host** *destination-ipv6-address* | **any**} [*operator* **port** [**port**]] [**dscp** *dscp*] [**flow-label** *flow-label*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# ip access-group 102 in
Ruijie(config-if)#
  3       MAC     ACL                  MAC    0013.0049.8272
        100                      1
Ruijie(config)# mac access-list extended 702
Ruijie(config-mac-nacl)# permit host 0013.0049.8272 any aarp
Ruijie(config-mac-nacl)# show access-lists
mac access-list extended
10 permit host 0013.0049.8272 any aarp702
Ruijie(config-mac-nacl)# exit
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# mac access-group 702 in
  4       ip     ACL                  IP    192.168.4.12
     1
Ruijie(config)# ip access-list standard std-acl
Ruijie(config-std-nacl)# permit host 192.168.4.12
Ruijie(config-std-nacl)# show access-lists
ip access-list standard std-acl
10 permit host 192.168.4.12
Ruijie(config-std-nacl)# exit
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# ip access-group std-acl in
  5       IPV6     ACL                  IP    192.168.4.12
       1
Ruijie(config)# ipv6 access-list extended v6-acl
Ruijie(config-ipv6-nacl)# 11 permit ipv6
host ::192.168.4.12 any
Ruijie(config-ipv6-nacl)# show access-lists
ipv6 access-list extended v6-acl
11 permit ipv6 host ::192.168.4.12 any
```

ip access-group	IP ACL
mac access-group	MAC ACL
ip access-list	IP ACL
mac access-list	MAC ACL
expert access-list	ACL
ipv6 access-list	IPV6 ACL
deny	ACL

V10.0	V10.0 arp V10.2(3)

42.2

42.2.1 show access-group

ACL

show access-group [**interface** <*interface*>]

<*interface*>	

ACL ACL

```
Ruijie# show access-group
ip access-list standard ipstd3
Applied On interface GigabitEthernet 0/1.
ip access-list standard ipstd4
Applied On interface GigabitEthernet 0/2.
ip access-list extended 101
```

```
Applied On interface GigabitEthernet 0/3.
ip access-list extended 102
Applied On interface GigabitEthernet 0/8.
```

ip access-group	ip
mac access-group	MAC
expert access-group	Expert
ipv6 traffic-filter	IPV6

V10.0	V10.0

42.2.2 show access-lists

ACL ACL

show access-lists [*id* | *name*]

id	
name	

acl *id* *name* ACL

```
Ruijie# show access-lists n_acl
ip access-list standard n_acl
Ruijie# show access-lists 102
ip access-list extended 102
Ruijie# show access-lists
ip access-list standard n_acl
```

ACL

V10.0	V10.0

42.2.4 show ip access-group

IP ACL

show ip access-group[**interface** <*interface*>]

<*interface*>	

IP ACL IP ACL

```
Ruijie# show ip access-group interface gigabitethernet 0/1
ip access-group aaa in
Applied On interface GigabitEthernet 0/1.
```

ip access-list	IP ACL

<interface>	

IPv6 ACL IPv6 ACL

```
Ruijie# show ipv6 traffic-filter interface gigabitethernet 0/4
ipv6 traffic-filter v6 in
Applied On interface GigabitEthernet 0/4.
```


```
mac access-group mm in
Applied On interface GigabitEthernet 0/3.
```

mac access-list	MAC ACL

V10.0	V10.0

42.3

42.3.1 security access-group

security access-group {*id*|*name*}

no security access-group

id	ACL id
name	ACL

```
Ruijie(config-if)#security access-group 1
```

show secu-acl	

V10.2	V10.2

42.3.2 security global access-group

security global access-group {*id*|*name*}

no security global access-group


```
Fa0/6     uplink    --
```

security global access-group	
security access-group	
security uplink enable	

V10.2	V10.2

43 VACL

43.1

Vlan access map *map_name* *map_sn*
map map

1 **vlan access map** map *map_sn*
map map map *map_sn* *10*

2 *map_sn* **vlan access map** *map_name*
*Map_nam*e map

3 map_sn **vlan access map** map
map map map map

4 map 6553 map

no action redirect{**GigabitEthernet** | **Aggregateport** | **FastEthernet** } {***port_id*** }

acl_id	numbered acl;

Config-access-map vacl

	+ acl, 8 acl

	Â map ip acl map acl Â map 8 acl Â map acl Â map ace acl acl Â map ip acl (mac acl) ip acl (mac acl) ip acl (mac acl) ip acl (mac acl) Â map ip acl (mac acl) mac acl (ip acl) ip acl (mac acl) mac acl (ip acl)
&	

map match

```
Ruijie(config)# vlan access-map dd
Ruijie(config-access-map)# match ip address 10 20 sp1 30 sp2
Ruijie(config-access-map)# exit
Ruijie(config)# vlan access-map dd 20
Ruijie(config-access-map)# match mac address 710 720 m1 760
Ruijie(config-access-map)# exit
Ruijie(config)#
```

55.24 245.24-209.22 -f QTf -19.-0.0.24 2T(553 02.82 0.4 53 0.24( )Tg251.2420747>6<3621 Tf 0 <4721

VACL

map_name	map
vlan_id	vlan id

vlan access map vlan vlan vlan
filter aa vlan-list 1-33 map 1-33 vlan

map ff vlan access map vlan 5

```
Ruijie(config)# vlan filter ff vlan-list 5
```

-	-

-	-

43.2

43.2.1 show vlan access map

map

show vlan access map

map

show vlan access map *map_name*

	-

f 0.64 re11ef1452 g147..36 354.8 209.22 19.62 ref0 gBT/C2_0 1 Tf0

Show vlan filter access-map *aa*

```
Ruijie(config)# show vlan filter
VLAN Map aa
Configured on VLANs: 1,  5,  6,
Ruijie(config)#
```

show vlan filter *access-map map_name*	map vlan
show vlan filter vlan *vlan_id*	vlan map

-	-

44 QOS

44.1

QoS QoS

Â 1 policy-map

Â policy-map class-map

Â class-map 1 ACL ACL ACE

Â ACE “ ACL”

QoS Policy Map

QoS

QoS Policy Map Off

QOS

CoS	0
	8
	WRR
QueueWeight	1:1:1:1:1:1:1:1
WRR Weight Range	1:15
DRR Weight Range	1:15
	No Trust

Cos

CoS

CoS to DSCP

CoS	DSCP
0	0
1	8
2	16
3	24
4	32
5	40
6	48
7	56

IP-Precedence to DSCP

IP-Precedence to DSCP

IP-Precedence	DSCP
0	0
1	8
2	16
3	24
4	32
5	40
6	48
7	56

DSCP to CoS

DSCP to CoS

DSCP	CoS
0	0
8	1
16	2
24	3
32	4
40	5
48	6
56	7

44.2

44.2.1 class maps

ACL

ip access-list {**extended** | **standard**} { *acl-id* | *acl-name* }

mac access-list extended {*acl-id* | *acl-name*}

expert access-list extended {*acl-id* | *acl-name*}

ipv6 access-list extended *acl-name*

4 class-map, cm

```
Ruijie(config)# class-map cm
```

5 ACL

```
Ruijie(config-cmap)# match access-group me
```

6 class-map

```
Ruijie(config-cmap)# exit
```

show mac access-lists	-
show ip access-lists	-
show class-map	-

-	-

44.2.2 drr-queue bandwidth

DRR

drr-queue bandwidth *weight1...weight8*

no drr-queue bandwidth

weight1...weight8	
no	

```
Ruijie(config)# drr-queue bandwidth 1 2 3 4 5 6 7 8
```


show mls qos queueing	-

-	-

-	-

44.2.4 mls qos cos

CoS

mls qos cos *default-cos*

no mls qos cos

default-cos	0 7
no	

CoS 0

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# mls qos cos 7
```

dscp	
no	

```
Ruijie(config)# mls qo map cos-dscp 8 10 16 18 24 26 32 34
```

```
Ruijie(config)# mls qos map dscp-cos 8 10 16 18 to 0
```

-	-

show mls qos maps dscp-cos maps,dscp-cos maps ip-prec-dscp maps

-	-

44.2.7 mls qos map ip-prec-dscp

ippre DSCP

mls qos map ip-prec-dscp dscp1...dscp8

no mls qos map ip-prec-dscp

dscp	
no	

```
Ruijie(config)# mls qo map ip-prec -dscp 8 10 16 18 24 26 32 34
```


show mls qos maps dscp-cos maps,dscp-cos maps ip-prec-dscp maps dscp

44.2.8 mls qos scheduler

mls qos scheduler [**sp** | **rr** | **wrr** | **drr**]

no mls qos scheduler

sp	
rr	
wrr	
drr	
no	

wrr

```
Ruijie(config)# mls qos scheduler sp
```

cos	Qos	CoS
dscp	Qos	DSCP
ip-precedence	Qos	IP-PRE
no		

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# mls qos trust cos
```


no policy-map *policy-map-name*	policy map
class-map-name	class map
no class *class-map-name*	
new-dscp	DSCP
rate-bps	kbps
burst-byte	kbyte
drop	
dscp-value	DSCP

[redacted]

```
Ruijie(config-pmap-c)# set ip dscp 10
  4             1M,          4096k,              dscp 16
Ruijie(config-pmap-c)# police 1000000 4096 exceed-action dscp 16
```

priority-queue	SP
no priority-queue	WRR

WRR

```
Ruijie(config)# no priority-queue
```

show mls qos queueing	-

-	-

44.2.12 priority-queue cos-map

CoS

priority-queue cos-map *qid cos0* [*cos1* [*cos2* [*cos3* [*cos4* [*cos5* [*cos6* [*cos7*]]]]]]]

no priority-queue cos-map

qid	id
cos7	*cos0 ...* CoS
no	

```
Ruijie(config)# priority-queue cos-map 1 0 1
```

show mls qos queueing	-

-	-

44.2.13 service-policy

policy map

service-policy {**input** | **output**} *policy-map-name*

no service-policy {**input** | **output**}

policy-map-name	policymap
no	policy map

```
Ruijie(config)# interface fastEthernet 0/1
Ruijie(config-if)# service-policy input po
```

show mls qos interface	-

-	-

44.2.14 wrr-queue bandwidth

WRR

wrr-queue bandwidth *weight1 ... weightn*

no wrr-queue bandwidth

weight1...weightn	n n
no	

weight1: ...: weightn = 1:...:1

```
Ruijie(config)# wrr-queue bandwidth 1 2 3 4 5 6 7 8
```

show mls qos queueing	-

-	-

44.3

44.3.1 show class-map

class map

show class-map [*class-name*]

class-name	class map

class map

Ruijie# **show class-map**

-	-

-	-

44.3.2 show policy-map

QoS policy map [class class-name]

show policy-map [*policy-name* [**class** *class-name*]]

policy-name	policy name
class-name	class map

policy name

Ruijie# **show policy-map**

-	-

ip-prec-dscp	ip-prec-dscp maps

dscp-cos maps dscp-cos maps ip-prec-dscp maps

Ruijie# **show mls qos maps**

-	-

-	-

44.3.5 show mls qos queueing

QoS (cos-to-queue map,wrr weight,drr weight)

show mls qos queueing

-	-

Ruijie# **show mls qos queueing**

-	-

-	-

44.3.6 show mls qos rate-limit

show mls qos rate-limit [**interface** *interface-id*]

interface	interface-id rate-limit

```
Ruijie# show mls qos rate-limit
```

Ruijie# **show mls qos scheduler**

-	-

-	-

45 Voice VLAN

45.1

45.1.1 voice vlan

Voice VLAN VLAN Voice VLAN **no** Voice VLAN

voice vlan *vlan-id*

no voice vlan

vlan-id	Voice VLAN ID

Voice VLAN Voice VLAN ID

1 Voice VLAN

show voice vlan

Voice VLAN

45-2

45.1.3 voice vlan cos

Voice VLAN CoS **no**

voice vlan cos *cos-value*

no voice vlan cos

cos-value	Voice VLAN CoS

cos-value 6

Voice VLAN CoS DSCP

1 Voice VLAN CoS 5

```
Ruijie(config)# voice vlan cos 5
```

show voice vlan	Voice VLAN

dscp-value	Voice VLAN DSCP

dscp-value 46

Voice VLAN CoS DSCP

1 Voice VLAN DSCP 40

```
Ruijie(config)# voice vlan dscp 40
```


Voice VLAN

show voice vlan

1 OUI 0012.3400.0000 Voice VLAN Company A

```
Ruijie(config)# voice vlan mac-address 0012.3400.0000 mask
ffff.ff00.0000 description Company A
```

1 Voice VLAN

Voice VLAN Voice VLAN

2

native VLAN Voice VLAN

3 Trunk Port/Hybrid Port VLAN

Voice VLAN VLAN Voice VLAN Voice VLAN

MAC MAC

Voice VLAN OUI Voice VLAN

Voice VLAN

Voice VLAN

untagged Voice VLAN tag

& MAC Voice VLAN tag

VLAN Voice VLAN /

1 Voice VLAN

```
Ruijie(config)# voice vlan security enable
```

show voice vlan	Voice VLAN

Voice VLAN Voice VLAN

1 Voice VLAN

```
Ruijie(config)# show voice vlan
Voice VLAN status: ENABLE           //Voice VLAN
Voice VLAN ID: 2                    //Voice VLAN ID
Voice VLAN security mode: Security  //
Voice VLAN aging time: 5 minutes    //
Voice VLAN cos: 6                   //      CoS
Voice VLAN dscp: 46                 //      DSCP
Current voice vlan enabled port mode: //    Voice VLAN
PORT                    MODE
-------------------------------------------------
Fa0/1                   Auto
```

voice vlan *vlan-id*	Voice VLAN VLAN Voice VLAN
voice vlan aging *minutes*	Voice VLAN
voice vlan cos *cos-value*	Voice VLAN CoS
voice vlan dscp *dscp-value*	Voice VLAN DSCP
voice vlan enable	Voice VLAN
voice vlan mode auto	Voice VLAN
voice vlan security enable	Voice VLAN

10.4	

45.2.2 show voice vlan oui

OUI OUI

show voice vlan oui

46

46.1

46.1.1 rgos-security compatible

RGOS **rgos-security compatible** RGOS no

rgos-security compatible

no rgos-security compatible

RGOS

1 RGOS

```
Ruijie(config)#no gos-security compatible
```

47 RLDP

47.1

47.1.1 rldp detect-interval

RLDP

rldp detect-interval *interval*

no rldp detect-interval

interval	2-15

3

stp × stp

5s :

```
Ruijie(config)# rldp detect-interval 5
```

rldp detect-max	

-	-

47.1.2 rldp detect-max

RLDP

rldp detect-max *num*

no rldp detect-max

num	, 2-10

2

5

```
Ruijie(config)# rldp detect-max 5
```

rldp detect-interval	

-	-

47.1.3 rldp enable

RLDP

rldp enable

no rldp enable

RLDP RLDP

```
Ruijie(config)# rldp enable
```

rldp port	RLDP

-	-

47.1.4 rldp port

rldp

rldp port {**unidirection-detect | bidirection-detect | loop-detect** } {**warning | shutdown-svi | shutdown-port | block**}

no rldp port { **unidirection-detect | bidirection-detect | loop-detect** }

unidirection-detect	
bidirection-detect	
loop-detect	
warning	
shutdown-svi	shutdown svi
shutdown-port	shutdown
block	

RLDP RLDP

fas 0/1 rldp

```
Ruijie(config)# interface fas 0/1
Ruijie(config-if)# rldp port loop-detect block
```

rldp enable	rldp

-	-

47.1.5 rldp reset

rldp shutdown **disable** rldp

rldp reset

-	-

```
Ruijie# rldp reset
```

rldp enable	Rldp

47.2

47.2.1 show rldp

rldp

show rldp [**interface** *interface-id*]

Interface-id	

EXEC

-	-

-	-

47.2.2 debug rldp

rldp no

debug rldp [**packet | event | error**]

undebug rldp [**packet | event | error**]

packet	rldp
event	
error	

EXEC

-	-

-	-

48 TPP

48.1

48.1.1 topology guard

topology guard

no

[**no**] **topology guard**

-	-

cpu topology-limit

```
Ruijie(config)# topology guard
Ruijie(config)# no topology guard
```

tp-guard port enable	
cpu topology-limit	CPU

-	-

48.1.2 tp-guard port enable

no

[**no**] **tp-guard port enable**

tpp

```
Ruijie# show tpp
```

topology guard	

-	-

49

49.1

49.1.1 cd

cd [*filesystem:*][*directory*]

49.1.2 copy

copy *source-url destination-url*

source-url	URL
destination-url	URL

```
Ruijie#copy tftp://192.168.201.54/rgos.bin flash:/
  2           tftp
Ruijie#copy flash:/rgos.bin tftp://192.168.201.54/rgos.bin
  3      xmodem
Ruijie# copy xmodem: flash:/config.text
  4             U
Ruijie#copy flash:/config.text usb0:/config.text
  5
Ruijie#copy flash:/config.text slave:/config.text
  6         flash       sd
Ruijie#copy flash:/rgos.bin sd0:/rgos.bin
  7         U         sd
Ruijie#copy usb0:/config.text sd0:/config.text
  8         sd         U
Ruijie#copy sd0:/config.text usb0:/config.text
```

del	
rename	
dir	

49.1.3 delete

delete *url*

url	url

url

.

1

```
Ruijie# dir slave0:/
Directory of slave:/
   Mode Link     Size             MTime Name
-------- ---- --------- ------------------- ------------------
          1  10838016 2008-01-01 00:01:53 rgos.bin
          1      399 2008-01-01 00:01:37 config.text
          1      399 2008-01-01 00:17:58 cfg.txt
-----------------------------------------------------------------
3 Files (Total size 11210782 Bytes), 0 Directories.
Total 33030144 bytes (31MB) in this device, 20463616 bytes (19MB)
available.
```

2

```
Ruijie# dir
Directory of temp:/
   Mode Link     Size             MTime Name
-------- ---- --------- ------------------- ------------------
          1      399 2008-01-01 00:17:58 a.dat
-----------------------------------------------------------------
1 Files (Total size 399 Bytes), 0 Directories.
Total 33030144 bytes (31MB) in this device, 20463616 bytes (19MB)
available.
```

pwd	
cd	

49.1.5 mkdir

mkdir *directory*

directory	

( )

flash:/backup/temp flash:/backup
flash:/bakcup
flash:/backup/temp

1 test

```
Ruijie# mkdir test
```

2 sd test2

```
Ruijie# mkdir sd0:/test2
```

rmdir	
pwd	

49.1.6 rename

rename *url1 url2*

url1	URL
url2	URL

usb0/1, flash, slave

1

49.1.7 rmdir

rmdir *directory*

directory	,

,

tmp

```
Ruijie# rmdir tmp
```

mkdir	

49.2

49.2.1 pwd

pwd

1

```
Ruijie# pwd
flash:/
```

cd	

49.2.2 show file systems

show file systems

1

Ruijie#**show file systems**

50

50.1 CPU

50.1.1 cpu-log

CPU , **cpu-log**

cpu-*log* *log-limit low_num high_num*

-	-

-	-

50.1.2 show cpu

CPU **show cpu**

show cpu

-	-

CPU 5 1 5

CPU 5 1 5

CPU

show cpu

```
Ruijie# show cpu
=====================================
    CPU Using Rate Information
CPU utilization in five seconds: 25%
CPU utilization in one minute  : 20%
CPU utilization in five minutes: 10%
  NO   5Sec   1Min   5Min   Process
  0     0%     0%     0%    LISR INT
  1     7%     2%     1%    HISR INT
  2     0%     0%     0%    ktimer
  3     0%     0%     0%    atimer
  4     0%     0%     0%    printk_task
```

```
 5    0%    0%    0%   waitqueue_process
 6    0%    0%    0%   tasklet_task
 7    0%    0%    0%   kevents
 8    0%    0%    0%   snmpd
 9    0%    0%    0%   snmp_trapd
10    0%    0%    0%   mtdblock
11    0%    0%    0%   gc_task
12    0%    0%    0%   Context
13    0%    0%    0%   kswapd
14    0%    0%    0%   bdflush
15    0%    0%    0%   kupdate
16    0%    3%    1%   ll_mt
17    0%    0%    0%   ll main process
18    0%    0%    0%   bridge_relay
19    0%    0%    0%   d1x_task
20    0%    0%    0%   secu_policy_task
21    0%    0%    0%   dhcpa_task
22    0%    0%    0%   dhcpsnp_task
23    0%    0%    0%   igmp_snp
24    0%    0%    0%   mstp_event
25    0%    0%    0%   GVRP_EVENT
26    0%    0%    0%   rldp_task
27    0%    2%    1%   rerp_task
28    0%    0%    0%   reup_event_handler
29    0%    0%    0%   tpp_task
30    0%    0%    0%   ip6timer
31    0%    0%    0%   rtadvd
32    0%    0%    0%   tnet6
33    2%    0%    0%   tnet
34    0%    0%    0%   Tarptime
35    0%    0%    0%   gra_arp
36    0%    0%    0%   Ttcptimer
37    8%    1%    0%   ef_res
38    0%    0%    0%   ef_rcv_msg
39    0%    0%    0%   ef_inconsistent_daemon
40    0%    0%    0%   ip6_tunnel_rcv_pkt
41    0%    0%    0%   res6t
42    0%    0%    0%   tunrt6
43    0%    0%    0%   ef6_rcv_msg
```

```
44    0%    0%    0%    ef6_inconsistent_daemon
45    0%    0%    0%    imid
46    0%    0%    0%    nsmd
47    0%    0%    0%    ripd
48    0%    0%    0%    ripngd
49    0%    0%    0%    ospfd
50    0%    0%    0%    ospf6d
51    0%    0%    0%    bgpd
52    0%    0%    0%    pimd
53    0%    0%    0%    pim6d
54    0%    0%    0%    pdmd
55    0%    0%    0%    dvmrpd
56    0%    0%    0%    vty_connect
57    0%    0%    0%    aaa_task
58    0%    0%    0%    Tlogtrap
59    0%    0%    0%    dhcp6c
60    0%    0%    0%    sntp_recv_task
61    0%    0%    0%    ntp_task
62    0%    0%    0%    sla_deamon
63    0%    3%    1%    track_daemon
64    0%    0%    0%    pbr_guard
65    0%    0%    0%    vrrpd
66    0%    0%    0%    psnpd
67    0%    0%    0%    igsnpd
68    0%    0%    0%    coa_recv
69    0%    0%    0%    co_oper
70    0%    0%    0%    co_mac
71    0%    0%    0%    radius_task
72    0%    0%    0%    tac+_acct_task
73    0%    0%    0%    tac+_task
74    0%    0%    0%    dhcpd_task
75    0%    0%    0%    dhcps_task
76    0%    0%    0%    dhcpping_task
77    0%    0%    0%    dhcpc_task
78    0%    0%    0%    uart_debug_file_task
79    0%    0%    0%    ssp_init_task
80    0%    0%    0%    rl_listen
81    0%    0%    0%    ikl_msg_operate_thread
82    0%    0%    0%    bcmDPC
```

```
 83     0%     0%     0%    bcmL2X.0
 84     3%     3%     3%    bcmL2X.0
 85     0%     0%     0%    bcmCNTR.0
 86     0%     0%     0%    bcmTX
 87     0%     0%     0%    bcmXGS3AsyncTX
 88     0%     2%     1%    bcmLINK.0
 89     0%     0%     0%     bcmRX
 90     0%     0%     0%     mngpkt_rcv_thread
 91     0%     0%     0%     mngpkt_recycle_thread
 92     0%     0%     0%     stack_task
 93     0%     0%     0%     stack_disc_task
 94     0%     0%     0%     redun_sync_task
 95     0%     0%     0%     conf_dispatch_task
 96     0%     0%     0%     devprob_task
 97     0%     0%     0%     rdp_snd_thread
 98     0%     0%     0%     rdp_rcv_thread
 99     0%     0%     0%     rdp_slot_change_thread
100     4%     2%     1%     datapkt_rcv_thread
101     0%     0%     0%     keepalive_link_notify
102     0%     0%     0%     rerp_msg_recv_thread
103     0%     0%     0%     ip_scan_guard_task
104     0%     0%     0%     ssp_ipmc_hit_task
105     0%     0%     0%     ssp_ipmc_trap_task
106     0%     0%     0%     hw_err_snd_task
107     0%     0%     0%    rerp_packet_send_task
108     0%     0%     0%    idle_vlan_proc_thread
109     0%     0%     0%    cmic_pause_detect
110     1%     1%     1%    stat_get_and_send
111     0%     1%     0%    rl_con
112    75%    80%    90%    idle
```

3 5 1 5

CPU LISR HISR CPU

No	
5Sec	5 CPU
1Min	1 CPU
5Min	5 CPU

2 ,X Ş

bgp

&

1 BGP

```
Ruijie(config)# memory-lack exit-policy bgp
```

show memory	

-

10.3(4b3)	

50.2.2 show memory

show memory

show memory

-	-

show memory

```
Ruijie#show memory
System Memory Statistic:
```

```
Free pages: 1079
  watermarks : min 379, lower 758, low 1137, high 1516
System Total Memory : 128MB, Current Free Memory : 5283KB
Used Rate : 96%
```

1. 4k

2.

min	
lower	**memory-lack exit-policy**
low	OVERFLOW
high	OVERFLOW

3.

-	-

-	-

50.2.3 show memory protocols

show memory protocols

51

51.1

51.1.1 clear logging

clear logging

-	-

logging on	
show logging	
logging buffered	

-	-

51.1.2 more flash

FLASH

more flash:filename

Filename	

FLASH ”//f2/” ”//f3/’

FLASH

```
Ruijie# more  flash://f2/log.txt
look up  file in the extended flash://f2/log.txt
00004  2004-11-17  4:1:32    Ruijie:  %5:Reload  requested  by
Administrator. Reload Reason :Reload command
```

logging file flash:	FLASH

-	-

51.1.3 logging buffered

nonle f

levell	0 7

4k Bytes

7

show logging

clear logging

FLASH

Syslog Server

8

-	-

51.1.4 logging console

no

logging console *level*

no logging console

level	0 7 1

Debugging (7)

show logging

6

```
Ruijie(config)# logging console informational
```

logging on	
show logging	

-	-

51.1.5 logging count

no

logging count

no logging count

-	-

no logging count

```
Ruijie(config)# logging count
```

show logging count	
show logging	

-	-

51.1.6 logging facility

no

(23)

logging facility *facility-type*

no logging facility

facility-type	Syslog

Local7(23)

2 Syslog

Numerical Code	Facility
0	kernel messages
1	user-level messages
2	mail system
3	system daemons
4	security/authorization messages
5	messages generated internally by syslogd
6	line printer subsystem
7	network news subsystem
8	UUCP subsystem
9	clock daemon
10	security/authorization messages
11	FTP daemon
12	NTP subsystem
13	log audit
14	log alert
15	clock daemon
16	local use 0 (local0)
17	local use 1 (local1)
18	local use 2 (local2)
19	local use 3 (local3)
20	local use 4 (local4)
21	local use 5 (local5)
22	local use 6 (local6)
23	local use 7 (local7)

(local7) 23

Syslog kernel

```
Ruijie(config)# logging facility kern
```


logging console

FLASH FLASH
FLASH logging file flash

FLASH trace.txt 64K,
6

```
Ruijie(config)# logging file flash:trace
```

logging on	
show logging	
more flash	FLASH

-	-

51.1.8 logging monitor

VTY telnet SSH
no VTY

logging monitor *level*

no logging monitor

level 50648 ref66.82 -32.68 62.76 0.24 ref142.32534.98 154.38 1.5 r

VTY 6

```
Ruijie(config)# logging monitor informational
```

logging on	
show logging	

logging	Syslog Server
logging file flash:	FLASH
logging console	
logging monitor	VTY (telnet)
logging trap	Syslog Server

-	-

51.1.10 logging rate-limit

no

logging rate-limit {*number* | *all number* | *console* {*number* | *all number*}} [*except severity*]

no logging rate-limit

number	1—10000
all	0—7
console	
except	error(3) error
severity	0—7

debug 10 warning

```
Ruijie(config)#logging rate-limit all 10 except warnings
```


show logging count

2 IPV6 AAAA:BBBB::FFFF

```
Ruijie(config)# logging server ipv6 AAAA:BBBB::FFFF
```

logging on	
show logging	

logging trap syslog server

-	-

51.1.14 logging synchronous

no

logging synchronous

no logging synchronous

-	-

```
Ruijie(config)#line console 0
Ruijie(config-line)#logging synchronous
                          UP-DOWN
Ruijie#configue terminal
Oct  9 23:40:55 %LINK-5-CHANGED: Interface GigabitEthernet 0/1,
changed state to down
Oct  9 23:40:55 %LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet 0/1, changed state to DOWN
Ruijie# configue terminal        //
```

show running-config	

-	-

51.1.15 logging trap

service sequence-numbers

no service sequence-numbers

-	-

```
Mar 22 15:28:02 %SYS-5-CONFIG: Configured from console by console
Ruijie# config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# service sysname
Ruijie(config)# end
Mar 22 15:35:57 S3250 %SYS-5-CONFIG: Configured from console by
console
```

show logging	

-	-

51.1.18 service timestamps

no

default

service timestamps *message-type* [*uptime* | *datetime* [*msec* | *year*]]

no service timestamps *message-type*

default service timestamps *message-type*

message-type	log debug log 0 6 debug 7
uptime	ל n

: :

msec

. Jul 27 16:53:07.299

-	-

show logging

```
Ruijie# show logging
Syslog logging: enabled
Console logging: level debugging, 4 messages logged
Monitor logging: level informational, 0 messages logged
Buffer logging: level debugging, 6 messages logged
Timestamp debug messages: datetime
Timestamp log messages: disabled
Sequence log messages: enable
Trap logging: level debugging, 2 message lines logged,0 reserved,0 fail
logging to  202.101.11.22
logging to  192.168.200.112
Log Buffer (Total 4096 Bytes) : have written 680
00001 2004-11-17 10:20:59  Ruijie: %7:%LINK CHANGED: Interface FastEthernet 0/0, changed state to up
00002 2004-11-17 10:20:59  Ruijie: %7:%LINE PROTOCOL CHANGE: Interface FastEthernet 0/0, changed state to UP
00003 2004-11-17 10:57:18  Ruijie: %7:%LINK CHANGED: Interface FastEthernet 0/1, changed state to administratively down
00004 2004-11-17 10:57:21  Ruijie: %7:%LINK CHANGED: Interface FastEthernet 0/1, changed state to down
00005 2004-11-17 10:57:41  Ruijie: %7:%LINK CHANGED: Interface FastEthernet 0/1, changed state to administratively down
00006 2004-11-17 10:57:43  Ruijie: %7:%LINK CHANGED: Interface FastEthernet 0/1, changed state to down
```

Syslog logging	**enabled**, **disabled**
Console logging	
Monitor logging	VTY
Buffer logging	
Timestamp debug messages	Debug
Timestamp log messages	Log
Sequence log messages	

Trap logging	Syslog Server
Log Buffer	

logging on	
clear logging	

-	-

51.2.2 show logging count

show logging count

-	-

logging count **show logging count**

show logging

show logging count

```
Ruijie# show logging count
Module Name   Message Name Sev Occur     Last Time
==================================================SYS
CONFIG_I        5   1        Jul 6 10:29:57
------------------------------------------SYS      TOTAL     1
```


logging count	
show logging	
clear logging	

-	-

52 POE

52.1

52.1.1 Poe disconnect-mode mode/no poe disconnect-mode

mode	[ac/dc]

POE dc

```
Ruijie# configure
Ruijie(config)# poe disconnect-mode dc
Ruijie(config)# end
```

-	-

-	-

52.1.2 Poe enable/no poe enable

--	-

/

```
Ruijie(config-if)#
Ruijie(config-if)# poe enable
Ruijie(config-if)# no poe enable
Ruijie(config-if)#
```

-	-

-	-

52.1.3 Poe-power lower lower/no poe-power lower

lower	[45000-47000]

POE 46000

```
Ruijie# configure
Ruijie(config)# poe-power lower 46000
Ruijie(config)# end
```


-	-

-	-

52.1.4 Poe-power upper lower/no poe-power upper

upper	[55000-57000]

POE 56000

```
Ruijie# configure
Ruijie(config)# poe-power upper 56000
Ruijie(config)# end
```

-	-

-	-

52.2

52.2.1 show poe interfaces

-	-

poe

```
Ruijie# show poe interface gigabitethernet 0/2
Interface : Gi0/2
Port power enabled : ENABLE
Port connect status : OFF
Port PD Class : no PD devices
Port max power : 15400 mW
Port current power : 0 mW
Port peak power : 0 mW
Port current : 0 mA
Port voltage : 48082 mV
Port trouble cause : normal
```

-	-

-	-

52.2.2 show poe powersupply

-	-

POE

```
Ruijie# show poe powersupply
PSE Total Power : 379971 mW
PSE Total Power Consumption : 0 mW
PSE Available Power : 379971 mW
PSE Peak Value : 0 mW
PSE Min Allow Voltage : 45000 mV
PSE Max Allow Voltage : 57000 mV
PSE Disconnect Sense Mode : ac
```

53

53.1

53.1.1 device-priority

device-priority [*member*] *priority*

member	ID member 1
priority	[1, 10]

1 10 10

1

write

2 8

```
Ruijie(config)# device-priority 2 8
```

show member	

-	-

53.1.2 device-description

device-description [

member *member*	ID member 1
description	31

write

2 red-giant

```
Ruijie(config)# device-description member 2 red-giant
```

show member	

-	-

53.2

53.2.1 show member

show member [*member*]

member	ID

```
Ruijie# show member
Member  Mac Address    Priority  Software Version
HardwareVersion  Description
------ ---------  -------  ---------- ---------   --------
1  00d0.f810.3323  1  RGOS 10.1.00(2),Release(12889) 1.0  SWITCH
2  00d0.f822.33aa  1  RGOS 10.1.00(2),Release(12889) 1.0  SWITCH
3  00d0.f822.33ae  1  RGOS 10.1.00(2),Release(12889) 1.0  SWITCH
4  00d0.f822.33b0  1  RGOS 10.1.00(2),Release(12889) 1.0  SWITCH
5  00d0.f822.33b2  1  RGOS 10.1.00(2),Release(12889) 1.0  SWITCH
6  00d0.f824.23b4  1  RGOS 10.1.00(2),Release(12889) 1.0  SWITCH
7  00d0.f833.44b4  1  RGOS 10.1.00(2),Release(12889) 1.0  SWITCH
8  00d0.f855.33ae  1  RGOS 10.1.00(2),Release(12889) 1.0  SWITCH
```

-	-

-	-