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AP ⊀˚ ᷒ ⊀ ì Ɔ ᵽ

RGOS 10.4(1b19)p2

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©2014

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2

RGOS 10.4(1b19)p2

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http://www.ruijie.com.cn/

http://webchat.ruijie.com.cn

http://www.ruijie.com.cn/service.aspx

7 × 24 4008-111-000

http://support.ruijie.com.cn

service@ruijie.com.cn

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WEB	WEB

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1)

[ ]　　[ ]

{ x | y | … }

[x | y | …]

//

2)

注意、警告、提醒操作中应注意的事项。

说明、提示、窍门、对操作内容的描述进行必要的补充

对于产品的支持情况进行必要的补充。

---

3)

1 WLAN ᵍ ˜ ᵘ ℔

1.1 Ⱨ ᵘ ℔

1.1.1 ampdu-retries

ampdu

ampdu-retries times **radio** radio_id

times	, 1-10
radio-id	radio id

10

AP

1 AP0001 AP AMPDU 5

Ruijie(config)# **ap- config** AP0001

Ruieji(config-ap)# **ampdu-retries** 5 **radio** radio_id

-

10.4 1b19 p2	

1.1.2 ampdu-rts

ampdu rts rts

[**no**] **ampdu-rts radio** radio_id

radio-id	radio id

AP

1 AP0001 AP radio 1 ampdu rts

Ruijie(config)# **ap- config** AP0001

Ruieji(config-ap)# **ampdu-rts radio** 1

-

10.4 1b19 p2	

1.1.3 autowifi

WLAN **no autowifi**

autowifi

-	-

AC/Fat AP

WLAN

WLAN

FAT AP

1 vlan AP vlan 1 STA vlan

2 FAT AP 192.168.1.0 STA bvi 1 IP 192.168.1.1

3 wlan autowifi_XXXX 4 MAC 4 wlan-id 1

4 WPA2 autowifi

5 wlan-vlan AP vlan 1 wlan-id 1

6 DHCP

IP 192.168.110.1/255.255.255.0

IP 192.168.111.1/255.255.255.0

ap-mode fat dhcp AP dhcp

AP

AP

:

AP220-I v1.0 AP220-I v1.1 AP220-SI v1.0
AP220-SI v1.1 AP220-E v2.03 AP220-E v2.0
AP220-SH v2.0 AP220-SH (C) v3.0 AP220-E(M) v2.0 AP220-E(M) v2.20 AP620-H(C) v2.0
AP220-E(C) v3.0 AP220-E(M) v2.3 AP220-E v2.99 AP620-H(C) v2.99 AP220-SH(C) v2.99
AP220-E(C) v2.99 AP530-I v1.0
256
AP320-I v1.0 AP220-E(M)-V2 v3.0 AP320-I v1.1
AP3220 v1.0 AP220-E(P) v1.0 AP220-E(C) v4.0
AP220-E(M)-V2 v3.9 180
AP330-I v1.1 AP220-E(P) v2.0 64
AP 25

AP

1 AP0001 AP 100

Ruijie(config)# **ap- config** AP0001

Ruieji(config-ap)# **eth-schd** 100

-

10.4 1b19 p2	

1.1.6 ebag

ebag

Fat AP

AP config AP320/AP330/AP3220

1 eth-schd 25

2 ampdu-retries 2

3 wifox

AP530

1 radio 1 2 sta-idle-time 1800

2 radio 1 11b/11g 1 2 5M 11g 11 24M ampdu-rts

1 AP

Ruijie(config)# ebag

-	-

-

10.4 1b19 p2	

1.1.7 ldpc

AP

-

10.4 1b19 p2	

2 بـ ـلـ 802.11N ᵘ ᑎᖫ

2.1 بـ ـلـ ᑐᔓ ᵘ ᑎᖫ

2.1.1 dot11 wlan

WLAN WLAN

dot11 wlan wlan-id

no dot11 wlan wlan-id

no	WLAN
wlan-id	WLAN ID

WLAN CLI WLAN

1 WLAN 1 WLAN

Ruijie(config)# dot11 wlan 1

Ruijie(dot11- wlan- config)#

2 WLAN

broadcast-ssid

no broadcast-ssid

no	SSID

WLAN SSID

WLAN

1 wlan1 SSID

```
Ruijie(config)# dot11 wlan 1
Ruijie(dot11- wlan- config)# broadcast- ssid
```

2 wlan1 SSID

```
Ruijie(config)# dot11 wlan 1
Ruijie(dot11- wlan- config)# no broadcast- ssid
```

-	-

-

10.4

WLAN

1 WLAN1 VLAN ID 1

```
Ruijie(config)# dot11 wlan 1
Ruijie(dot11- wlan- config)# vlan 1
```

2 VLAN 1 WLAN 1

```
Ruijie(config)# dot11 wlan 1
Ruijie(dot11- wlan- config)# no vlan
```

-	-

10.4	

2.1.4 ssid

WLAN SSID

ssid ssid-string

no ssid

no	SSID
ssid-string	SSID 1~32

WLAN

SSID WLAN WLAN SSID

1 WLAN 1 SSID RUIJIE

Ruijie(config)# dot11 wlan 1

Ruijie(dot11- wlan- config)# ssid RUIJIE

Ru17 736.35815.98 174.72.24

-	-

10.4	

2.1.6 antenna

antenna { receive | transmit } chain-mask

no antenna { receive | transmit }

no	
chain-mask	1~7

Dot11radio

1

```
Ruijie(config)#interface dot11radio 1/0
Ruijie(config-if-Dot11radio 1/0)# antenna transmit 7
Ruijie(config-if-Dot11radio 1/0)# antenna receive 7
```

-	-

-

10.4	

Dot11radio

1 200ms

Ruijie(config)#interface dot11radio 1/0

Ruijie(config- if- Dot11radio 1/0)#beacon period 200

-	-

-

10.4	

2.1.9 channel

channel channel-num

no channel

no	
channel-num	2.4G 1~13 5G 36~165

Dot11radio

1 11

Ruijie(config)#interface dot11radio 1/0

Ruijie(config- if- Dot11radio 1/0)#channel 11

radio-type	

-

10.4	

2.1.10 radio-type

radio-type { 802.11a | 802.11b }

802.11a	5G
802.11b	2.4G

radio1 802.11b, radio2 802.11a;

no	
country-code	

CN

Dot11radio

1 USI

```
Ruijie(config)#interface dot11radio 1/0
Ruijie(config-if-Dot11radio 1/0)#country-code USI
```

2

```
Ruijie(config)#interface dot11radio 1/0
Ruijie(config-if-Dot11radio 1/0)#no country-code
```

-	-

10.4	

2.1.13 fragment-threshold

fragment-threshold threshold-value

no fragment-threshold

11N

1 1500

Ruijie(config)#interface dot11radio 1/0

Ruijie(config- if- Dot11radio 1/0)# fragment- threshold 1500

-	-

10.4	

2.1.14 rts threshold

RTS

rts threshold threshold-value

no rts threshold

no	RTS
threshold-value	RTS 257~2347

2347

Dot11radio

1 RTS 1500

Ruijie(config)#interface dot11radio 1/0

Ruijie(config- if- Dot11radio 1/0)# rts threshold 1500

-	-

10.4	

2.1.15 slottime

slottime { long | short }

long	
short	

Dot11radio

AP 2.4G 11B 5G

1

Ruijie(config)#interface dot11radio 1/0

Ruijie(config- if- Dot11radio 1/0)# slottime long

-	-

10.4	

2.1.16 short-gi

short-gi enable chan-width { 20 | 40 }

no short-gi enable chan-width { 20 | 40}

2.4G 5G

Dot11radio

AP 2.4G 5G

1

Ruijie(config)#interface dot11radio 1/0

Ruijie(config- if- Dot11radio 1/0)# short- preamble

-	-

10.4	

2.1.18 response-rssi

RSSI RSSI

AP

response-rssi rssi-value

no response-rssi

no	RSSI
rssi-value	, 0 ~ 100

0

Dot11radio

1 RSSI

Ruijie(config)#interface dot11radio 1/0

Ruijie(config- if- Dot11radio 1/0)# response- rssi 10

-	-

no	
seconds	60~86400

300s

Dot11radio

1 900s

Ruijie(config)#interface dot11radio 1/0

Ruijie(config- if- Dot11radio 1/0)# sta- idle- timeout 900

-	-

Ruijie(config)#interface dot11radio 1/0

Ruijie(config- if- Dot11radio 1/0)# coverage- area- control 12

-	-

10.4	

2.1.23 mcast_rate

mcast_rate {11 | 24 | 54 | 65 | 78 | 104 | 130}

no mcast_rate

no	

54

speed	, : 802.11a : 6 9 12 18 24 36 48 54 Mbps 802.11b : 1 2 5.5 11Mbps 802.11g: 1 2 5.5 11 6 9 12 18 24 36 48 54Mbps
disable	
support	
mandatory	
11n	11n
9cs -	
9cs -support	
index	

AP

9 12 mandatory

Dot11radio

1

10.4	

2.1.26 11bsupport enable

Radio 2.4G 11B

11bsupport enable

no 11bsupport enable

no	11B

11B

Dot11radio

1 11B

Ruijie(config)#interface dot11radio 1/0

Ruijie(config- if- Dot11radio 1/0)# no 11bsupport enable

-	-

10.4	

2.1.27 11gsupport enable

Radio 2.4G 11G B/G

11gsupport enable

no 11gsupport enable

11G

Dot11radio

1 11G

```
Ruijie(config)#interface dot11radio 1/0
Ruijie(config- if- Dot11radio 1/0)# no 11gsupport enable
```

-	-

10.4	

2.1.28 11nsupport enable

11N

11nsupport enable

no 11nsupport enable

no	11N

11N

Dot11radio

1 11N

```
Ruijie(config)#interface dot11radio 1/0
Ruijie(config- if- Dot11radio 1/0)#11nsupport enable
```

-	-

10.4	

2.1.29 wlan-id

WLAN

wlan-id wlan-id

no wlan-id wlan-id

no	WLAN ID
wlan-id	WLAN ID

Dot11radio

1 WLAN 1

```
Ruijie(config)#interface dot11radio 1/0
Ruijie(config-          if-  Dot11radio 1/0)#wlan-          id 1
```

dot11 wlan	WLAN

10.4	

2.2 Ĭ ˜ ˀ Ʉ ᵘ ᴨ

2.2.1 show dot11 wireless

show dot11 wireless interface-name

interface-name	Dot11radio

Ruijie#show dot11 wireless 1/0

-	-

10.4	

2.2.2 show dot11 associations

show dot11 associations H.H.H interface-name

interface-name	Dot11radio

5 E&& ±

Ruijie#show dot11 channels active 1/0

	[redacted]
-	-

10.4	

3 ٻ ـ WLAN-VLAN ī ɱ ᵘ ᵑ Ђ

3.1 ٻ ـ ˀ Ԋ ᵘ ᵑ Ђ

3.1.1 vlan-assign-mode

AP VLAN-Group VLAN-Group VLAN

vlan-assign-mode dot1x

no vlan-assign-mode

6 0 0 RG /Artifact <</MCID 0>>BDC ( )Tjd ( )Tjd.4 19 01.683 1.838 Td ( )Tjd 7BE2>] ( )Tj183818119

group-id	VLAN-Group ID <1 128>

AP VLAN-Group 100

```
Ruijie# configure terminal
Ruijie(config)# vlan- group 100
Ruijie(config- vlan- group)#
```

show vlan-group [group-id]	VLAN-Group

RGOS10.4(1T17)

3.1.3 default-vlan

AP VLAN 802.1x VLAN
VLAN

default-vlan vlan- <1C122F0E>Tj /TT0 1 C804- /C2082102C8040E2AFCTw 1.68 Td [0[(v)c -0.023c 0 12

-

```
Ruijie(config)# vlan-group 100
Ruijie(config-vlan-group)# default-vlan 10
```

show vlan-group [group-id]	VLAN-Group

RGOS10.4(1T17)

3.1.4 vlan-list

AP VLAN-Group VLAN

vlan-list vlan-list

no vlan-list

vlan-lis	VLAN 128

VLAN

VLAN-Group

WLAN VLAN VLAN VLAN-Group VLAN-Group WLAN

AP VLAN 100-105 VLAN-Group 100

Ruijie# configure terminal

Ruijie(config)# vlan- group 100

group-id	VLAN-Group ID <1 128>

VLAN-Group

WLAN

AP WLAN 1 VLAN-Group 100

```
Ruijie# configure terminal
Ruijie(config)# dot11 wlan 1
Ruijie(dot11- wlan- config)# vlan- group 100
```


RGOS10.4(1T17)

3.1.6 encapsulation dot1Q

AP dot11 radio VLAN VLAN-Group

encapsulation dot1Q [**group**] {vlan-id | vlan-group-id}

no encapsulation dot1Q [**group**] {vlan-id | vlan-grou537 0 Td [(v)-5(l)-3(an)]TJ 0 Tc 0 Tw (-)Tj -0.0018(3i

4 بـ ـلـ WLAN-WLOG ᵘ ᵑъ

4.1 بـ ـلـ ̃ ᵘ ᵑъ

4.1.1 wlan diag enable

AP WLAN-WLOG

wlan diag enable

no wlan diag enable

-	-

AP WLAN-WLOG

WLAN-WLOG

WLAN-WLOG

WLAN-WLOG

WLAN-WLOG

Ruijie# configure terminal

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

Ruijie(config)#wlan diag enable

Ruijie(config)#no wlan diag enable

-	

4.2 Ǐ ~ ˀ Ʉ ᵘ ɲ

4.2.1 show wlan diag sta

AP

show wlan diag sta [sta-mac STA_MAC**] [number** NUMBER**]**

STA_MAC	STA MAC
NUMBER	

1 AP

Ruijie# show wlan diag sta

sta mac: c83a.35c6.0c72

==========

==========

==========

2012- 05- 28 19:31:08

wlan id state rssi_rt rs_rate_mcs tx_frm_cnts rx_frm_cnts tx_frm_flow rx_frm_flow tx_cnts_error tx_flow_error mgmt_cnts mgmt_flow

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

1 3 23 80 18 59 4384 5967 0 0 3 381

tx/rxmcs mcs0, mcs1 mcs2, mcs3 mcs4, mcs5 mcs6, mcs7 mcs8, mcs9 mcs10, mcs11 mcs12, mcs13 mcs14, mcs15

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

txmcspercent：0 0 0 0
0 0 0 0

rxmcspercent：0 0 0 0
0 0 0 0

tx/rxrate 1,2 5.5,11 6,9 12,18 24,36 48,54 --
--

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

txratepercent: 16 0 0 7 50 27 0
0

rxratepercent: 57 3 0 5 13 22 0 0

sta_record	STA
TIME	STA
IP Address	STA IP
Rssi	STA
Link Rate	STA
AP MAC	STA AP MAC
SSID	STA WLAN SSID
RADIO	STA radio ID
Action	STA
Result	STA
Reason	STA

-	

-

10.4(1T17)	

5

WL

Ruijie(config- ap)# wlocation ae - port 12093

2 AP AE

Ruijie(config- ap)# no wlocation ae- port

-	-

-

10.4(1t19)

10.4(1t19)	

tion mu enable

AP mu

u enable

-	-

45.4.5 dot1x dhcp-before-acct enable

ip no

dot1x dhcp-before-acct enable

no dot1x dhcp-before-acct enable

-	-

802.1x ip

dhcp ip

ip SMP/SAM

```
Ruijie#  configure t
Ruijie(config)#  dot1x dhcp-  before-  acct  enable
Ruijie(config)#  end
Ruijie#
```

show running-config	

-	-

45.4.6 **dot1x dhcp-before-acct timeout** time

ip no

dot1x dhcp-before-acct timeout time

no dot1x dhcp-before-acct timeout

time	, 5 ,

5min, ip

show running-config

```
Ruijie#      configure t
Ruijie(config)#      dot1x dhcp-    before-    acct timeout      1
Ruijie(config)#      end
Ruijie#
```

show running-config	

-	-

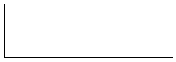
45.4.7 dot1x-mab

wlan MAB **no**

dot1x-mab

no dot1x-mab

-	**-**


1

```
Ruijie(config)#        dot1x max   - req   7
Ruijie(config)#        end
Ruijie#
```

show dot1x	802.1x

-	-

show dot1x	802.1x

10.4(1T13)	

45.4.10 dot1x redirect url

802.1x URL URL http:// http://ruijie.net/web http:// https:// url url no url

dot1x redirect url [url-string]

[**no**] **dot1x redirect url**

url-string	URL

-	-

45.4.11 dot1x redirect for special tcp-destination port

ip ip web 80 8080 16 TCP no dot1x redirect for special tcp-destination port port_mum

[**no**] **dot1x redirect for special tcp-destination port** port num

port num	TCP

tcp 80 8080 no

TCP 1-65535

1 TCP 8443

Ruijie(config)#dot1x redirect for special tcp- destination port 8443

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

show dot1x dot1x

45.4.12 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

no

format-16bytes	16 [ ][ ] 8 “ 01234567 ” 1234567
format-32bytes	32 [ ][ ][ ][ ] 8 “ 01234567 ” 1234567

RADIUS Class

RADIUS Access-Accept 25 Class 32

```
Ruijie# configure
Ruijie(config)# dot1x user- flow- control by- radius- class format- 32bytes
Ruijie(config)# end
Ruijie#
```

show running-config	

10.4(1T19)p1	

45.5 dot1x Ï ~ u ɲь

45.5.1 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 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 re-authentication	
dot1x timeout quiet-period	
dot1x timeout re-authperiod	
dot1x timeout server-timeout	
dot1x timeout supp-timeout	
dot1x timeout tx-period	

-	-

45.5.3 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 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	

-	-

45.5.4 show dot1x port-control

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

interface-id	

Ruijie# show dot1x port-control

Interface Mode Dynamic-User Static-User Max-User Authened Mab

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

wlan 2 mac-based 0 4 6000 yes disable

dot1x port-control auto	802.1x

-	-

45.5.5 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 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	

show dot1x reauth-max

-	-

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

dot1x auth-mode	802.1x
dot1x max-req	1 1 4T4Tf 92 0 90.04 0.239 20.16 rc5-(

45.5.7 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 reauth-max	
dot1x re-authentication	
dot1x timeout quiet-period	
dot1x timeout re-authperiod	

-	-

45.5.8 show dot1x timeout

802.1X

show dot1x timeout quiet-period

show dot1x timeout re-authperiod

show dot1x timeout server-timeout

show dot1x timeout supp-timeout

show dot1x timeout tx-period

-	-

Ruijie# show dot1x timeout quiet- period

quiet- period: 60 sec

Ruijie#

dot1x auth-mode	802.1x
dot1x max-req	
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	

-	-

45.5.9 show dot1x user

show dot1x user id id

id	session	show dot1x summary

ip

Ruijie# show dot1x user id 8640

User name: test
User id: 8640
Type: static
Mac address is 1068.3f89.2e0c
Vlan id is 3333
Access from port Ca3
Online Duration: 0days 0h14m 9s
User ipv4 address is 172.18.63.6
Max user number on this port is 6000
No accounting
Permit proxy user
Permit dial user
IP privilege is 0

user acl- name zwz_7_0_0 :

show dot1x summary	802.1x

-	-

46 ب ـ Web ת - ו ת

46.1 ب ـ ֹ ה ו ת

46.1.1 http redirect

HTTP IP IP Portal IP **http redirect** **no** HTTP IP

http redirect ip-address

no http redirect

Web

1

http://www.ruijie- eportal.net:8080/login

Ruijie(config)#

http redirect homepage http://www.ruijie- eportal.net:8080/login

show http redirect	HTTP

http redirect IP 2 0.239 0.48B[m ( )Tj

10.2(5)	

46.1.6 http redirect session-limit

HTTP

HTTP **no**

http redirect session-limit session-num [**port** port-session-num]

no http redirect session-limit

session-num	

no

ds

	[1 10]

3

HTTP

HTTP

TCP

4

redirect timeout 4

	HTTP

10.2(5)	

46.1.8 iportal service

portal

iportal service {internet service-name | **local** service-name}

no iportal service {internet | **local** }

SAM

SAM

1 intranet

Ruijie(config)# iportal service internet intranet

show running-config	

10.4(1T13)

10.4(1T13)	

46.1.10 iportal retransmit

portal

iportal retransmit times

no iportal retransmit

Ä

portal-server {**eportalv2 |** portal-name} **[type v2] ip** {ip-address | ipv6-address} [**port** port-num] [**url** url-string]

portal-server {**iportal |** portal-name} **type intra** [**page-suite** pagename] [**authentication** mlist1] [**accounting** mlist2]

portal-server {**iportal |** portal-name} **announcement-page** {url-string}

portal-server {**iportal |** portal-name} **homepage** {url-string}

{no | default} portal-server {**eportalv2 | iportal |** portal-name}

portal-name	Portal 1. 2. '_', '@', '$', '-', '#' '*' 3. [1, 63]
ip-address	IPv4
Ipv6-address	IPv6
url-string	URL [10, 255]
port-num	UDP [1, 65535]
pagename	
mlist1	[1, 63]
mlist2	[1, 63]

2 URL IP HTTP
IP 172.20.1.1 URL http://172.20.1.1/
2 UDP 50100
HTTP 8081
portal
V1 eportalv1
V2 eportalv2
iportal

portal Web Portal

no

	WLAN
	AAA

1 AAA network comm_acct RADIUS radius WLAN 100 Web

```
Ruijie# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# aaa accounting network comm_acct start-stop group radius
Ruijie(config)# wlansec 100
Ruijie(wlansec)# web-auth accounting v2 comm_acct
Ruijie(wlansec)# exit
```

aaa accounting network	AAA network

-

10.4(1T10)	

46.1.13 web-auth acct-update-interval

Web **no**

web-auth acct-update-interval minutes
no web-auth acct-update-interval

minutes	[0 60] 0

0

	Access-Accept
	0
	Web

1 Web 3

```
Ruijie# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# web- auth acct - update - interval 3
```


	1. 2. 3. web

	1 Ruijie# configure terminal Enter configuration commands, one per line. End with CNTL/Z. Ruijie(config)# web- auth accounting jitter - off

webauth prevent-jitter	web
web-auth offline-detect flow	

	-

10.4(1T10)		

46.1.15 web-auth authen-mode

Web ipv4 ipv4 ipv6 no default

web-auth authen-mode {ipv4 | ipv6 | both}
no web-auth authen-mode ·

ipv4	Web ipv4
ipv6	Web ipv6 ipv6

```
    1       WLAN 100              ipv6
Ruijie#      configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)#          wlansec    100
Ruijie(wlansec)#          web- auth authen-      mode ipv6
Ruijie(wlansec)#          exit
```

1 AAA edu_authen RADIUS radius WLAN 100

```
Ruijie# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# aaaauthenticationweb- auth edu_authen groupradius
Ruijie(config)# wlansec 100
Ruijie(wlansec)# web- auth authentication v2 edu_authen
Ruijie(wlansec)# exit
```

aaa authentication web-auth	AAA Web

-

%Warning: web- auth dhcp- check will not take effect until dhcp- snooping is enabled.
Ruijie(config)#ip dhcp snooping
Ruijie (config)#

ip dhcp snooping	dhcp snooping

-

10.4(1T18)	

46.1.18 web-auth direct-host

IP **no** IP

web-auth direct-host -

show web-auth direct-host	web IP

10.2(5)	

46.1.19 web-auth httprd-guard

web

web-auth httprd-guard {enable | {redirect-count count **silence-period** period **interval** interval**}**

no web-auth httprd-guard [enable]

count	10
period	3
interval	5

web-auth httprd-guard enable web-auth httprd-guard redirect-count count silence-period period interval interval

1 web 20 5 10

Ruijie(config)# web-auth httprd-guard enable

Ruijie(config)# web-auth httprd-guard redirect-count 20 silence-period 5 interval 10

show web-auth httprd-guard user	

10.4(1T19)p1T10	

46.1.20 web-auth offline-detect flow

no

web-auth offline-detect flow [**idle-timeout** minutes] [**threshold** bytes]
no web-auth offline-detect flow [**idle-timeout**] [**threshold**]

minutes	[1 535]9.15 0 Td <02C

46.1.21 web-auth portal key

Portal **no**

HTTP Web Web

web-auth portal key key-string

no web-auth portal key

key-string	255

Web

	10.4(1T10)	

46.1.23 web-auth portal-check

portal server portal no

web-auth portal-check [**interval** intsec] [**timeout** tosec] [**retransmit**

46.1.24 web-auth portal-escape

portal portal

web-auth portal-escape

no web-auth portal-escape

1.

2.

1

Ruijie# configure terminal

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

Ruijie(config)# no web- auth sta- leave detection

Ruijie(config)# web- auth offline- detect flow

web- auth offline- detect flow	

-

10.4(1T10)	

46.1.26 web-auth update-interval

no

web-auth update-interval seconds

no web-auth update-interval

seconds	30-3600

180

1 120

Ruijie(config)# web- auth update - interval 120

10.2(5)	

46.1.27 webauth-proxy enable

no

Webauth-proxy enable

no webauth-proxy enable

Web

1

Ruijie# configure terminal

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

Ruijie(config)# webauth- proxy enable

http redirect port [num]	

-

10.4(1T10)	

46.1.28 webauth

WLAN Web **no** Web

webauth

no webauth

WLAN Web

WLAN

Web

1 WLAN 1 Web Portal Portal IP 172.20.1.1 URL http://172.20.1.1/eportal.htm ruijie ePortal SNMP public community

```
Ruijie# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# snmp- server community public rw
Ruijie(config)# snmp- server enable traps web- auth
Ruijie(config)# snmp- serverhost 172.20.1.1 inform version2c public web- auth
Ruijie(config)# http redirect 172.20.1.1
Ruijie(config)# http redirect homepage http://172.20.1.1/eportal.htm
Ruijie(config)# web- auth portal key ruijie
Ruijie(config)# wlansec 1
Ruijie(wlansec)# webauth
Ruijie(wlansec)# exit
```

show web-auth control	WLAN Web

http redirect	Portal IP
http redirect homepage	Portal
web-auth portal key	Portal
aaa new-model	AAA
aaa accounting network	AAA network

-

10.2(5)	

46.2 Ǐ ~ ˀ Ʉ ᵘ Ꮒ

clear web-auth portal-type v2 statistics

clear web-auth user

show http redirect

show web-auth portal

show web-auth direct-host

show web-auth control

show web-auth user

46.2.1 clear web-auth portal statistics

portal Web

clear web-auth portal statistics

1 IP 172.250.22.14 Web

Ruijie# clear web- auth user by ip 172.250.22.14

show web-auth user	Web

10.4(1T10)	

46.2.3 show http redirect

HTTP

show http redirect

HTTP IP

1 HTTP

```
Ruijie# show http redirect
HTTP redirection settings:
 server:                 172.  20. 1.1
 port:       80 8000
 homepage:               http://172.      20. 1.1:8888/ePortal/index.jsp
 session-    limit: 10
 timeout:                5

Direct sites:
 Address                 MASK            ARP Binding
 ----------------        ----------------        -----------
```

```
61.233.3.215    255.255.255.255   On
61.233.3.220    255.255.255.255   Off
192.168.5.140   255.255.255.255   Off
218.30.66.101   255.255.0.0       Off
218.30.66.101   255.255.255.255   Off

Direct      arp addresses:
 Address                  MASK
 ----------------         ----------------

Direct hosts:
 Address                  Mask             Port                  ARP Binding
 ----------------         ----------------           ----------         ------------
 1  92.168.1.1     255.255.255.255                 N/A          On
```

HTTP redirection settings	
server	IP
port	HTTP
homepage	
session-limit	HTTP
timeout	
Direct sites	IP
Direct arp addresses	arp
Address	IP
Mask	IP
ARP Binding	ARP
Direct hosts	
Address	IP
Mask	IP
Port	IP
ARP Binding	ARP

http redirect	IP

http redirect direct-site	
http redirect homepage	
http redirect port	HTTP Web
http redirect session-limit	HTTP
http redirect timeout	
web-auth direct-host	

10.2(5)	

46.2.4 show httprd-guard user

show httprd-guard user

1

```
Ruijie#show httprd-          guard user
Redirect count: 10
Silence period: 3
Interval    : 5
Timer pending : NO
Current time : 2014          - 7- 11 11:02:07
Http redirect guard user number 1:
Wlan    IP              MAC         guard-                                  time
---------          --------------------              --------------          --------------------
10      192.168.1.1     FFFF:FFFF:FFFF 2014-                        7- 11 11:02:07
```

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

Redirect count	
Silence period	
Interval	
Timer pending	
Current time	
Http redirect guard user number	
Wlan	wlan
IP	ip
MAC	mac
guard-time	ė

web-auth httprd-guard	web

10.4(1T19)p1T10	

46.2.5 show web-auth portal

portal Web

show web-auth portal [v2 [parameters | **aaa** | **statistics** | **by-name** {**eportalv2 |** portal-name}] **| intra [parameters** | **statistics** | **by-name** portal-name]]

parameters	-6(b)]C2_0 1 Tf 0 Tc 0 Tw 5.086 0[(49(|)Tj

portal-name

Challenge Passed Count	Challenge
Challenge Failure Count	Challenge
Challenge Rsp Send Succ Count	Challenge
Auth Req Count	
Auth Rsp Count	
Auth Passed Count	
Auth Failure Count	
Auth Rsp Send Succ Count	

192.168.0.1 255.255.255.255 N/A On
192.168.4.11 255.255.255.255 N/A On
192.168.5.0 255.255.255.0 N/A Off

Address	IP
Mask	IP
Port	IP
ARP Binding	ARP

web-auth direct-host	IP

10.2(5)	

Web

46.2.7 show web-auth control

WLAN

show web-auth control

Web

1

Ruijie#show web- auth control

Port Control Server Name
Authentication mode Online User Count

---

	ip-address	IP

2 IP 172.250.22.14 172.16.20.2

Ruijie# show web- auth user 172.16.20.2
Type : V2 Portal
Address : 172.16.20.2
Mac : 00d0.f800.2234
Wlan : 200
Online : Off
Time Limit : 0d 00:00:00
Time Used : 0d 00:00:00
Time Start : N/A
Flow used : xxxx Bytes
FLOW limit : xxxx Bytes
Status : Authenticating
AAA Id : 0
Username : N/A

Statistics:	Web
Type	Web
Online	
Total	
Accumulation	
V1 Portal Authentication Users	Web
V2 Portal Authentication Users	Web
Index	
Address	IP
Online	”On” ”Off”
Time Limit	”0d 00:00:00”
Time Used	

1. Web
   a) Active
   b) Create
   c) Dest

Status

aaa new-model	AAA
dot1x authentication	802.1X
username	

-	-

47.1.2 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** Enable

Enable Enable

AAA Enable RADIUS RADIUS

Ruijie(config)# aaaauthenticationenable default groupradiuslocal

aaa new-model	AAA
enable	
username	

-	-

47.1.3 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

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	

-	-

47.1.5 login authentication

Login **login authentication** Login no

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

no login authentication

method	“ none group ” 4
none	
group	TACACS+

AAA

RGOS AAA

14 14

TACACS+ 15

Ruijie(config)# aaaauthorizationc ommands 15 default grouptacacs+

aaa new-model	AAA
authorization commands	

-	-

47.2.2 aaa authorization config-commands

AAA comET 3<472135-2cdm Б 9 183B3E20FF514E3099E074A1.976 -5.5(

-	-

no

Ruijie(config)# aaa authorization config- commands

aaa new-model	AAA
aaa authorization commands	AAA

-	-

47.2.3 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	

-	-

47.2.4 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
method	“ local none group ” 4
local	
none	
group	RADIUS TACACS+

AAA Exec

RGOS NAS CLI CLI 0~15
Login Exec Exec
CLI
Exec Exec

RADIUS Exec
Ruijie(config)# aaa authorization exec default group radius

RGOS PPP SLIP

RADIUS TACACS+

RADIUS

Ruijie(config)# aaa authorization network default group radius

aaa new-model	AAA
aaa accounting	AAA
aaa authentication	AAA
username	

-	-

47.2.6 authorization commands

authorization

commands no

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

no authorization commands level

Exec

Exec

Exec Exec

exec-1 Exec RADIUS

none VTY 0 – 4

Ruijie(config)# aaa authorization exec exec-- / T T 2 1 T f - 0

group	TACACS+

RGOS

none

TACACS+ 15

Ruijie(config)# aaaaccounting commands 15 default start- stopgroup tacacs+

aaa new-model	AAA
aaa authentication	AAA
accounting commands	

-	-

47.3.2 aaa accounting exec

NAS **aaa accounting exec** no Exec

aaa accounting exec {**default** | list-name} **start-stop** m**ethod**2T0 1 Tf 0 Tc 0 T 0.002 T-w (exec)Tj...]1 1 Tf

list-name	Exec
method	“ **none group** ” 4
none	
group	RADIUS TACACS+

RGOS Exec none Exec NAS CLI Start Stop Start Stop Exec

RADIUS NAS

Ruijie(config)# aaaaccounting execdefault start- stopgroupradius

aaa new-model	AAA
aaa authentication	AAA
accounting commands	Exec

-	-

47.3.3 aaa accounting network

aaa accounting network no

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

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

default	Network
list-name	
start-stop	
method	4
none	
group	RADIUS TACACS+

RGOS **start-stop**

RADIUS

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

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

-	-

AAA

5 minutes

AAA AAA

1

```
Ruijie(config)#  aaa new- model
Ruijie(config)#  aaa accounting update
Ruijie(config)#  aaa  accounting update periodic 1
```

aaa new-model	AAA
aaa accounting network	

-	-

47.3.6 accounting commands

accounting commands

no

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

no accounting commands level

level	0~15
default	
list-name	

cmd 15 TACACS+
none VTY 0 – 4

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

aaa new-model	AAA
aaa accounting commands	AAA

-	-

47.3.7 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

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

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

-	-

47.4.3 access-limit

IEEE802.1x no

access-limit num

no access-limit

num	IEEE802.1x

ruijie.com 20

```
Ruijie(config)# aaa domain ruijie.com
Ruijie(config-aaa-domain)# access-limit 20
```

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

-	-

47.4.4 accounting network

Network no

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

no accounting network

default	
list-name	

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	

-	-

47.4.5 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	

-	-

47.4.6 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	

-	-

47.4.7 state

no

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

no state

block	
active	

show aaa domain	

-	-

47.4.8 show aaa domain

show aaa domain [**default** | domain-name]

47.5 AAA Ò п н л и ъ

47.5.1 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

-	-

47.5.2 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

-	-

47.5.3 server

AAA no

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

Show aaa lockout	login

-	-

47.6.3 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	

-	-

47.6.4 clear aaa local user lockout

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

<word>	ID

Ruijie# clear aaa local user lockout all

show running-config	
show aaa lockout	login

-	-

47.6.5 debug aaa

AAA **no**

debug aaa [detail | domain | event |mib]

no debug aaa [detail | domain | event |mib]

-	-

EXEC

-	-

-	-

47.6.6 show aaa method-list

AAA

show aaa method-list

-	-

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
```

aaa authentication	
aaa authorization	
aaa accounting	

-	-

47.6.7 show aaa user lockout

show aaa user lockout

-	-

Ruijie# show aaa user lockout

show running-config	
show aaa lockout	login

-	-

48.1 RADIUS

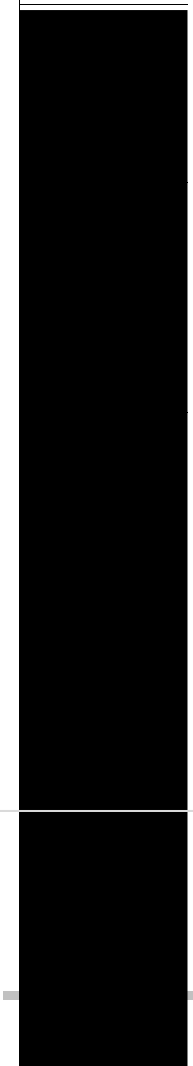
48.1.1 ip radiu

r

no

ip radiu

no radiu



radius->5e>5erv>5er1( )ho[(>5etus)]T001 Tw 8 394 0 Td ( )Tj /C2_0 1 Tfc 3.251-0.006 Td <116

48.1.2 radius-server attribute 31

RADIUS Calling-Station-ID MAC

radius-server attribute 31 **no**

radius-server attribute 31 mac format {ietf | normal | unformatted}

no radius-server attribute 31 mac format

ietf	ETF RFC3580 ‘ - ’ 00-D0-F8-33-22-AC
normal	MAC ‘ . ’ 00d0.f833.22ac
unformatted	

seconds	RADIUS RADIUS 1-120
number	RADIUS RADIUS 1-100

seconds 60

number 10

RADIUS

RADIUS

120 20

Ruijie(config)# radius- server dead- criteria time 120 tries 20

radius-server host	RADIUS
radius-server deadtime	RADIUS
radius-server timeout	RADIUS

-	-

48.1.4 radius-server deadtime

t t

deadtime RGOS RADIUS

radius-server deadtime **no**

radius-server deadtime minnutes

no radius-server deadtime

minnutes	1-1000

5

10

Ruijie(config)# radius- server deadtime 10

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

-	-

RADIUS RADIUS

RADIUS

RADIUS aaa

Ruijie(config)# radius- server key aaa

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

-	-

48.1.7 radius-server retransmit

RADIUS

radius-server retransmit **no**

radius-server retransmit retries

no radius-server retransmit

retries	RADIUS

3

AAA

RADIUS

4

Ruijie(config)# radius- server retransmit 4

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

-	-

ver timeout

RADIUS

ver timeout **no**

ver timeout seconds

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

-	-

48.1.9 radius set qos cos

radius qos cos

radius set qos cos

no radius set qos cos

-	-

qos dscp

qos cos dscp

Ruijie(config)# radius set qos cos

radius vendor-specific extend	Radius id

-	-

48.1.10 radius vendor-specific extend

id

radius vendor-specific extend

no radius vendor-specific extend

-	-

id

id

Ruijie(config)# radius vendor - specific extend

Q . Ð €. QÃb"Q‘#qŸ 4Hã‰b, VT Vï2—Å $

-	-

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

-	-

48.2.4 show radius vendor-specific

RADIUS

show radius vendor-specific

-	-

radius

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 75
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
24 limit to user number 50

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

-	-

49 ب ل TACACS+ ا ط

49.1 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

AP110-W

49.2 debug tacacs+

TACACS+

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-	-

AP110-W

49.3 ip tacacs source-interface

TACACS+

ip tacacs source-interface interface

no ip tacacs source-interface

interface	TACACS+

TACACS+

TACACS+ nas TACACS+

ip TACACS+

TACACS+ fastEthernet 0/0 ip TACACS+

```
Ruijie(config)# ip tacacs source-interface fastEthernet 0/0
```

tacacs-server host	TACACS+
ip address	ip

AP110-W

49.4 ip vrf forwarding(TACACS+)

TACACS+ vrf (VRF)

ip vrf forwarding vrf-name

no ip vrf forwarding

vrf-name	vrf

-

TACACS+

TACACS+ vrf

TACACS+ VRF vpn1

```
Ruijie(config)# aaa group server tacacs+ tac1
Ruijie(config-gs-tacacs+)# server 1.1.1.1
Ruijie(config-gs-tacacs+)# ip vrf forwarding vpn1
```

aaa group server tacacs+	TACACS+
server	TACACS+ server

AP110-

tac1 TACACS+ 1.1.1.1 TACACS+

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

aaa group server tacacs+	TACACS+
ip vrf forwarding	TACACS+ VRF

AP110-W

49.6 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+

AP110-W

49.7 tacacs-server host

TACACS+ IP

tacacs-server host {ip-address | ipv6-address} [**port** integer] [**timout** integer] [**key** string]

no tacacs-server host {ip-address | ipv6-address}

Ip-address	TACACS+ IP
ipv6-address	TACACS+ IPV6
port integer	TACACS+ TCP 1-65535
timeout integer	TACACS+ 1-1000 5s
key string	TACACS+ client

TACACST5sTA5s35

TACACS+ TACACS+

TACACS+

tacacs-server host key

key key

TACACS+ aaa

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

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

AP110-W

49.9 tacacs-server timeout

TACACS+

tacacs-server timeout seconds

no tacacs-server timeout

seconds	1-1000

5

tacacs-server host **timeout** **timeout**

timeout

10

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

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

AP110-W

50 ب ل SSH ᵘ ᵑ

50.1 SSHب ل ᵔ ᵘ ᵑ

50.1.1 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	

50.1.2 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

AP110-W

-	-

50.1.3 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**

100s

Ruijie# configure terminal

Ruijie(config)# ip ssh time- out 100

show ip ssh	ssh-server

show ip ssh	SSH Server

AP110-W

-	-

50.2 Ǐ ~ ˀ Ʉ ᵘ Ɲ

50.2.1 disconnect ssh

SSH

disconnect ssh [**vty**] session-id

session-id	SSH

SSH SSH VTY
SSH SSH

Ruijie# disconnect ssh 1

Ruijie# disconnect ssh vty 1 E² pA(l pA g @ f(€#žû ñ e B23ˆ Vp• v(, ëÀÀÀ(l ! " x2ÌÎ£]”v@

50.2.2 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

AP110-W

-	-

AP110-W

-	-

51 بﺍ FTP CLIENT ᵘ ᵑᵬ

51.1 FTP CLIENTبﺍ ᴴᵆ ᵘ ᵑᵬ

51.1.1 copy tftp

CLI **copy ftp** FTP Client

copy ftp:url flash:url

copy flash:url ftp:url

copy ftp://username:password@dest-address [/remote-directory]/remote-file **flash:**[local-directory/]local-file [**vrf** vrfname]

copy flash:[local-directory/]local-file **ftp:**//username:password@dest-address [/remote-directory]/ remote-file [**vrf** vrfname]

username	FTP Server 40 “ : ” “ @ ” “ / ”
password	FTP Server 32 “ : ” “ @ ” “ / ”
dest-address	FTP Server IP
remote-directory	FTP Server 255 FTP
remote-file	255
local-directory	255
local-file	255
vrfname	VRF

.

copy ftp:url flash:url
copy flash:url ftp: url

user pass IP 192.168.23.69 FTP Server root remote-file home local-file

Ruijie# copy ftp://user:pass@192.168.23.69/root/remote- file flash:home/local- file

home local-file FTP Server root remote-file

Ruijie# copy flash:home/local- file ftp://user:pass@192.168.23.69/root/remote- file

-	-

51.1.2 default ftp-client

default ftp-client FTP Client PASV BINARY IP

default ftp-client [**vrf** vrfname]

vrfname	VRF

PASV BINARY IP

FTP Client

FTP Client

Ruijie (config)# default ftp- client

default ftp-client	ftp client

-	-

51.1.3 ftp-client ascii

ASCII FTP **ftp-client ascii**

no

ftp-client [**vrf** vrfname] **ascii**

no ftp-client [**vrf** vrfname] **ascii**

vrfname	VRF

FTP BINARY

ASCII

Ruijie (config)# ftp- client ascii

51.1.4 ftp-client port

FTP PORT **ftp-client port**
no

ftp-client [**vrf** vrfname] **port**

no ftp-client [**vrf** vrfname] **port**

vrfname	VRF IP

IP

IP IP

FTP

Ruijie (config)# ftp- client source- address 192.168.23.236

-	-

52 ب ل CPU ع ي ن ف

52.1 ب ل ً ه ن ف

52.1.1 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

pps_value	

CPU 1000

-

CPU BPDU

Ruijie(config)# cpu- pr type bpdu pps 100

Set packet type bpdu pps 100 .

cpu-protect type packet-type pri pri_num	CPU

-	-

52.1.2 cpu-protect type packet-type pri pri_num

CPU

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

CPU

show cpu-protect type arp ARP

```
Ruijie(config)#          show cpu-   protect type arp
Slot    Type          Pps     Total    Drop
---------         --------------------          ---------         ---------         ---------
Slot-   1   arp          100     714395   4471
```

show cpu-protect type packet-type	CPU

-

-	-

CPP ”…” CPP

52.3 ѕ n v Ѫ ʒ Ụ Ǐ ~

53 ﺏ ﻝ ﮋ ﺱ ᵘ ℔

53.1 threshold set

no

threshold set {**cpu** | **memory** | **temperature**} warning_value [critical_value]

no threshold set {**waropet**|

53.2 show threshold

show threshold {**cpu** | **memory** | **temperature**}

54 ٻ ل NFPP ᵘ ᖘ

54.1 ARP ᵢ ᷉ ٻ ل ᕒ ᵘ ᖘ

54.1.1 arp-guard attack-threshold

-	-

54.1.2 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	

-	-

54.1.3 arp-guard isolate-period

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

NFPP

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

od0/C2_j /C2_0 1 Tf 1.198 Tm906 Td ( )T53>CFC30C309B703DE>613542>-6<1F5121446BC4C6

show nfpp arp-guard summary	
show nfpp arp-guard hosts	
clear nfpp arp-guard hosts	

-	-

54.1.5 arp-guard monitored-host-limit

arp-guard monitored-host-limit number

-	-

54.1.6 arp-guard rate-limit

arp-guard rate-limit {per-src-ip | per-src-mac | per-port} pps

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

IP MAC 4
100

NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# arp-guard rate-limit per-src-ip 2
Ruijie(config-nfpp)# arp-guard rate-limit per-src-mac 3
Ruijie(config-nfpp)# arp-guard rate-limit per-port 50
```

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	

²yï d ◦Tt Nyã–@B◦| †Â ð l ! $ †A d ◦ dÁÈ ™kAñ $&–A a...ÁÈ B9#—`Ti&di@B... bïyï0 ◦Tt ïyï0B... bï

. -	-

54.1.9 clear nfpp arp-guard scan

4 499.08 0

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

-	-

54.1.10 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	

54.1.11 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

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

10.4	

54.1.12 nfpp arp-guard policy

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	

54.1.13 nfpp arp-guard scan-threshold

nfpp arp-guard scan-threshold pkt-cnt

pkt-cnt	[1,9999]

ARP ARP

Ruijie(config- nfpp)# dhc p- 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	

-	-

54.2.2 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	

600

NFPP

0

0

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	

-	-

54.2.5 dhcp-guard monitored-host-limit

dhcp-guard monitored-host-

1000

nfpp dhcp-guard policy	
show nfpp dhcp-guard summary	

-	-

54.2.7 clear nfpp dhcp-guard hosts

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

vid	
interface-id	
mac-address	MAC

VLAN 1 g 0/1

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

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

	-	-

54.2.8 nfpp dhcp-guard enable

DHCP

nfpp dhcp-guard enable

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

dhcp-guard isolate-period	
show nfpp dhcp-guard summary	

10.4	

54.2.10 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	

54.3 DHCPv6 ï ŵ` ب ـ ِ ھ ᵘ ᴨ ъ

54.3.1 dhcpv6-guard attack-threshold

dhcpv6-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 v6- guard attack- threshold per- src- mac 15
Ruijie(config-nfpp)# dhcp v6- guard attack- threshold per- port 200

show nfpp dhcpv6-guard summary	

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

10.4	

54.3.2 dhcpv6-guard enable

DHCPv6

dhcpv6-guard enable

-	-

NFPP

Ruijie(config)# nfpp
Ruijie(config-nfpp)# dhcp v6- guard enable

show nfpp dhcpv6-guard summary	

10.4	

54.3.3 dhcpv6-guard isolate-period

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

seconds	0 [30, 86400] 0
permanent	

0

NFPP

Ruijie(config)# nfpp
Ruijie(config- nfpp)# dhcp v6- guard isolate timeout 180

show nfpp dhcpv6-guard summary	

10.4	

54.3.4 dhcpv6-guard monitor-period

dhcpv6-guard monitor- period

Ruijie(config)# nfpp
Ruijie(config-nfpp)# dhcp v6- guard monitor- period 180

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

10.4	

54.3.5 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	

54.3.6 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)# dhcp v6-guard rate-limit per-src-mac 8
Ruijie(config-nfpp)# dhcp v6-guard rate-limit per-port 100
```

show nfpp dhcpv6-guard summary	

10.4	

54.3.7 clear nfpp dhcpv6-guard hosts

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

vid	
interface-id	
mac-address	MAC

VLAN 1 g 0/1

Ruijie# clear nfpp dhcp v6- guard hosts vlan 1 interface g0/1

dhcpv6-guard attack-threshold	
show nfpp dhcpv6-guard hosts	

10.4	

54.4 ICMP ï ¾ ¸ ¬ ¿ ¾ Ñ ª Ñ

54.4.1 icmp-guard attack-threshold

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

per-src-ip	IP
per-port	

pps	[1,9999]

IP IP

“ **icmp-guard rate-limit ”**

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	

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

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

-	-

54.4.3 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	

-	-

54.4.4 icmp-guard monitor-period

icmp-guard monitor-period seconds

seconds	[180, 86400]

600

NFPP

0

0

Ruijie(config)# nfpp
Ruijie(config-nfpp)# icmp-guard monitor-period 180

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

cl

icmp-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_ICMP_GUARD-4-SESSION_LIMIT: Attempt to exceed limit of 1000 monitored hosts. ”

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

show nfpp icmp-guard summary	

-	-

54.4.6 icmp-guard rate-limit

icmp-guard rate-limit { **per-src-ip** | **per-port**} pps

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

IP

NFPP

Ruijie(config)# nfpp
Ruijie(config-nfpp)# icmp - guard rate-limit per-src-ip 500
Ruijie(config-nfpp)# icmp - guard rate-limit per-port 800

nfpp icmp-guard policy	
show nfpp icmp-guard summary	

-	-

54.4.7 icmp-guard trusted-host

icmp-guard trusted-host ip mask

no icmp-guard trusted-host {**all |** ip mask}

ip	IP
mask	IP
all	no

NFPP

CPU ICMP CPU

500

Ruijie(config)# nfpp
Ruijie(config- nfpp)# icmp - guardtrusted- host 1.1.1.0255.255.255.0

show nfpp icmp-guard trusted-host	

-	-

54.4.8 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	

54.4.9 nfpp icmp-guard enable

ICMP

nfpp icmp-guard enable

	an BT /CS0 CS

permanent	

Ruijie(config)# interface G 0/1

Ruijie(config- 0 T c

```
Ruijie(config)#          nfpp
Ruijie(config-           nfpp)#    ip-   guard    attack-    threshold      per-   src-   ip    2
Ruijie(config-           nfpp)#    ip-   guard    attack-    threshold      per-   port    50
```

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

10.4	

54.5.2 ip-guard enable

IP

ip-guard enable

-	-

IP

NFPP

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

nffp ip-guard enable	IP
show nfpp ip-guard summary	

10.4	

54.5.3 ip-guard isolate-period

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

seconds	0 [30, 86400]
permanent	

0

NFPP

Ruijie(config)# nfpp
Ruijie(config- nfpp)# ip- guard isolate- period 180

nfpp ip-guard isolate-period	
show nfpp ip-guard summary	

10.4	

54.5.4 ip-guard monitor-period

ip-guard monitor-period seconds

1000

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

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

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

show nfpp ip-guard summary	

10.4	

54.5.6 ip-guard rate-limit

ip-guard rate-limit {per-src-ip | per-port} pps

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

IP 20 100

NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# ip-guard rate-limit per-src-ip 2
```

Ruijie(config- nfpp)# ip - guard rate - limit per - port 50

	£¤ËÄ
nfpp ip-guard policy	G!5B F¼,XL$Eó

54.5.8 ip-guard trusted-host

ip-guard trusted-host ip mask

no ip-guard trusted-host {**all** | ip mask}

ip	IP
mask	IP
all	no

NFPP

CPU IP CPU

500

1.1.1.0/24

Ruijie(config)# nfpp

Ruijie(config- nfpp)# ip- guard trusted- host 1.1.1.0 255.255.255.0

show nfpp ip-guard trusted-hosts	

10.4	

54.5.9 clear nfpp ip-guard hosts

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

vid

ip-address	IP

VLAN 1 g 0/1

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

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

10.4	

54.5.10 nfpp ip-guard enable

IP

nfpp ip-guard enable

- -

54.5.12 nfpp ip-guard policy

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

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

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

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

pkt-cnt	[1,9999]

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	
show nfpp nd-guard summary	

10.4	

54.6.2 nd-guard enable

ND

nd-guard enable

-	-

ND

NFPP

show nfpp nd-guard summary	

10.4	

54.6.3 nd-guard rate-limit

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

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

/ 15

15 / 15

NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# nd-guard rate-limit per-port ns-na 10
Ruijie(config-nfpp)# nd-guard rate-limit per-port rs 5
Ruijie(config-nfpp)# nd-guard rate-limit per-port ra-redirect 5
```

nfpp nd-guard policy	
show nfpp nd-guard summary	

10.4	

54.6.4 nfpp nd-guard enable

ND

nfpp nd-guard enable

-	-

ND 1 Tw 3.669 0 Td (-)Tj 0.1663771905 0 Td<3542>]T

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
```

nd-guard attack-threshold	
nd-guard rate-limit	
show nfpp nd-guard summary	

10.4	

NFPP 50

Ruijie(config)# nfpp

Ruijie(config- nfpp)# l og- buffer entries 50

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

10.4	

54.7.3 log-buffer logs

NFPP

log-buffer logs number_of_message **interval** length_in_seconds

Ruijie(config- nfpp)# l og- buffer logs 2 int erval 12

log-buffer entries number	NFPP
show nfpp log summary	NFPP

10.4	

54.7.4 logging

NFPP VLAN

logging vlan vlan-range

logging interface interface-id

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

NFPP

VLAN

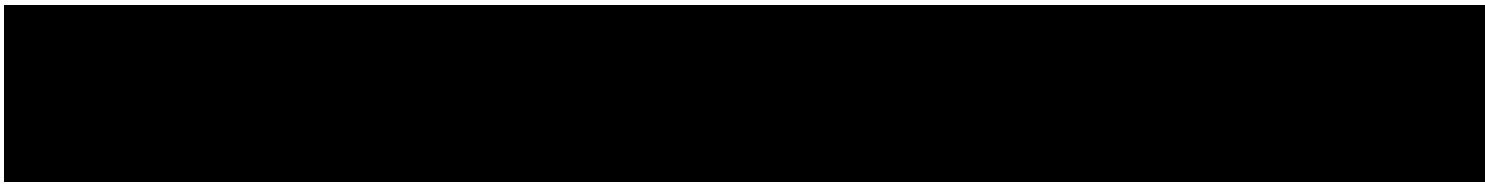
VLAN 1 VLAN 2 VLAN 3 VLAN 5

```
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



```
Ruijie#    show  nfpp log buffer statistics
There are 6 logs in buffer.


      NFPP
Ruijie#    show  nfpp log buffer
Protocol     VLAN  I nter  face   IP address     MAC address     Reason
 Timestamp
-------       ----    --------  ---------- -----------   ------
 ---------
ARP      1         Gi0/1    1.1.1.1   -                              DoS
2009- 05- 30 16:23:10
ARP      1         Gi0/1    1.1.1.1   -                              ISOLATED
2009- 05- 30 16:23:10
ARP      1         Gi0/1    1.1.1.2   -                              DoS
2009- 05- 30 16:23:15
ARP      1         Gi0/1    1.1.1.2   -                              ISOLATE_FAILED
2009- 05- 30 16:23:15
ARP      1         Gi0/1       -         0000.0000.0001 SCAN
2009- 05- 30  16:30:10
ARP      -         Gi0/2    -            -                PORT_ATTACKED
2009- 05- 30  16:30:10

Protocol
     ARP          ARP
     IP          IP
     ICMP          ICMP
     DHCP          DHCP
     DHCPv6          DHCPv6
     NS-NA          ND
     RS          ND
     RA-REDIRECT          ND

Reason                    5
     DoS
     ISOLATED
     ISOLATE_FAILED
     SCAN
     PORT_ATTACKED
```

clear nfpp log	NFPP

10.4	

54.8 ARP ï ¾` Ï ~ ˆ Ъ u Пъ

54.8.1 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   inte   r face    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	

-	-

54.8.2 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 inter face 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 inter face IP address MAC address timestamp
---- -------- ---------- ---------- ----------
1 Gi0/1 N/A 0000.0000.0001 2008- 01- 23 16:23:10
Total 1 record(s)

54.8.3 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	
nfpp arp-guard policy	
nfpp arp-guard scan-threshold	

-	-

54.9 DHCP ï ¾ì ` Ï ~ ˆ Ч ц Ъ

54.9.1 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 " ﻋﻲ ﺹ " ﻟﻬ ﻛ

“ 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	

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 “ - ”

statistics	
vid	
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)

clear nfpp dhcpv6-guard hosts	

10.4	

54.10.2 show nfpp dhcpv6-guard summary

show nfpp dhcpv6-guard summary

-	-

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 mo nitored hosts: 1000
Monitor period 300s

1 Interface Global
2 Status
3 Rate- limit IP / MAC / Attack - threshold " - "

dhcpv6-guard attack-threshold	
dhcpv6-guard enable	DHCPv6
dhcpv6-guard isolate-period	
dhcpv6-guard monitor-period	
dhcpv6-guard monitored-host-limit	
dhcpv6-guard rate-limit	

10.4	

54.11 ICMP ï ¾ ` Ï ~ ¸ Ъ ч Ъ

54.11.1 show nfpp icmp-guard hosts

show nfpp icmp-guard hosts [**statistics** | [[**vlan** vid] [**interface** ice

/

```
Ruijie#      show nfpp icmp-     guard    trusted-     host
IP   address          mask
---------             ------
1.1.1.0          255.255.255.0
1.1.2   . 0      255.255.255.0
Total       2 record(s)
```

icmp-guard trusted-host	

Ruijie#**show nfpp ip-guard hosts statistics**

success fail total

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

100 20 120

“ 120 100 20 ”

Ruijie#**show nfpp ip-guard hosts**

If column 1 shows '*', it means "hardware do not isolate host" .

VLAN interface IP address Reason remain-time(s)

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

1 Gi0/1 1.1.1.1 ATTACK 110

2 Gi0/2 1.1.2.1 SCAN 61

Total 2 host(s)

ņ IP

```
Ruijie# show nfpp ip-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 Scan-threshold
Global    Enable 300           4/-        /60  8/-        /100  15
Gi 0/1    Enable 180           5/-        / -  8/-        / -   -
Gi 0/2    Disable 200          4/-        /60  8/-        /100  20

Maximum count of monitored hosts: 1000
Monitor period 300s
```

1	Interface Global
2	Status
3	Rate-limit

show nfpp ip-guard trusted-host

-	-

Ruijie# show nfpp ip- guard trusted- host
IP address mask
--- ---
1.1.1.0 255.255.255.0
1.1.2 . 0 255.255.255.0
Total 2 record(s)

ip-guard trusted-host	

10.4	

54.13 ND ï ¾ì Ï ~ ² Ю ª Ъ

54.13.1 show nfpp nd-guard summary

show nfpp nd-guard summary

-	-

Ruijie# show nfpp nd-guard summary
Format of column Rate-limit and Attack-threshold is NS-NA/RS/RA-REDIRECT.
Interface Status Rate-limit Attack-threshold
Global Enable 20/5/10 40/10/20
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-gu.198X195nable

55 ب ر ACL ᵘ ᖘ

icmp-type	ICMP	0-255
icmp-code	ICMP	0-255
icmp-message	ICMP	

G	Ctrl	20	U	TCP	48
H	Org Code	21	V		50
I		24	W		54
J	IP	26	XY	IP	58
K	TOS	27	Z	flags	59
L	IP	28	a	Windows size	60
M	ID	30	b		62
N	Flags	32			

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**} [**range** lower upper] [**time-range** time-range-name]

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]] [**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-

a

range	
lower	
upper	
time-range	
time-range-name	
icmp-type	ICMP 0-255
icmp-code	ICMP 0-255
icmp-message	ICMP
operator	lt- eq- gt- neq- range-
port [port]	range
host source-mac-address	
host destination-mac-address	
VID vid	vid
ethernet-type	

ACL

access-list

IP 1-99 1300-1999

IP 100-199 2000-2699

MAC 700-799 MAC

Expert 2700-2899 VLAN ID

ICMP

administratively-prohibited

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
h-unreachhable

-

-

-

- -

discard
domain
echo
exec
finger
ftp
ftp-data
gopher
hostname
ident
irc
klogin
kshell
login
nntp
pim-

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
vines-echo
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

[sn] **deny protocol** source source-wildcard destination destination-wildcard [**range** lower upper] [**time-range** time-range-name]

IP

Internet Control Message Protocol (ICMP)

[sn] **deny icmp** {source source-

destination-mac-address | **any**} [icmp-type] [[icmp-type [icmp-code]] | [icmp-message]] [**time-range** time-range-name]

Transmission Control Protocol (TCP)

[sn] **deny 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]] [**range** lower upper] [**time-range** time-range-name]

User Datagram Protocol (UDP)

[sn] **deny 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]] [**range** lower upper] [**time-range** time-range-name]

Address Resolution Protocol (ARP)

[sn] **deny arp** {**vid** vlan-id}[source-mac-address source-wildcard **|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**}

sn	ACL
access-list	-

ACL

ACL ACL

1 Expert Extended ACL ACL IP 192.168.4.12 MAC 001300498272 TCP

```
Ruijie(config)# expert access- list extended 2702
Ruijie(config- exp- nacl)# deny tcp host 192.168.4.12 host 0013.0049.8272 any any
Ruijie(config- exp- nacl)# permit any any any any
Ruijie(config- exp- nacl)# show access- lists
expert access- list extended 2702
10 deny tcp host 192.168.4.12 host 0013.0049.8272 any any
```

20 permit any any any any
Ruijie(config- exp- nacl)#
2 IP ACL IP 192.168.4.12 TCP
100 1
Ruijie(config)# ip access- list extended ip- ext- acl
Ruijie(config- ext- nacl)# deny tcp host 192.168.4.12 eq 100 any
Ruijie(config- ext- nacl)# show access- lists
ip access- list extended ip- ext- acl
10 deny tcp host 192.168.4.12 eq 100 any
Ruijie(config- ext- nacl)# exit
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config- if)# ip access- group ip- ext- acl in
Ruijie(config- if)#
MAC ACL MAC 0013.0049.8272
100 1
Ruijie(config)# mac access- list extended mac1
Ruijie(config- mac- nacl)# deny host 0013.0049.8272 any aarp
Ruijie(config- mac- nacl)# show access- lists
mac access- list extended mac1
10 deny host 0013.0049.8272 any aarp
Ruijie(config- mac- nacl)# exit
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config- if)# mac access- group mac1 in
IP ACL IP 192.168.4.12
1
Ruijie(config)# ip access- list standard 34
Ruijie(config- ext- nacl)# deny host 192.168.4.12
Ruijie(config- ext- nacl)# show access- lists
ip access- list standard 34
10 deny host 192.168.4.12
Ruijie(config- ext- nacl)# exit
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config- if)# ip access- group 34 in

show access-lists	
ip access-group	IP ACL

mac access-group	MAC ACL
ip access-list	IP ACL
mac access-list	MAC ACL
expert access-list	ACL
permit	

V10.0	V10.0 arp V10.2(3)

55.1.3 expert access-group

V10.2(3 251 ( )Tj /n 1 o4B02112B0CFC>6<454304CA>6<28e7C1D00>] Tc DD.982 0 09

ACL

55.1.6 ip access-list

IP ACL IP ACL **no** ACL

ip access-list {**extended** | **standard**} {id | name}

no ip access-list {**extended** | **standard**} {id | name}

id	IP 1-99 1300-1999 100-199 2000-2699
name	IP

ACL

ACL ACL **deny** **permit** **show ip access-lists** ACL

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

55.1.7 ip access-list resequence

ip 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#  show access-  lists
ip access-  list standard 1
10 permit host 192.168.4.12
20 deny any any
Ruijie#  config
Ruijie(config)#  ip access-  list resequence  1 21 43
Ruijie(config)#  exit
Ruijie#  show access-  lists
ip access-  list standard 1
21 permit host  192.168.4.12
64 deny any any
```

show access-lists	

	V10.0	V10.0

55.1.8 list-remark text

no mac access-group {id | name} {**in** | **out**}

show mac]TJ ET 2C442204BaccesC44s>Tj /20 2 (55)Tj 20 Tc8.76

```
Ruijie(config-ext-nacl)# show access-lists
ip access-list extended acl_test
 10 permit ip host 1.1.1.1 any
```

[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]] [**range** lower upper] [**time-range** time-range-name]

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**}

– •¾5 …V ` •ƒ 6Þ Dl98 -0.006 Td <2CCC074709961B44>T[<22

```
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
```

show access-lists	
ip access-group	IP ACL
mac access-group	MAC ACL
ip access-list	IP ACL
mac access-list	MAC ACL
expert access-list	ACL
deny	ACL

V10.0	V10.0 arp V10.2(3)

55.2 Ǐ ~ ˀ Ʉ ᵘ Ɲ

55.2.1 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

V10.0	V10.0

55.2.2 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
ip access- list extended 101
mac access- list extended mac- acl
expert access- l ist extended exp- acl
```

ip access-list	IP ACL
mac access-list	MAC ACL
expert access-list	Expert ACL

	ma

55.2.3 show expert access-group

Expert

show expert access-group [**interface** <interface>]

<interface>	

Expert ACL

Expert ACL

Ruijie# show expert access- group interface gigabitethernet 0/2

gigabitethernet inteGfa

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

V10.0	V10.0

ac access-group

MAC

ac access-group[**interface** <interface>]

<	

CCLC

	V10.0	V10.0

name	ACL

Ruijie(config)# security global access- group 1

show secu-acl	

.0.2	V10.2

55.3.3 security plink enable

security plink enable

no secur / uplink enable

-	-

Ruijie(config- if)# security uplink enable

#

V10.2	V10.2

55.3.4 show security

show secu-acl

-	-

```
Ruijie(config-if)#show secu-acl
Ports  Type      access-group
-----------  -----------  ------------
Fa0/4  security  50
Global security  60
Fa0/6  uplink    --
```

security global access-group	
security access-group	
security uplink enable	

V10.2	V10.2

56 ъ ѓ ѕ ѝ ї ѫ

56.1 ъ ѓ ѭ ї

56.1.1 cd

cd DIRECTORY

DIRECTORY	

“ .. ” “ . ”

“ / ”

ls

1 tmp

Ruijie# cd tmp

a

b

1 jffs2 dev/mtdblock/1

Ruijie# makefs dev / dev/ mtdblock/ 1 fs jffs2

-	-

56.1.4 mkdir

mkdir DIRECTORY

-	-

56.1.5 rename

rename flash:OLD_FILE **flash:**NEW_FILE

ename slaveflash:OLD_FILE **slaveflash:**NEW_FILE

OLD_FILE	
NEW_FILE	

a (type file); b ’ ? ’
’ ? ’ ,

1 flash log.txt config.txt, ,

```
Ruijie# rename flash:log.txt flash:config.txt
```

2 log.txt hello.txt

```
Ruijie# rename slaveflash:log.txt slaveflash:hello.txt
```

, , **rm**

1 tmp

```
Ruijie#  rmdir  tmp
Ruijie#  ls
```

-	-

56.1.8 del

del FILE

del slaveflash:PATH

FILE	( )
PATH	

,

1 log.txt

```
Ruijie#  del  log.txt
```

2 log.txt

```
Ruijie#  del slaveflash:log.txt
```


rm	

-	-

57.1.2 show cpu

CPU **show cpu**

show cpu

-	-

-

CPU 5 1 5

CPU 5 1 5 CPU

show cpu

```
Ruijie# show cpu
=====================================
```

```
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
```

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 LISR CPU HISR CPU 3

CPU idle CPU Windows “ System Idle Process ” idle 5 CPU 75%

CPU 75%

-	--

-

57.2 Л ё Ч

57.2.1 show memory

show memory

show memory

-	-

-

show memory

```
Ruijie#show memory
Buddy System info ( Active: 69, inactive: 790, free: 26589 ) :
  Zone : DMA
    watermarks : min 921, low 3684, high 5526
    watermarks : min 0, low 0, high 0
    watermarks : min 0, low 0, high 0
    Totalpages : 55282(221128KB), freepages : 26589(106356KB)
System Memory Statistic:
  Total Objects : 82822, Objects Using size 100430KB.
  System Total Memory : 256MB, Current Free Memory : 107899KB
  Used Rate : 59%
```

4k

min	
low	OVERFLOW
high	OVERFLOW

58 ٻ ٵ ٸ ٸ ٮ Ő ᵘ ח

58.1 ٻ ٵ ᵔ ᵘ ח

58.1.1 clear logging

clear logging

-	-

Ruijie# clear logging

logging on	
show logging	
logging buffered	

-	-

58.1.2 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

-	-

58.1.3 logging buffered

6 ã Ú/U!6 ü Y ,4ç † A„) ¹ « µ C ÄA¹ Q ¸,Xdefault

buffer-size	4K 128K Bytes
level	0 7

4K Bytes

7

show logging

clear logging

FLASH

Syslog Server

8

Emergencies	0	
Alerts	1	
Critical	2	
Errors	3	
warnings	4	
Notifications	5	
informational	6	
Debugging	7	

0

6 6 10000

Ruijie(config)# logging buffered 10000 6

logging on	
show logging	
clear logging	

-	-

58.1.4 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	

-	-

58.1.5 logging count

no

logging count

no logging count

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

l34 7012 Td [(l)3.4 0.48 20. 1(c)-1(on)6(s)-1(ol)3.eA'Z° AŒ4{ ÿ

6

Ruijie(config)# logging file flash:trace

logging on	
show logging	

-	-

58.1.9 logging on

no

logging on

no logging on

-	-

Console VTY
FLASH Syslog Server

1 Log

Ruijie(config)# no logging on

logging buffered	
logging	Syslog Server
logging file flash:	FLASH
logging console	
logging monitor	VTY (telnet)

logging trap	Syslog Server

-	-

58.1.10 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	
show logging	

-	-

58.1.11 logging server

Syslog Sever **Syslog server** **Syslog Server** no

logging server {ip-address [**vrf** vrf-name] | **ipv6** ipv6-address}

no logging server {ip-address [**vrf** vrf-name] | **ipv6** ipv6-address}

ip-address	IP
vrf vrf-name	VRF VPN
ipv6 ipv6-address	IPV6

syslog server

Syslog server 5 Syslog Server Syslog Server

1 202.101.11.1 syslog server

Ruijie(config)# logging server 202.101.11.1

2 IPV6 AAAA:BBBB::FFFF

Ruijie(config)# logging server ipv6 AAAA:BBBB::FFFF

logging on	
show logging	

logging trap	syslog server

-	-

58.1.12 logging source ip| ipv6

IP no

IP

logging source {**ip** ip-address | **ipv6** ipv6-address}

no logging source [**ip** | **ipv6**]

ip-address	IPV4	IPV4
ipv6-address	IPV6	IPV6

Syslog Server IP IP

IP IP

IP

-	-

Ruijie(config)#line console 0
Ruijie(config- line)#logging synchronous
UP-DOWN
Ruijie# configue terminal
Oct 9 23:40:55 %LINK- 5- CHANGED: InterfacnB5%8.02 0 0 10.02 j /TT2 1S /C

Informational(6)

Syslog Server logging Syslog Server logging trap

show logging

6 202.101.11.22 Syslog Server

Ruijie(config)# logging 202.101.11.22

Ruijie(config)# logging trap informational

logging on	
logging	Syslog Server

show logging

Ruijie(config)# service sequence- numbers

logging on	
service timestamps	

serse70.02 0 0 10.02 118.5 579.36C.36 75573 6 65 10.02608.7 173.76 1.5 re f1.5 rg2N 0.286

show logging	

-	-

58.1.18 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	* * * * 07:00:10:41
datetime	Jul 27 16:53:07
msec	: : . Jul 27 16:53:07.299
year	2007 Jul 27 16:53:07

RTC

Uptime

Datetime

58.2.2 show logging count