

RG-EG

RGOS 10.3(4T90)

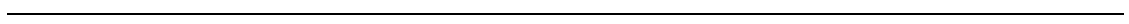


RGOS®

RGNOS®



Red-Giant 锐捷® 锐捷®



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1.

Courier New

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1 CLI

1.1 alias

```
aaa-gs          AAA server group mode
acl             acl configure mode
bgp             Configure bgp Protocol
config         globle configure mode
```

```
*h             =h
```

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

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

```
Ruijie# configure terminal
Ruijie(config)# aliasconfig a 100
R
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
globe configure mode alias:
def-route          ip route 0.0.0.0 0.0.0.0 192.168.1.1

```

show aliases	

1.2 privilege

privilege

no

privilege mode **all** **level** level | **reset** command-string
no privilege mode **all** **level** level command-string

mode

all

level level

reset

command-string

privilege

privilege ?

config	

exec	
interface	
ip-dhcp-pool	
keychain	
keychain-key	
time-range	

reload

```
Ruijie(config)# enable secret level 10test
Ruijie(config)# privilege exec level 1reload
```

reload

```
Ruijie> reload ?
<cr>
```

all

```
Ruijie(config)# privilege exec all level 1reload
```

reload

```
Ruijie> reload ?
at reload at a specific time/date
cancel cancel pending reload scheme
in reload after a time interval
<cr>
```

enable secret	

1.3 show aliases

show aliases

show aliases mode

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

alias	

2

2.1

2.1.1 disable

disable privilege-level

privilege-level	

|

|

|

disable

|

Ruijie# disable 0

--	--

enable password

no

enable password level level password 0 7 encrypted-password no enable password

Password	
Level	

0|7

Y

enable secret

no

enable secret level level secret 0 | 5 encrypted-secret

no enable secret

Secret	
Level	
0 5	

ssh-sesrver	
telnet-server	
web-server	
snmp-agent	

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└──

no enable service

└──
└──

Ruijie(Config) # enable service ssh-sesrver

show service	

└──

2.1.5 execute

execute

execute flash: filename

flash:	
filename	

└──

Telnet

```
configure terminal
line tty 1 16
transport input all
no exec
end
```

```
Ruijie# execute flash: hn
executing script file line_rcms_script.text .....
executing done
Ruijie# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# line vty 16
Ruijie(config-line)# transport input all
Ruijie(config-line)# no exec
Ruijie(config-line)# end
```

2.1.6 ip http authentication

ip http authentication

ip http authentication enable local

enable	
local	

|

|

|

no ip http authentication

|

Ruijie(config)# ip http authentication local

enable service	

|

2.1.7 ip http port

ip http port

ip http port number

number	

|

|

no ip http port



2.1.9 lock

lock

lock

lock

lockable

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

lockable



2.1.11 login

login **no**

login

no login

|

|

|

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

password	

|

2.1.12 login authentication

no

|

|

|

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```
Ruijie(config)# no aaa new-model
Ruijie(config)# username 8 password 08
Ruijie(config)# line vty 0
Ruijie(config-line)# login local
```

|

username	

|

|

2.1.14 privilege mode

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	-	

2.1.15 password

password no

password password Q7 encrypted-password

no password

	password	
	Q7	
	encrypted-password	

3

0

2.1.16 service password-encryption

service password-encryption

|

|

|

Ruijie(config)# service password-encryption

enable password	

|

2.1.17 telnet

telnet

telnet host port **/source ip** A.B.C.D | **ipv6** X:X:X:X::X | **interface** interface-name}
/vrf vrf-name

Host	

Port	
/source	
ip A.B.C.D	
ipv6 X:X:X:X::X	
interface interface-name	
/vrf vrf-name	

└──

└──

/vrf
/ipv6

```
Ruijie# telnet 10.1.1.1 /source interface ge1/0/0 /vrf v1
```

```
Ruijie# telnet 10.1.1.1
```

ip telnet source-interface	
show session	
exit	

└──

2.1.18 username

```
username name [web-auth] nopassword password password
0|7 encrypted-password
```

username name **privilege** privilege-level

no username name

Name	
Password	
0 7	
encrypted-password	
privilege-level	
filename	

|

|

|

```
Ruijie(config)# username & privilege $ password 0 &
                    web                :
Ruijie(config)# username user1 web-auth password 0 &
```

|

login local	

|

|

2.1.19 username import

username import filename

filename	

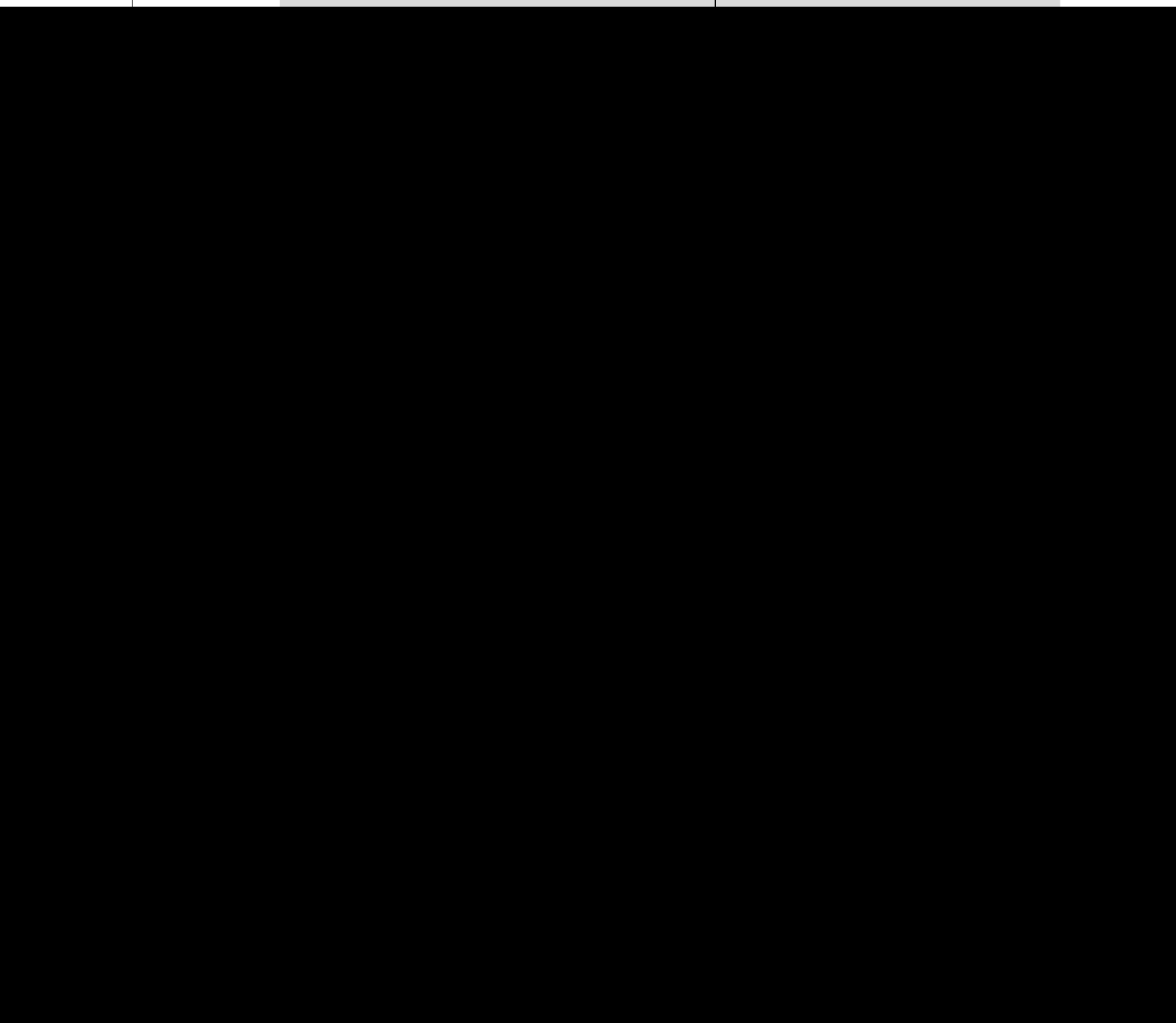
|


|

| _____
| _____

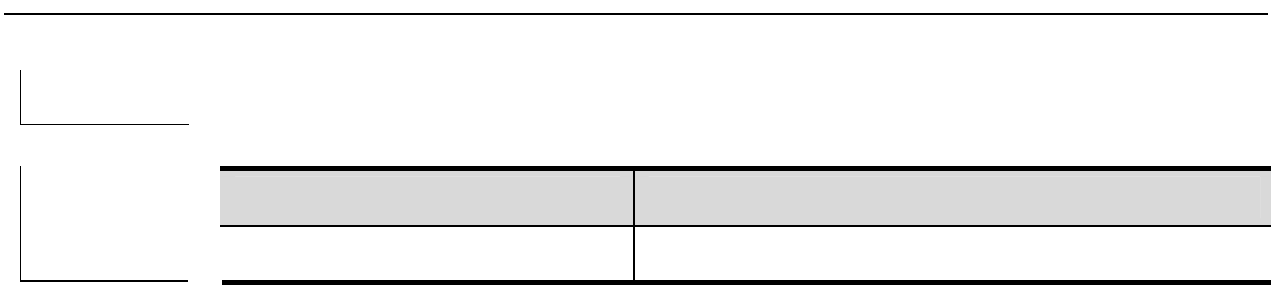
| :
| Ruijie#username import

--	--



Ruijie#username export 

web-auth	



2.2.2 banner motd

banner motd

clock set hh:mm:ss month day year

hh:mm:ss	
day	
month	
year	

|

|

|

|

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

|

show clock	

|

|

2.2.4 clock update-calendar

clock update-calendar

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

-	

2.2.6 hostname

hostname

hostname name

name	

```
Ruijie(config)# hostname    
BeiJingAgenda(config)#
```

2.2.7 prompt

	no prompt	prompt
	prompt string	
	string	
	EXEC	
	Ruijie(config)# prompt B	
	Ruijie(config)# end	
	RGOS	
	-	

2.2.8 reload

	reload	
	reload text in hh: mm text at hh:mm month day day month text	
	cancel	
	text	
	in hh: mm	

at hh:mm	
month	
day	
cancel	

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└───┘

```
Ruijie# reload in 0
Router will reload in 600 seconds.
```

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-	

└───┘

└───┘

2.2.9 session-timeout

session-timeout

no session-timeout

session-timeout minutes **output**

no session-timeout

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minutes	
output	

└───┘

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

-	

2.2.10 speed

speed speed

no speed

speed speed

Speed	

```
Ruijie(config)# line console 0
```

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

--	--

2.2.11 write

write memory network terminal

memory	running-config startup-config	copy
network	running-config tftp	copy
terminal	show running-config	

```
memory boot config write
```

```
boot config
```

```
boot config
```

```
boot config
```

```
write memory
```

```
boot config
```

```
Ruijie# write
```

```
Building configuration...
```

```
[OK]
```

```
boot config
```

```
write
```

```
Ruijie(config)# boot config
```

```
Ruijie# write
```

```
Building configuration...
```

```
Write to boot config file: [usb1: config.text]
```

```
[OK]
```

```
Ruijie# usb remove 1
```

```
0:1:1:38 Ruijie: USB-5-USB_DISK_REMOVED: USB Device <USB Mass Storage Device> Removed!
```

```
Ruijie# write
```

```
Building configuration...
```

```
Write to boot config file: [usb1: config.text]
```

```
[Failed]
```

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

```
Write to the default config file: [flash:config.text]
```

```
[OK]
```

--	--

boot config	
copy	
show running-config	

2.3

2.3.1 show clock

	show clock
	show clock

	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| **vtty** line-num| line-num

console	
aux	
vtty	
line-num	

```
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
```

	-	

boot config

Networks.

System start time : 2011-09-14 11:54:47

System uptime : 5:4:43:28

System hardware version : 1.00

System software version : RGOS 10.3(4T90), Release(123368)

System BOOT version : 10.3.122172(Master), 0.0.0(Slave)

3

3.1

3.1.1 cd

cd DIRECTORY

DIRECTORY

cp **sour** SOURCE_FILE **dest** DESTINE_FILE DIRECTORY

DESTINE_FILE

DIRECTORY

SOURCE_FILE

cp

Ruijie# cp sour **h** dest ../**h**

3.1.3 ls

ls PATHNAME

PATHNAME

Ruijie# ls

Ruijie# ls p

3.1.4 makefs

```
Ruijie# makefs dev /vbn /1fs $
```

3.1.5 mkdir

```
mkdir DIRECTORY
```

```
DIRECTORY
```

```
Ruijie# mkdir $
```

3.1.6 mv

```
mv sour SOURCE_FILE dest DESTINE_FILE DIRECTORY
```

```
mv dest DESTINE_FILE DIRECTORY sour SOURCE_FILE
```

SOURCE_FILE

DESTINE_FILE/DIRECTORY

type file

```
Ruijie# mv sour h dest ..
```

```
Ruijie# mv dest m sour h
```

3.1.7 pwd

pwd

Ruijie# pwd

3.1.8 rm

rm FILE

FILE

3.1.9 rmdir

rmdir DIRECTORY

DIRECTORY

rm

```
Ruijie# rmdir p
```

```
Ruijie# ls
```

4

4.1

copy xmodem

copy tftp


4.1.1 copy xmodem


copy flash filename xmodem

copy xmodem flash filename

a

filename

Ruijie# copy xmodem flash : 

Ruijie# copy flash :  xmodem

4.1.2 copy tftp

copy flash: filename **tftp** location filename

copy tftp location filename **flash:** filename

copy flash: filename **tftp** location filename **vrf**

copy tftp location filename **flash:** filename **vrf**

5 HTTP

5.1

5.1.1 http check-version

http check-version

	-	
	1 HTTP	
	Ruijie#http check-version	
	files need to be updated: bin, web, config, character-db, normal.	
	bin:	
	support identification of 31 kinds of popular games.	
	-	

5.1.2 http update

http update web route-db config character-db normal
url-db feedback

web	
route-db	
config	
character-db	
normal	
url-db	
feedback	

L

L

L

```
Ruijie#http update web character-db  
updating files, please wait...  
update success!
```

-	

5.1.3 http update mode

http update mode auto-update manual auto-detect

auto-update	
manual	
auto-detect	

└──

└──

└──

└──

└──

```
Ruijie#config
Ruijie(config)#http update server 0 port 0
```

└──

-	

└──

5.1.5 http update set oob

no http update set oob

└──

-	

└──

└──

└──

└──

```
Ruijie#config
Ruijie(config)#http update set oob
```

└──

-	

5.1.6 http update time

http update time daily hh:mm

hh:mm	

```
Ruijie#config
Ruijie(config)#http update time daily      ?      //
      23:40
```

-	

5.1.7 feedback enable

feedback enable

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└───┘

└───┘

└───┘

```
Ruijie#config
Ruijie(config)# feedback enable

Ruijie#config
Ruijie(config)#no feedback enable
```

	-	

5.1.8 feedback update

feedback update

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└───┘

Ruijie# feedback update

	-	

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6

6.1

6.1.1 bandwidth

bandwidth

no

bandwidth kilobits

no bandwidth

kilobits

bandwidth

show

interfaces

bandwidth

```
Ruijie(config-if)# bandwidth ④
```

6.1.2 carrier-delay

carrier-delay

no

carrier-delay seconds

no carrier-delay

seconds

```
Ruijie(config)# interface gigabitethernet 0
Ruijie(config)# carrier-delay 5
```

6.1.3 clear counters

clear counters

clear counters interface-type slot-number/interface-number

interface-type

Slot-number/interface-number

Ruijie# clear counters gigabitethernet 0

show interfaces	

6.1.4 description

description

no

description string

no description

string

show interfaces

Ruijie(config)# interface gigabitethernet 0

Ruijie(config-if)# description GBIC-1

show interfaces	

6.1.5 duplex

no

duplex auto full half

no duplex

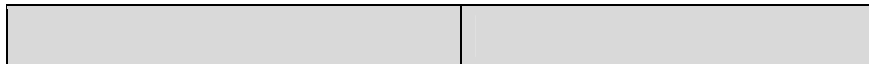
auto

full

half

show interfaces

Ruijie(config-if)# duplex full



show interfaces A60091E09A013B37BD60 Tc 0 Tw160.223 7.706 Td[<C12C2F0F197909B6<

```
                                VLANID
Ruijie(config)# interface GigabitEthernet    0
Ruijie(config-subif)# encapsulation dot1Q    0
```

6.1.7 interface

interface

interface type slot-number/interface-number

type

Slot-number/port-number

sub-interface-number

show interfaces

```
Ruijie(config)# interface gigabitEthernet    0
Ruijie(config-if)#
```

```
Ruijie(config)# interface gigabitEthernet 0
Ruijie(config-subif)#
```

```
Ruijie(config)# interface tenGigabitEthernet 0
Ruijie(config-if)#
```

show interfaces	

6.1.8 ip address

ip

no

ip address ip-address sub-mask **secondary**

no ip address ip-address sub-mask **secondary**

ip-address

sub-mask

secondary

ip address

secondary

```
Ruijie(config)# interface GigabitEthernet 0/0  
Ruijie(config-line)# ip address 192.168.12.1 255.255.255.0
```

ip unnumbered	

6.1.9 ip unnumbered

ip unnumbered

no

ip unnumbered type interface-number

no ip unnumbered

type

Interface-number

```
Ruijie# config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# interface GigabitEthernet 0
Ruijie(config-if)# keepalive ping 8
Ruijie(config-if)# end
```

```
Ruijie# config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# interface GigabitEthernet 0
Ruijie(config-if)# keepalive 8ns 8
Ruijie(config-if)# end
```

6.1.11 load-interval

load-interval

no

load-interval seconds

no load-interval

seconds

show interface GigabitEthernet

0/0

```
Ruijie(config)# interface GigabitEthernet 0/0  
Ruijie(config-if)# load-interval 0
```

show interfaces	

6.1.12 mac-address

mac-address

no

mac-address H.H.H

no mac-address

H.H.H

```
Ruijie(config)# interface GigabitEthernet 0
Ruijie(config-if)# mac-address 000000000000
```

6.1.13 media-type

no

media-type baset | basex auto
no media-type

basex auto
baset

```
Ruijie(config)# interface gigabitethernet 0
Ruijie(config-if)# media-type basex auto
```

Changing media to fiber auto mode. You may need to update the speed and duplex settings for this interface.



show interfaces	
-----------------	--

6.1.14 mtu

mtu

no

mtu num

no mtu

num

```
Ruijie(config)# interface gigabitethernet 0
Ruijie(config-if)# mtu 9000
```



show interfaces	
------------------------	--

6.1.15 shutdown

no

shutdown
no shutdown

show interfaces

Ruijie(config)# interface gigabitEthernet 0
Ruijie(config-if)# shutdown

Ruijie(config)# interface gigabitEthernet 0/1
Ruijie(config-if)# no shutdown

show interfaces	

no shutdown

6.1.16 snmp trap link-status

no

snmp trap link-status
no snmp trap link-status

```
Ruijie(config)# interface gigabitEthernet 0
Ruijie(config-if)# no snmp trap link-status
```

```
Ruijie(config)# interface gigabitEthernet 0
Ruijie(config-if)# snmp trap link-status
```

6.1.17 speed

no

speed auto 10 100 | 1000

no duplex

10

100

1000

auto

show interfaces

```
Ruijie(config)# interface gigabitethernet 0
Ruijie(config-if)# speed 0
```

show interfaces	

6.2

6.2.1 show interfaces

show interfaces interface-id **counters | description | status**

interface-id

counters

description

status

Ruijie# show interfaces gigabitEthernet 0

clear counters	
description	
duplex	
interface	
load-interval	
media-type	
shutdown	
speed	

7

7.1

7.1.1 bridge-map

bridge-map bridge-num

bridge-num	

└───┘

└───┘

└───┘

```
Ruijie#config
Ruijie(config)#bridge-map 1
Ruijie(config-bridge-map)#
```

--	--

--	--

7.1.2 link-mode

no link-mode

7.1.3 native-vlan

no native-vlan vlan-id num

	vlan-id num	

--

--

--

```
Ruijie(config)#bridge-map 1  
Ruijie(config-bridge-map)#native-vlan 0
```

7.1.4 specify interface

specify interface interface-name

no sys-mode gateway

|

|

|

Ruijie#config
Ruijie(config)#no sys-mode gateway

|



|

|

|

|

Fi] ^) YfWbZ] [!] Z;] [U] h9h\Yf bYh' \$#SL_j `Ub! YbUV Y

|

|

|

7.1.7 bypass

VnUgg Wi d Y couple-num

no VnUgg Wi d Y couple-num

|

VnUgg	
Wi d Y	

	couple-num	couple
--	------------	--------

└──

└──

└──

└──

Ruijie(config)# bypass couple 0

└──

└──

~~VnolUgg' WddYf' Wd d' Y~~ couple-num

~~VnolUgg' Zj Vvf' Wd d' Y~~ couple-num

no ~~VnolUgg' WddYf' Wd d' Y~~ couple-num

no ~~VnolUgg' Zj Vvf' Wd d' Y~~ couple-num

	VnolUgg	
	WddYf'	
	Zj Vvf'	
	Wd d' Y	
	couple-num	couple

└──

└──

```
Ruijie(config)# bypass copper couple 0
```

```
┌
```


```
┌
```


7.2

7.2.1 show bridge-map

```
show bridge-map bridge-num
```

```
┌
```

bridge-num	

```
┌
```

```
Ruijie#show bridge-map 0  
BRIDGE MAP 0,STATE is DOWN
```

Inside interface is GigabitEthernet 0/0,Outside interface is
GigabitEthernet 0/1

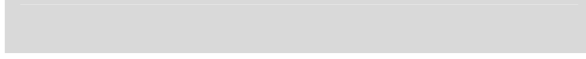
Working mode is forward

Native vlan is 1



LAN: GigabitEthernet 0/0 GigabitEthernet 0/3

WAN: GigabitEthernet 0/1 GigabitEthernet 0/2 GigabitEthernet 0/4



POWER 2 is not present!

EG1000M:

Fi] ^] Y_cg\ck' Ybj] f cbaYbh'`
!!! Ybj] f cbaYbh'] bZcf aUh] cb!!!`
7D] H\adYf Uhi fY] g' (%
ZUb' kcf_g'] b' `ck' gdYYX acXY" `
.
: 5B' % BCH C?°`
: 5B' &] g' C?°`
: 5B' '] g' C?°`
: 5B' (] g' C?°`
.
DCK9F' %] g' bch' df YgYbh°`
DCK9F' &] g' df YgYbh°`
DCK9F' & dckYf' cb' gi WWggZi `` m`
.
DckYf & hndY. ' F; ! D5' SS= `
..... <UFXkUFY j Yf gl cb ' % SS`
..... GcZhkUFY j Yf gl cb ' F; BCG S' S' žFY YUgYff%SS* & L`
..... DckYf' GB ' 5** &S(%SS* SS(S%J S" &S`
..... WffYbh' ci hdi h' dckYf. ' +) "% fKL`
..... ci hdi h' j c' hUj Y. ' %&' %\$fJL`
..... ci hdi h' Y Wwf] WWffYbh ' *" &%f5L`
..... dckYf' hYadYf Uhi fY. ' &" SSfl L`

dckYf' gi dd' m' C?

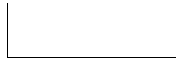
8

8.1

mtu speed duplex flowcontrol description shutdown

8.1.2 gateway

gateway ip-address



```

config
Ruijie(config)#interface mgmt 0
Ruijie(config-if-Mgmt 0)#gateway 8
Ruijie(config-if-Mgmt 0)#end
Ruijie#
```




8.1.3 ip address

ip address ip-address subnet-mask

└───┘

└───┘

└───┘

config

```
Ruijie(config)#interface mgmt 0  
Ruijie(config-if-Mgmt 0)#ip address 10.10.10.1 255.255.255.0  
Ruijie(config-if-Mgmt 0)#end
```


└───┘

8.1.4 ping oob

ping oobhost

	Ruijie#config Ruijie(config)#sntp enable oob

8.1.6 telnet oob

telnet oob host

	Ruijie#telnet oob Ⓢ User Access Verification Password:

8.1.7 traceroute oob

traceroute oob host

```
Ruijie#traceroute oob 0
< press Ctrl+C to break >
Tracing the route to 192.168.200.1

 1  192.168.196.1 10 msec 10 msec 0 msec
 2  192.168.187.1 10 msec 10 msec 10 msec
 3  192.168.198.43 0 msec 10 msec 0 msec
 4  192.168.200.1 10 msec 10 msec 10 msec
```

--	--

9 LINE

9.1 LINE

9.1.1 line

line aux console tty vty first-line last-line

aux	
console	
tty	
vty	
First-line	
Last-line	

Ruijie(config)# line vty 13

9.1.2 line vty

no

line vty line-number
no line vty line-number

```
Ruijie(config)# line vty 0
```

```
Ruijie(config)# line vty 0
```

9.1.3 transport input

transport input

default transport input

transport input all | ssh | telnet | none

default transport input

all	
ssh	
telnet	

none	
------	--

transport input **default**

show running

default	transport input	no transport input
		transport input none

```
Ruijie# configure terminal
Ruijie(config)# line vty 04
Ruijie(config-line)# transport input telnet
```

show running	

9.1.4 access-class

access-class *acl-no*
access-class
in | out
 access-list-number **in | out**
no access-class access-list-number **in | out**

access-list-number	
in	
out	

access-class
show running

```
Ruijie# configure terminal
Ruijie(config)# line vty 04
Ruijie(config-line)# access-class 0in
```

show running	

10 DLDP

10.1.1 .043(DLDP)Tj/C2_1 0.28 / 1 Tf0.0027 Tc 5 Tr 2.973 0 03 <0051122>Tj/T0EAD

Ruijie(config-if)#

ip 20.1.1.1 ip 10.1.1.1

Ruijie(config)# dldp 20.1.1.1 10.1.1.1

10.1.3 dldp passive

no

dldp passive

no dldp passive

dldp

Ruijie(config-if)# dldp passive

11

11.1

11.1.1 clear counters

clear counters

clear counters interfece-type interface-number

interface-type

interface-number

show interface

```
Ruijie# show interface async      1
Async1 is down, line protocol is down
Hardware is Async Serial
Internet address is 1.1.1.1/24
MTU 1500 bytes, BW 9 Kbit, DLY 100000 usec, rely 255/255,
load 1/255
Encapsulation PPP, loopback not set, keepalive not set
DTR is pulsed for 5 seconds on reset
LCP Closed
Closed: ipcp
Last input 18:17:02, output 18:17:02, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0 (size/max/drops); Total output drops:
0
Queueing strategy: weighted fair
Output queue: 0/64/0 (size/threshold/drops)
Conversations 0/1 (active/max active)
```

```
Reserved Conversations 0/0 (allocated/max allocated)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
1396 packets input, 20516 bytes, 0 no buffer
Received 0 broadcasts, 0 runts, 0 giants
1 input errors, 1 CRC, 0 frame, 0 overrun, 0 ignored,
0 abort
1467 packets output, 22937 bytes, 0 underruns
0 output errors, 0 collisions, 11 interface resets
0 output buffer failures, 0 output buffers swapped out
0 carrier transitions
Ruijie# clear counters
Clear "show interface" counters on all interfaces
[confirm]
Ruijie#
%COUNTERS: Clear counter on all interfaces by console
Ruijie# show interface async 1
Asyncl is down, line protocol is down
Hardware is Async Serial
Internet address is 1.1.1.1/24
MTU 1500 bytes, BW 9 Kbit, DLY 100000 usec, rely 255/255,
load 1/255
Encapsulation PPP, loopback not set, keepalive not set
DTR is pulsed for 5 seconds on reset
LCP Closed
Closed: ipcp
Last input 18:17:15, output 18:17:15, output hang never
Last clearing of "show interface" counters 00:00:02
Input queue: 0/75/0 (size/max/drops); Total output drops:
0
Queueing strategy: weighted fair
Output queue: 0/64/0 (size/threshold/drops)
Conversations 0/1 (active/max active)
Reserved Conversations 0/0 (allocated/max allocated)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
0 packets input, 0 bytes, 0 no buffer
Received 0 broadcasts, 0 runts, 0 giants
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored,
0 abort
0 packets output, 0 bytes, 0 underruns
0 output errors, 0 collisions, 0 interface resets
0 output buffer failures, 0 output buffers swapped out
0 carrier transitions
```

11.1.4 clear line

clear line

clear line line-type line-number

line-type

aux console vty

tty

line-number

tty aux

vty console

Ruijie# clear line vty 0

11.1.5 debug dialer

debug

dialer

debug dialer pkt mlp|callback|event

pkt

mlp

callback

event

11.1.6 debug ppp

debug ppp

debug ppp authentication error event negotiation packet

authentication

error

event

negotiation

packet

Ruijie# debug ppp event

11.1.7 dialer enable-timeout

dialer enable-timeout

dialer enable-timeout seconds

no dialer enable-timeout

seconds

dialer hold-queue

no

dialer hold-queue packets **timeout** seconds

no dialer hold-queue packets **timeout** seconds

packet

timeout seconds

```
Ruijie(config)# interface async 1  
Ruijie(config-if)# dialer hold-queue 50
```

11.1.10 dialer idle-timeout

dialer idle-timeout

dialer idle-timeout seconds

no dialer idle-timeout

seconds

```
Ruijie(config)# int async    1
Ruijie(config-if)# dialer idle-timeout    0
```



```

Ruijie(config)# access-list 0 permit tcp
0000
Ruijie(config)# dialer-list 1 protocol ip permit
Ruijie(config)# dialer-list 2 protocol ip list 0

```

dialer-group	
access-list	

11.1.12 dialer pool

```

no
dialer pool number
no dialer pool number

number
dialer pool

```

```
Ruijie(config)# interface dialer      0
Ruijie(config-if)# dialer pool      1
```

dialer pool-member	
dialer remote-name	

11.1.13 dialer pool-member

dialer

pool-member **no**

dialer pool-member number **priority** priority

no dialer pool-member number **priority** priority

number

priority priority

```
Ruijie(config)# interface async      1
Ruijie(config-if)# dialer pool-member 1priority 6
```

```
Ruijie(config-if)# dialer pool-member 2priority 0
```

dialer pool	
dialer remote-name	

11.1.14 dialer priority

dialer priority no

dialer priority number

no dialer priority

number

```
Ruijie(config)# interface async 1
Ruijie(config-if)# dialer priority 0
```

11.1.15 ip address negotiated

negotiated no

ip address negotiated

ip address

no ip address negotiated

```
Ruijie(config)# interface async      1  
Ruijie(config-if)# ip address negotiate
```

encapsulation ppp	
ip address	
ip unnumbered	

11.1.16 ip address-pool

```
no ip address-pool  
ip address-pool local  
no ip address-pool  
local
```

peer default ip address

Ruijie(config)# ip address-pool local

aux console vty

ip-address

pool pool-name-list

pool-name-list

peer default ip address ip-address

peer default ip address pool-name-list

```
Ruijie(config)# interface async 1
Ruijie(config-if)# peer default ip address 2
```

ip address-pool	
ip dhcp-server	
ip local pool	

11.1.20 ppp max-bad-auth

no

ppp max-bad-auth

ppp max-bad-auth number

no ppp max-bad-auth

number

```
Ruijie(config)# interface async      1  
Ruijie(config-if)# ppp max-bad-auth  4
```

Ppp authentication	

11.1.21 pppoe enable

no

pppoe enable

```
Ruijie(config)# interface GigabitEthernet 0
Ruijie(config-if)# pppoe enable
```

pppoe-client	

11.1.22 pppoe-client

pppoe-client **no**

pppoe-client dial-pool-number number **dial-on-demand| no-ddr}**

no pppoe-client dial-pool-number number

number

dial-on-demand PPPoE Client

no-ddr PPPoE Client

dial-on-demand

```
Ruijie(config)# interface GigabitEthernet 0
Ruijie(config-if)# pppoe-client dial-pool-number 1
dial-on-demand
```

pppoe enable	

11.2

11.2.1 show dialer

show dialer

show dialer interface type number **maps pools**

interface type number

maps

pools

```
Ruijie# show dialer interface async 1
Interface Async 1 , Dial-type = IN-BAND ASYNC
Async dialer
Idle-timer value(120 secs), Fast-Idle-timer value(20
secs)
Enable-timer value(15 secs), Carrier-timer value(30
secs)
DialStr SuccCalls      FailCalls      LastCall-time
LastStat
```

default dialer string

1 ÝF... ÚÖP 'Æ u

12 IP

12.1

12.1.1 ip address

ip address ip-address network-mask **secondary**

no ip address ip-address network-mask **secondary**

ip-address	
network-mask	
secondary	

interface-number	
------------------	--

0

no arp ip-address MAC-address type **alias**

ip-address	
MAC-address	
type	
alias	

clear arp-cache

arp 1.1.1.1 4e54.3800.0002 arpa

clear arp-cache	

12.2.2 arp retry interval

arp retry interval seconds

no arp retry interval

seconds	

arp retry interval 30

Arp retry times number	

12.2.3 arp retry times

arp retry times number

no arp retry times

number	

arp retry times 1

arp retry times 2

arp retry interval seconds	

12.2.4 arp trusted NUM

arp trusted number

no arp trusted

--	--

number

arp trusted 1000

service trustedarp	

12.2.5 arp trust-monitor enable

arp trust-monitor enable

no arp trust-monitor enable

|

|

|

```
Ruijie(config)# interface gi 0/0
Ruijie(config-if-GigabitEthernet 0/0)# arp trust-monitor enable
```

```
Ruijie(config)# interface gi 0/0
Ruijie(config-if-GigabitEthernet 0/0)# noarptrust-monitorenable
```


12.2.6 arp trusted aging

service trustedarp	

12.2.7 arp unresolve

oãPáÍV™` %` ARP

arp unresolve number

no arp unresolve

no arp gratuitous-send

seconds	

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

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

12.3.1 ip broadcast-address

ip broadcast-address

ip broadcast-address ip-address

no ip broadcast-address ip-address

ip-address	

ip broadcast-address 0.0.0.0

12.3.2 ip directed-broadcast

ip directed-broadcast

ip directed-broadcast access-list-number

no ip directed-broadcast

--	--

access-list-number

no ip directed-broadcast

```
interface GigabitEthernet 0/1  
ip directed-broadcast
```

12.4 IP

12.4.1 clear arp-cache

clear arp-cache A.B.C.D **interface** interface-name

clear arp-cache

clear arp-cache 1.1.1.1

clear arp-cache interface Vlan 1

arp	

12.4.2 show arp

show arp ip mask mac-address **static complete incomplete**

ip	
ip mask	
mac-address	
static	
complete	
incomplete	

```

Ruijie# show arp
Total Numbers of Arp: 7
Protocol Address          Age(min) Hardware
Type  Interface
Internet 192.168.195.68     0          0013.20a5.7a5f  arpa
VLAN 1
Internet 192.168.195.67     0          001a.a0b5.378d  arpa
VLAN 1
Internet 192.168.195.65     0          0018.8b7b.713e  arpa
VLAN 1
Internet 192.168.195.64     0          0018.8b7b.9106  arpa
VLAN 1
Internet 192.168.195.63     0          001a.a0b5.3990  arpa
VLAN 1
Internet 192.168.195.62     0          001a.a0b5.0b25  arpa
VLAN 1
Internet 192.168.195.5       --         00d0.f822.33b1  arpa
VLAN 1

```

```
Ruijie# show arp
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
```

```
show arp 001a.a0b5.378d
```

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

12.4.3 show arp counter

```
show arp counter
```

```
show arp counter
```

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

show arp timeout

```
Ruijie# show arp timeout
Interface          arp timeout(sec)
-----
VLAN 1             3600
```

12.4.5 clear ip route

clear ip route

clear ip route * network netmask

network	
netmask	

clear ip route 192.168.12.0

show ip route	

12.4.6 show ip arp

12.4.7 show ip interface

show ip interface interface-type interface-number

Interface-type	
Interface-number	

show ip interface

```
Ruijie# show ip interface GigabitEthernet 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 unreachableled 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.

12.4.8 show ip redirects

show ip redirects

show ip redirects

Ruijie# show ip redirects

Default Gateway: 192.168.195.1

--	--

13 IP

13.1 IP

ip default-gateway

ip mask-reply

ip mtu

ip redirects

ip source-route

ip unreachable

13.1.1 ip default-gateway

ip default-gateway

ip default-gateway

no ip default-gateway

show ip redirects

`ip default-gateway 192.168.1.1`

show ip redirects	

13.1.2 ip mask-reply

ip mask-reply

ip mask-reply

no ip mask-reply

```
interface GigabitEthernet 0/1  
ip mask-reply
```

13.1.3 ip mtu

ip mtu

ip mtu bytes

no ip mtu

bytes	

```
interface GigabitEthernet 0/1  
ip mtu 512
```

mtu	

13.1.4 ip redirects

N

```
interface GigabitEthernet 0/1  
no ip redirects
```

```
no ip source-route
```

13.1.6 ip unreachable

```
unreachables
```

```
ip unreachables
```

```
no ip unreachables
```

ip

```
interface GigabitEthernet 0/1  
no ip unreachables
```

14 IPv4 REF

14.1

└───┘

	-	

14.1.2 ip ref load-sharing original-only

no ip ref load-sharing original-only

	-	

└───┘

└───┘

└───┘

```
Ruijie(config)# ip ref load-sharing original-only  
  
Ruijie(config)# no ip ref load-sharing original-only
```


└───┘

	-	

14.1.3 ref parameter

ref parameter {20-95} [200-1000]

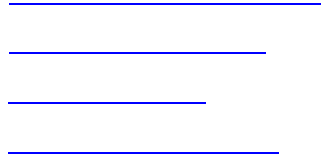
	{20-95}	
	[200-1000]	

└──

└──

0 :Ä

14.2 IPv4 REF



14.2.1 show ip ref packet-statistic

`show ip ref packet-statistic clear`




```
Ruijie#show ip ref adjacency
```

```
id      state      type      ip      rfct chg vid tid len l2add  
interface  
1      unresolve   local    0.0.0.0      3    0  0  0  0  
0000.0000.0000  
4      resolved    forward 192.168.52.58 1    0  0  800 14  
001a.a0b4.ce5c FastEthernet 0/0  
3      unresolve   glean    0.0.0.0      1    0  0  0  0  
0000.0000.0000 FastEthernet 0/0
```


show ip ref route	F9

-	

show ip ref exact-route vrf vrf_name source-ipaddress dest_ipaddress

source-ipaddress	
dest_ipaddress	

Ruijie#show ip ref exact-route 20.1.1.1 192.168.52.5

20.1.1.1 --> 192.168.52.5 (vrf global):

id	state	type	ip	rfct	chg	vid	tid	len	l2add
2	unresolve	glean	0.0.0.0	1	0	0	0	0	0
interface									
0000.0000.0000 FastEthernet 0/0									

	.
	.
ip	=D
mask	.
	.

```
Ruijie#show ip ref route
```

```
Codes: * - default route
```

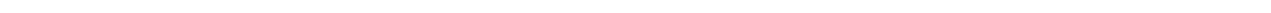
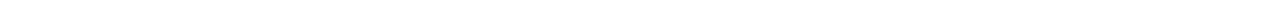
```
# - zero route
```

```

ip          mask          adj-id  next-hop          weight  interface
224.0.0.0   224.0.0.0         1       0.0.0.0           1
192.168.52.0 255.255.255.0    11      0.0.0.0           1
FastEthernet 0/0
192.168.52.255 255.255.255.255 1       0.0.0.0           1
 192.168.52.68 255.255.255.255 1       0.0.0.0           1
192.168.52.58 255.255.255.255 12      192.168.52.58    1
FastEthernet 0/0
 20.0.0.0      255.255.255.0    10      0.0.0.0           1
FastEthernet 0/1.1
 20.0.0.255   255.255.255.255 1       0.0.0.0           1
 20.0.0.3     255.255.255.255 1       0.0.0.0           1

```

	=D
	.
	.
next-hop	.
	.
	.



15.2

15.2.1 show ip fpm counters

show ip fpm counters

-	

show ip fpm counters

```
Ru Ruijie#show ip fpm counters
Dropped packet counters:
Count      Reason
0          Non-IPv4 packet
0          Bad IPv4 header length
0          Bad IPv4 total length
0          IPv4 fragment with DF bit set
0          Too small IPv4 fragment
0          Bad IPv4 fragment offset
0          IPv4 fragment timeout
0          Bad IPv4 checksum
0          Invalid IPv4 address
0          Invalid TCP flags
0          Invalid TCP initial flags
0          Invalid TCP initial ACK number
0          Invalid TCP initial window
0          Invalid TCP sequence
0          Invalid ICMP message type
0          Invalid ICMP initial message type
0          Exceptional connection state
0          Dropped by policy
```

show ip fpm flow

Ruijie#show ip fpm flows

Pr	SrcAddr	DstAddr	SrcPort	DstPort	Vrf
1	192.168.52.68	192.168.52.67	5	2048	0
100	100	2			

Ruijie#show ip fpm flows filter 1 192.168.52.0 24 192.168.52.67 24

Pr	SrcAddr	DstAddr	SrcPort	DstPort	Vrf
1	192.168.52.68	192.168.52.67	5	2048	0
100	100	2			

Pr	SrcAddr	DstAddr	SrcPort	DstPort	Vrf
1	192.168.52.68	192.168.52.67	5	2048	0
100	100	2			

Pr	SrcAddr	DstAddr	SrcPort	DstPort	Vrf
1	192.168.52.68	192.168.52.67	5	2048	0
100	100	2			

	-	

15.2.3 show ip fpm statistics

show ip fpm statistics

	-	

└───

└───

└───

show ip fpm statistic

```
Ruijie#show ip fpm statistics
The capacity of the flow table:32000
Number of active flows:0
Number of the defragment contexts:0
Number of the buffers hold by FPM:0
Event count (%256):3
```

	-	

15.2.4 show ip fpm users

show ip fpm users

	-	

└───┘

└───┘

└───┘

show ip fpm users

```
Ruijie#sho ip fpm users
Active Users:
IP address      Active time  Connections
19 192.168.52.68  1 .....
```

--	--	--

=D

16 IP NAT

16.1

16.1.1 address

no

address start-ip end-ip **match interface** interface

no address start-ip end-ip **match interface** interface



	ip nat pool	

	-	

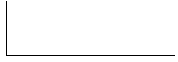
16.1..36 626.0727.22 394.98 0.48 ref66.84 699.38 0.24 5266.84 620.6 0.24 0.48 ref14

```
ip nat pool net200 200.168.12.1 200.168.12.15 prefix-length 28
ip nat inside source list 1 pool net200
!
access-list 1 permit 192.168.12.0 0.0.0.255
```



```
!  
ip nat inside source list 1 pool net200  
ip nat application source list 1 destination udp 192.168.1.1 53  
dest-change 202.101.98.55 53
```

address	
ip nat	
ip nat inside destination	
ip nat inside source	
ip nat outside source	
show ip nat translations	



TCP



-	

16.1.5 ip nat inside source

ip nat inside source **no**

ip nat inside source list access-list-number **interface** interface-type
interface-number **pool** pool-name **overload vrf** name

no ip nat inside source list access-list-number **vrf** name

ip nat inside source static local-ip global-ip **match** interface-type
interface-number **permit-inside vrf** name **netmask** mask

no ip nat inside source static local-ip global-ip **permit-inside match**
interface-type interface-number **vrf** name

ip nat inside source static protocol local-ip local-port global-ip
global-port **match** interface-type interface-number **permit-inside vrf**
name

no ip nat inside source static protocol local-ip local-port global-ip
global-port **match** interface-type interface-number **permit-inside vrf**
name

list	
interface	

permit-inside	
vrf	
match	
netmask mask	

```
!
```

```
interface GigabitEthernet 0/0
```

```
ip address 192.168.12.6 255.255.255.0
```

```
ip nat inside
```

```
!
```

```
interface GigabitEthernet 0/1
```

```
ip address 200.168.12.17 255.255.255.240
```

```
ip nat outside
```

```
!
```

```
ip nat pool net200 200.168.12.1 200.168.12.15 prefix-length 28
```

```
ip nat inside source list 1 pool net200
```

```
!
```

```
access-list 1 permit 192.168.12.0 0.0.0.255
```

--	--

--

-	

16.1.7 ip nat pool

ip nat pool

ip nat pool pool-name start-ip end-ip **netmask** netmask
prefix-length prefix-length **type rotary**

ip nat pool pool-name **netmask** netmask **prefix-length**
 prefix-length **type rotary**

no ip nat pool pool-name

pool-name	
start-ip	
end-ip	
netmask netmask	
prefix-length prefix-length	
type	

|

|

|

|

```
ip nat pool net192 192.168.12.1 200.168.12.254 prefix-length 24
```

sip	
tftp	

L

L

L

1 DNS ALG
no ip nat translation dns

L

10.3(4t90)	

16.2

16.2.1 show ip nat translations

```
show ip nat translations acl_num gre icmp tcp udp vrf vrf_name
verbose
```


verbose

```
Ruijie# show ip nat translations verbose
Pro Inside global      Inside local          Outside local         Outside
global timeout vrf
tcp  192.168.5.103:1987  192.168.211.21:1987  211.67.71.7:80
211.67.71.7:80 timeout=85139 1
udp  192.168.5.103:1041  192.168.211.183:1041  202.101.98.55:53
202.101.98.55:53 timeout=38 1
```

--	--

17

17.1

17.1.1 mllb enable

mllb enable

no mllb enable

no	

|

|

|

|

Ruijie(config)# **mllb enable**

--	--

|

--	--

17.1.2 mllb policy

mllb policy bandwidth latency load intelligent

no mllb policy

bandwidth	
latency	
load	
intelligent	
no	

bandwidth latency load intelligent
mllb policy no mllb policy
bandwidth

load
Ruijie(config)# **mllb policy load**

Ruijie(config)# **no mllb policy load**

mllb enable	
bandwidth	

17.1.3 mllb policy intelligent

mllb policy intelligent bandwidth base1 latency base2 load base3
no mllb policy intelligent

bandwidth base1	
latency base2	
load base3	
no	

└──

└──

└──

intelligent

└──

intelligent

Ruijie(config)# **mllb policy bandwidth 50 latency 60 load 100**

mllb enable	
bandwidth	
mllb policy	

└──

17.1.4 mllb threshold

mllb threshold percent

no mllb threshold

--	--	--

Ruijie(config)# **mlb load-sharing original**

mlb enable	

|

|

17.2

17.2.1 show mllb config

show mllb config

|

|

|

|

|

```
Ruijie(config)# show mllb config  
  
muti-link load balance configure:  
muti-link load balance state: enabled  
muti-link load balance threshold: 95  
muti-link load balance policy: intelligent  
    bandwidth weight base = 100  
    latency weight base = 100  
    load weight base = 100
```

|

mllb enable	
mllb policy	

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18

18.1

18.1.1 layer23 classify enable

[no] layer23 classify enable

└──

└──

└──

└──

config

Ruijie#config

Ruijie(config)#no layer23 classify enable

└──

19 vlan

19.1

19.1.1 vlan-group


vlan-group name **vlan** vid-list

no vlan-group name

config

vlan-group vlan-group1 **vlan** 1,3,7-9

Ruijie#config

Ruijie(config)#no vlan 

show vlan-group group name	
vlan-enable	
flow-rule vlan-group subscriber network-group app-group time-range	

19.2

19.2.1 show vlan-group

show vlan-group group name

Ruijie#show vlan-group

```

vlan-group    police_flow    police_url    flow    vlan id
-----
any           9             0             0
vlan1        0             0             0       1
vlan2        0             0             0       3-5
vlan3        0             0             0       7,9

```

```

Ruijie#show vlan-group    vlan1
vlan-group    police_flow    police_url    flow    vlan id
-----
any           9             0             0
vlan1        0             0             0       1

```

```
show vlan-group
```

20

20.1

20.1.1 subscriber export

subscriber export txt | csv filename

|

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|

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|

|

config

1

Ruijie#config

Ruijie(config)#no subscriber set

1 attribute avoid-monitor



```

    config
    subscriber static name      1 parent /    /    1 ip-host
    192.168.196.156
    !                               ;

```

20.2

20.2.1 show subscriber

```
show subscriber all static dynamic parent name | root
```



```
Ruijie#show subscriber all
```

```
name mac flow police_flow police_url dir dynamic avoid deny ip
/ 0000.0000.0000 0 0 0 1 0 0 0 192.168.196.100
1 0000.0000.0000 3 0 0 0 0 0 0 192.168.196.101
2 0000.0000.0000 0 0 0 0 0 0 0 192.168.196.102
```

```
show subscriber
```

subscriber	static	name
parent	ip-host	mac
ip-subnet	ip-range	

21

21.1

21.1.1 network-group

network-group name name {**ip-host** ip-addr | **ip-subnet** subnet mask | **ip-range** start end }
start end }

no network-group name

```
config
  network-group name network1 ip-subnet 192.168.196.0
  255.255.255.0
```

```
Ruijie#config
```

```
Ruijie(config)#no network-group name
```

	show network-group	
--	---------------------------	--

```

network2      0      0      0      192.168.197.1
network3      0      0      0      192.168.197.2

```

```
Ruijie#show network-group network1
```

```

network-group police_flow police_url flow ip
-----
/          0          0          0
network1   0          0          0      192.168.197.3

```

```
show network-group
```


network-group name name {ip-host ip-addr ip-subnet subnet mask ip-range start end] }	

22

22.1

22.1.1 identify-application custom

no identify-application custom name software-name **class**
class-name **tcp udp sport** sport-low sport-high **dport** dport-low
dport-high

software-name	
class-name	
sport-low	
sport-high	
dport-low	
dport-high	

ig)#

Ruijie#config

Ruijie(config)# identify-application custom name

class

	flow-rule num vlan-group vlan-group-name	
	subscriber subscriber-name network-group network-group-name app-group app-group-name time-range time-rang-name	

22.1.3 identify-application inhibitive

identify-application inhibitive app-name

	app-name	

```
Ruijie#config
Ruijie(config)#identify-application inhibitive
```

	flow-rule num vlan-group vlan-group-name	
	subscriber subscriber-name	

22.1.4 identify-application key

identify-application key app-name

app-name	

└───

└───

└───

```
Ruijie#config
Ruijie(config)#identify-application signature update
```

flow-rule num vlan-group vlan-group-name subscriber subscriber-name network-group network-group-name app-group app-group-name time-range time-rang-name	

└───

22.2

22.2.1 show identify-application

```
show identify-application
```

-	

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└───

Ruijie#show identify-application

any 255-4095-63-48

1-0-0-0

1-1-0-0

MSN 1-6-0-0

MSN-CHAT 1-6-1-0

MSN-AUDIO 1-6-2-0

MSN-FILE 1-6-3-0

MSN- 1-6-4-0

MSN- 1-6-5-0

QQ 1-7-0-0

QQ-CHAT 1-7-1-0

QQ- 1-7-2-0

QQ- 1-7-3-0

QQ- 1-7-4-0

QQ- 1-7-5-0

QQ- 1-7-14-0

WEBIM 1-9-0-0

MSN-WEBIM 1-9-1-0

YAHOO-WEBIM 1-9-2-0

AIM 1-9-3-0

1-12-0-0

1-14-0-0

IP 2-0-0-0

SKYPE 2-7-0-0

h232 2-12-0-0

H323-HOSTCALLSC 2-12-4-0

CALL-SIG-TRANS 2-12-5-0

RTCP 2-12-6-0

RTP 2-12-7-0

IMTC-MCS 2-12-10-0

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|

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L

show identify-application inhibitive

-	

└───

└───

└───

Ruijie#show identify-application inhibitive

└───

22.2.5 show identify-application key

show identify-application key

-	

└───

└───

```
Ruijie#show identify-application key
```

```
IP
```

```
QQ
```

```
MSN
```

```
FTP
```


22.2.6 show identify-application userdef-rule

```
show identify-application userdef-rule
```

-	

```
Ruijie#show identify-application userdef-rule
```

TYPE	NAME	CLASS	SPL	SPH	DPL	DPH
TCP			1	10	1	100
TCP	myqq		any	any	200	888
UDP	myxunlei	myp2p	18	18	any	any

└─┘



22.3

22.3.1 identify-application clear key-inhibitive group

identify-application clear key-inhibitive group

23

23.1

23.1.1 auto-pir

no

auto-pir enable [interval NUM[root-rate Percentage]]

no auto-pir enable

NUM	
Percentage	

channel-tree

```
 Ruijie# config
 Ruijie(config)# flow-control
 Ruijie(config-flow-control)# channel-tree inbound
 Ruijie(config-channel-tree)# auto-pir enable
```

	show flow-control	Outbound Inbound

23.1.2 change-priority

no

|

|

23.1.3 channel-default

channel-default channel-name

no channel-default

|

channel-name	

|

|

channel-tree

channel-group name **parent** **NULL** parent_name **cir** cir_num **pir** pir_num **pri** pri_num **schedule-type** **fifo** **sfq** **per-net** **per-mask** mask **per-cir** pcir_num **per-pir** ppir_num **limit** limit_num **session-limit** session_limit_num **auto**

no channel-group name

no channel-group name **pool** pool_name

name	
parent	
NULL	
parent_name	
cir cir_num	
pir pir_num	cir cir
pri pri_num	
schedule-type	

auto	limit	cir	per-cir
	fifo	pri	schedule-type
channel-tree			
cir	cir	cir pir	cir

23.1.5 channel-tree

no channel-tree {inbound | outbound}

inbound	
outbound	

--

--

flow-control

--

--

```

test
Ruijie(config)#flow-control    b
Ruijie(config-flow-control)#channel-tree inbound
Ruijie(config-channel-tree)#exit
Ruijie(config-flow-control)#channel-tree outbound
Ruijie(config-channel-tree)#exit

```

channel-default	
channel-group	

--

23.1.6 flow-control

flow-control name

no flow-control name

name	

```
Ruijie#config
Ruijie(config)#flow- control  @
Ruijie(config-flow-control)#
```

```
Ruijie#config
Ruijie(config)# flow- control  @
Ruijie(config-flow-control)#
```

```
Ruijie#config
Ruijie(config)#no flow-control  @
```


23.1.7 flow-policy

flow-policy name

no flow-policy

name	

```
Ruijie#config
Ruijie(config)#interface gi 0/1
Ruijie(config-if-GigabitEthernet 0/1)#flow-policy ⑧
Ruijie(config-if-GigabitEthernet 0/1)#

Ruijie#config
Ruijie(config)#interface gi 0/2
Ruijie(config-if-GigabitEthernet 0/2)#flow-policy ⑧
Ruijie(config-if-GigabitEthernet 0/2)#

Ruijie#config
Ruijie(config)#interface gi 0/1
Ruijie(config-if-GigabitEthernet 0/1)#no flow-policy
```


23.1.8 flow-rule

flow-rule num **vlan-group** vlan-group-name **subscriber**
subscriber-name **network-group** network-group-name **app-group**
app-group-name **time-range** time-rang-name

flow-rule num **session-limit** session-num **action** drop | log-drop |
pass in-channel in-channel-name **out-channel** out-channel-name
commet string

flow-rule num **disable**

no flow-rule num

```

Ruijie#config
Ruijie(config)#flow-control 0
Ruijie(config-flow-control)#flow-rule 1 vlan-group subscriber
network-group app-group time-rang 0
Ruijie(config-flow-control)#flow-rule 1 session-limit 0 action
pass out-channel 0

```

```

Ruijie#config
Ruijie(config)#flow-control 0
Ruijie(config-flow-control)#flow-rule 1 vlan-group subscriber
network-group app-group time-rang 0
Ruijie(config-flow-control)#flow-rule 1 session-limit 0 action
drop

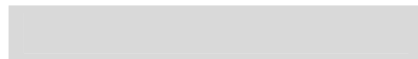
```

```

Ruijie#config
Ruijie(config)#flow-control 0
Ruijie(config-flow-control)#no flow-rule 1

```

time-range name	
vlan-group name	
subscriber static name	
network-group name	
identify-application custom name	



share-pool Name **rate** num1 **type** normal **per-ip** limit num2
no share-pool Name

share-pool Name	
rate num1	
	normal
normal	normal
per-ip	per-ip
limit num2	per-ip

channel-tree

```

test
Ruijie#config
Ruijie(config)#flow-control 0
Ruijie(config-flow-control)# channel-tree inbound
Ruijie(config-channel-tree)# share-pool 0 rate 0 typenormal

```

Channel-group	

23.2

23.2.1 show flow-control

show flow-control Name {inbound | outbound} [channel-group channel-name **detail**]

show flow-control Name {inbound | outbound} [share-pool [pool-name]]

show flow-control Name {inbound | outbound} auto-pir

flow-control Name	
inbound	
outbound	
channel-group channel-nam	detail
share-pool [pool-name]	

channel-group channel-name

```
Ruijie#show flow-control test inbound channel-group root
Group-name          CIR          PIR          Pri          Schedule
CIDR/CIR/PIR/Limit/Sess-limit/Share-pool
----- -- -- -- -----
root              100    100    4    per-net  32/10/10/10/100/test
```

```
Ruijie#show flow-control test inbound
Group-name          CIR          PIR          Pri          Schedule
CIDR/CIR/PIR/Limit/Sess-limit/Share-pool
```

```

-----
root      100  100  4  per-net  32/10/10/10/100/test
part1    100  100  4  fifo     ////test1

```


```

Ruijie#show flow-control test outbound share-pool
Global pool:    14          Global red obj:  0
Tree pool:     3

```

```

Share-pool    Rate      Type      Limit     Child
-----
tcp           200      Normal    NA         1
udp           150      Normal    NA         1
p1            100      Normal    NA         2

```

Ruijie#

24

24.1

24.1.1 flow-audit data-store

flow-audit data-store n

no flow-audit enable

└───

└───

└───

```
Ruijie#config
Ruijie(config)#flow-audit data-store 2

Ruijie#config
Ruijie(config)#no flow-audit data-store
```


└───

24.1.2 flow-audit enable

flow-audit enable

no flow-audit enable

subscriber-name **ip** ip-address

```

Download(pps)
DROP:          Upload(bps)          Download(bps)          Upload(pps)
Download(pps)
App1          46
  62597          65955          15          17
  0          0          0          0
  2          bridge 0

```

Ruijie# show flowrate application bridge 0 by-group

path:bridge-map 0

Application_group

```

PASS:          Upload(bps)          Download(bps)          Upload(pps)
Download(pps)
DROP:          Upload(bps)          Download(bps)          Upload(pps)
Download(pps)
App_group1
  211          249          0          0
  0          0          0          0

```

```

  3          bridge 0          2010  1  9          2010  1
9

```

Ruijie# show flowrate application bridge 0 by-group day-interval 019 to 019

path:bridge-map 0

day-interval: 2010-1-9 ~ 2010-1-9

Application_group

```

PASS: Upload(KB)          Download(KB)          Upload(packets)
Download(packets)
DROP: Upload(KB)          Download(KB)          Upload(packets)
Download(packets)

```

P2P

```

  0          6          24          24
  0          0          0          0

```

/HTTP

```

  5229          116742          59983          89151
  0          0          0          0

```

/ QQ

```

  220          135          1349          1290
  0          0          0          0

```

```

  27684236          159994          363431164          226927
  0          0          0          0

```

/Lotus-Notes

793	772	5327	4766
0	0	0	0

32	252	567	635
0	0	0	0

/NETBIOS

2	98	24	1187
0	0	0	0

0	2	0	4
0	0	0	0

	.91-9.2 169.98210.02 0 0 163-013

--	--

end-year
end-month
end-day
end-hour
begin-hour2
end-hour2
n

Ruijie#show flowrate channel

channel_group	channel_name	type	pass_rate(bits/sec,	packets/sec)
channel_groupA/	channel_nameA	up	125520	, 33
0			, 0	
channel_groupB/	channel_nameB	down	128	, 0
0			, 0	
channel_groupC/	channel_nameC	down	39632	, 61
0			, 0	

2 NBR 2010 1 8 2 2010 1 9 11

Ruijie#show flowrate channel channel-name ~~N~~ time-interval
2810 to 1910
channel_group: channel_groupA
channel_name: channel_nameA
type: down
PASS: 821170 KB, 2280990 Packets

DROP: 0 KB, 0 Packets

channel_group: channel_groupB

channel_name: channel_nameB

type: up

PASS: 616543 KB, 1890126 Packets

DROP: 0 KB, 0 Packets

24.2.3 show flowrate interface

show flowrate interface interface-name **recent** hour | **time-interval**
begin-year begin-month begin-day begin-hour **to** end-year end-month
end-day end-hour **day-interval** begin-year begin-month begin-day **to**
end-year end-month end-day **hour-interval** begin-hour **to** end-hour
begin-hour2 **to** end-hour2 **detail**

interface-name	
hour	
begin-hour	
begin-day	
begin-month	
begin-year	
end-hour	
end-day	
end-month	
end-year	

```

Ruijie# show flowrate interface g0
Interface: GigabitEthernet 0/1
Input rate: 979685 bits/sec, 114 packets/sec
Output rate: 107233 bits/sec, 60 packets/sec
  2      gigabitEthernet 0/1 2010  1  8  2      2010  1  9
 11
Ruijie# show flowrate interface g0      time- i nterval
2810      to 1910
Interface:GigabitEthernet 0/1
PASS upload: 14478835 KB, 30655170 Packets
PASS download: 6342862 KB, 22501788 Packets

```


24.2.4 show flowrate ip

show flowrate ip

interface-name	
hour	
subscriber-name	
subscriber-group	
Ip-address	
application-name	
application-group	
application-type	
begin-hour	
begin-day	
begin-month	
begin-year	
end-day	
end-month	
end-year	
begin-hour	
end-hour	
begin-hour2	
end-hour2	
n	

```

Ruijie#show flowrate ip interface
Subscriber          Application-num
PASS: Upload(bps)  Download(bps)  Upload(pps)  Download(pps)
DROP: Upload(bps)  Download(bps)  Upload(pps)  Download(pps)
/User_groupA/User_nameA 1
  230          134          0          0
  0            0            0          0
/User_groupB/User_nameB 1
  259          153          0          0

```

```

0          0          0          0
2          gigabitEthernet 0/1 2010 1 8 2010
1 9
Ruijie#showflowrateip to day- interval
018 to 019
path:bridge-map 0
day-interval: 2010-1-8 ~ 2010-1-9
Subscriber
PASS Upload(KB)          Download(KB)          Upload(packets)
Download(packets)
DROP Upload(KB)          Download(KB)          Upload(packets)
Download(packets)
/User_groupA/User_nameA
0          2871          0          16161
0          0          0          0
/User_groupB/User_nameB
153987          0          2022024          0
0          0          0          0
/User_groupC/User_nameC
153986          0          2022024          0
0          0          0          0
/User_groupD/User_nameD
213285          0          2800725          0
0          0          0          0
/User_groupE/User_nameE
161994          0          2127179          0
0          0          0          0

```

```

show flowrate ip-application interface interface-name | bridge
bridge-name subscriber-group subscriber-group subscriber
subscriber-name ip ip-address application-group application-group
application-type application-type application application-name
day-interval begin-year begin-month begin-day to end-year end-month
end-day hour-interval begin-hour1 to end-hour1 begin-hour2to
end-hour2 order-by pass drop upload download ip
subscriber|application desc asc top n

```

interface-name	
hour	
subscriber-name	
subscriber-group	
Ip-address	
application-name	
application-group	
application-type	
begin-hour	
begin-day	
begin-month	
begin-year	
end-day	
end-month	
end-year	
begin-hour	
end-hour	
begin-hour2	
end-hour2	
n	

```

Ruijie#show flowrate ip-application interface
path:GigabitEthernet 0/1

```



Subscriber	Application			
PASS	Upload(bps)	Download(bps)	Upload(pps)	Download(pps)
DROP:	Upload(bps)	Download(bps)	Upload(pps)	Download(pps)
/user_groupA/user_nameA		applicationA		
46003		2093107	93	173
0		0	0	0
/user_groupB/user_nameB		applicationB		
46001		2093102	193	173
0		0	0	0
/user_groupC/user_nameC		applicationC		
4003		1093107	63	73
0		0	0	0
2		Eu"Å=84aN5Ůx!ŉ@".âUâ- Å`		

└───┘

24.2.6 show online ip

show online ip interface interface-name | **bridge** bridge-name
subscriber subscriber-name **subscriber-group** subscriber-group **ip**
ip-address **day-interval** begin-year begin-month begin-day **to**
end-year end-month end-day **hour-interval** begin-hour **to** end-hour
begin-hour2 **to** end-hour2 **order-by** **pass** **drop** **upload**
download **ip** **subscriber** **desc** **asc** **top**

interface-name	
bridge-name	
subscriber-name	
subscriber-group	
Ip-address	
begin-hour	
begin-day	
begin-month	
begin-year	
end-day	
end-month	
end-year	
begin-hour	
end-hour	
begin-hour2	
end-hour2	

~A) " H °

```

/User_groupE/User_nameE
192.168.203.39          2010-1-8 8:48          530
42329          515173          0          0
/User_groupF/User_nameF
192.168.196.72          2010-1-7 9:37          1922
274249          396572          0          0
/User_groupG/User_nameG
192.168.203.48          2010-1-7 9:37          1922
55562          380214          0          0
/User_groupH/User_nameH
192.168.196.70          2010-1-7 9:37          1922
105615          285195          0          0
/User_groupI/User_nameI
192.168.196.55          2010-1-7 9:37          1922
33071          205676          0          0
/User_groupJ/User_nameJ
192.168.203.40          2010-1-7 9:37          1922
15904          160891          0          0

```

```

Ruijie# show online ip interface          50          day- i nterval
2010 1 8 to 2010 1 8 hour 1 to 3 order-by pass download desc
path:GigabitEthernet 0/1
Subscriber
IP          OnlineTime(min)
PASS-Upload(KB)          PASS-Download(KB)          DROP-Upload(KB)
DROP-Download(KB)
/User_groupC/User_nameC
192.168.196.37          180
75381          1193654          0          0
/User_groupD/User_nameD
192.168.203.36          180
381          3120          0          0
/User_groupE/User_nameE
192.168.196.53          180
206          1457          0          0
/User_groupF/User_nameF
192.168.196.63          135
142          1437          0          0

```



```

Subscriber
IP                Application
LoginTime         OnlineTime(min)
PASS-Upload(KB)   PASS-Download(KB)   DROP-Upload(KB)
DROP-Download(KB)

```

```
/User_groupA/user_nameA
```

```

192.168.196.14      UDP
2010-1-8 19:7      0
24                  0          0          0

```

```
/user_groupB/user_groupB
```

```

192.168.196.15      UDP
2010-1-8 19:7      0
24                  0          0          0

```

```
/User_groupC/User_nameC
```

```

192.168.196.16      UDP
2010-1-8 19:7      0
24                  0          0          0

```

```
2 gigabitEthernet 0/1 IP 192.168.196.70
```

```
IP
```

```
Ruijie#showonline ip-application interface  ip
```

```

```

```
path:GigabitEthernet 0/1
```

```
Subscriber
```

```

IP                Application
LoginTime         OnlineTime(min)
PASS-Upload(KB)   PASS-Download(KB)   DROP-Upload(KB)
DROP-Download(KB)

```

```
/user_groupA/user_nameA
```

```

192.168.196.70      by_pass
2010-1-7 9:37      2032
107182              327352          0          0

```

24.2.8 show online ip-application history

show online ip-application history interface interface-name |
bridge bridge-name **subscriber** subscriber-name **subscriber-group**
subscriber-group **ip** ip-address **application** application-name
application-group application-group **application-type**
application-type **order-by** **pass** **drop** **upload** **download** **ip**
subscriber **application** **desc** **asc** **top** n

interface-name	
bridge-name	
subscriber-name	
subscriber-group	v
application-name	
application-group	v
application-type	
Ip-address	
application-name	
application-group	v

t

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0	0	0	0	0
/User_groupA/User_groupA		TCP		
2496	35913	3	5	
0	0	0	0	
/User_groupA/User_groupA		UDP		
21216	0	34	0	
0	0		0	0
2		gigabitEthernet 0/1	IP	192.168.196.70
IP				

2010-1-2 3:32		2010-1-2 3:34	
0	0	2	1
0	0	0	0
/User_groupA/User_groupA			
192.168.196.70		DNS	
2010-1-2 3:32		2010-1-2 3:34	
0	0	1	1
0	0	0	0
/User_groupA/User_groupA			
192.168.196.70		DNS	
2010-1-2 4:15		2010-1-2 4:16	
0	0	1	1
0	0	0	0
/User_groupA/User_groupA			
192.168.196.70		HTTP	
2010-1-2 4:30		2010-1-2 4:34	
0	1	9	6
0	0	0	0
/User_groupA/User_groupA			
192.168.196.70		DNS	
2010-1-2 4:32		2010-1-2 4:33	
0	0	1	1
0	0	0	0
/User_groupA/User_groupA			
192.168.196.70		HTTP	
2010-1-2 4:39		2010-1-2 4:42	
1	1	4	2
0	0	0	0
/User_groupA/User_groupA			
192.168.196.70		DNS	
2010-1-2 4:39		2010-1-2 4:42	
0	0	1	1
0	0	0	0
/User_groupA/User_groupA			
192.168.196.70		DNS	
2010-1-2 5:15		2010-1-2 5:20	
0	0	1	1
0	0	0	0
/User_groupA/User_groupA			
192.168.196.70		HTTP	

```

2010-1-2 5:42          2010-1-2 5:46
0                    0          2          1
0                    0          0          0
/User_groupA/User_groupA
192.168.196.70      DNS
2010-1-2 5:42          2010-1-2 5:46
0                    0          1          1
0                    0          0          0
/User_groupA/User_groupA
192.168.196.70      DNS
2010-1-2 6:16          2010-1-2 6:20
0                    0          1          1
0                    0          0          0

```


24.2.9 show online ip history

show online ip history interface interface-name | **bridge** bridge-name
subscriber subscriber-name **subscriber-group** subscriber-group **ip**
ip-address **order-by** **pass** **drop** **upload** **download** **ip**
subscriber desc asc top

interface-name	
bridge-name	
subscriber-name	
subscriber-group	
Ip-address	
n	

```

Ruijie#show online ip history bridge          0
path:bridge-map 0
Subscriber
IP                AuthType      LoginTime      LogoutTime
PASS Upload(KB)   Download(KB)   Upload(packets) Download(packets)
DROP Upload(KB)   Download(KB)   Upload(packets) Download(packets)
/User_groupA/User_nameA
192.168.196.61    2010-1-8 16:52 2010-1-8 18:6
  8662            0              113726         0
  0              0              0              0
/User_groupB/User_nameB
192.168.196.131  2010-1-8 16:52 2010-1-8 18:6
  8662            0              113726         0
  0              0              0              0
/User_groupC/User_nameC
192.168.196.38   2010-1-8 16:52 2010-1-8 18:6
  8662            0              113726         0
  0              0              0              0
/User_groupD/User_nameD
192.168.196.93   2010-1-8 16:52 2010-1-8 18:6
  8662            0              113726         0
  0              0              0              0
/User_groupE/User_nameE
192.168.196.245  2010-1-8 16:52 2010-1-8 18:6
  8662            0              113726         0
  0              0              0              0
2          show

```

```

/User_groupA/User_nameA
192.168.203.41                2010-1-2 2:12                2010-1-2
2:25
   1                3                16                14
   0                0                0                0
/User_groupB/User_nameB
192.168.196.39                2010-1-2 2:17                2010-1-2
2:25
   3                25                34                29
   0                0                0                0

```


24.2.10 show online statistic

show online statistics interface interface-name | **bridge** bridge-name
detail|recent hour | **time-interval** begin-year begin-month begin-day
begin-hour **to** end-year end-month end-day end-hour

interface-name	
bridge-name	
hour	
begin-year	
begin-month	
begin-day	
begin-hour	
end-year	
end-month	
end-day	
end-hour	

```
Ruijie#show online statistic bridge 0
path: bridge-map 0
online ip count: 251
online session: 254
```

```
Ruijie#show online statistic bridge 0 detail
path: bridge-map 0
id      ip          subscriber      session
1  192.168.196.70 /User_groupA/User_nameA 5
2  192.168.203.127 /User_groupB/User_nameB 2
3  192.168.196.77  /User_groupC/User_nameC 1
4  192.168.196.26  /User_groupD/User_nameD 1
5  192.168.196.150 /User_groupE/User_nameE 1
```

```
Ruijie# showonlinestatisticsinterface 3 recent
path: GigabitEthernet 0/1
recent hour: 3
Time slice: 15 min
count:12
ID      Online-IP      Online-Session
1        95             522
2        95             588
3        96             798
4        94             590
5        96             528
6        96             886
7        97             646
8        99             666
9        97             542
```

10	96	885
11	97	986
12	95	820



25 URL

25.1

25.1.1 class

class class-name

class-name	

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```
# URL OBJA URL
Ruijie# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# url-object OBJA
Ruijie(url-obj-config)# class ⓧ
Ruijie(url-obj-config)# end
```


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25.1.2 comment

comment comment-string

no comment

comment-string	

1 URL OBJA

Ruijie# configure terminal

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

Ruijie(config)# url-object OBJA

Ruijie(url-obj-config)# comment ~~af~~

25.1.3 content-policy

no content-policy policy-name

policy-name	

|

|

|

```
Ruijie# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# content-policy    policyA
Ruijie(cont-plcy-config)# end
```


|

	policy-name
--	-------------

└──

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```
Ruijie# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# interface gi 0/1
Ruijie(config-if-GigabitEthernet 0/1)# content-policy-map policyA
Ruijie(config-if-GigabitEthernet 0/1)# end
```

--	--

└──

--	--

25.1.5 regexp

no regexp url-regexp

url-regexp	

└──

└──

└──

```
Ruijie# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# url-object OBJA
Ruijie(url-obj-config)# regexp  $\text{\textcircled{e}}$ 
Ruijie(url-obj-config)# end
```


25.1.6 url

no url url-string

url-string	

```
Ruijie# configure terminal
Ruijie(config)# url-class CLASSA
Ruijie(url-cls-config)# url 8
Ruijie(url-cls-config)#end
Ruijie# show running
```


--	--

url-audit except-regexp

url-audit except-postfix



text

1 url

Ruijie# configure terminal

Ruijie(config)# url-filter-notice display

Ruijie(config)#end

Ruijie# show running

```

1          URL    -OBJA
Ruijie# configure terminal
Ruijie(config)# url-object  ⑧
Ruijie(url-obj-config)#end
Ruijie# show running

```


25.1.11 url-rule

[no] url-rule audit-default-enable

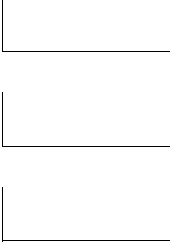
url-rule rule-id **subscriber** subs-name **any url-object** obj-name
time-range time-name **any action deny permit audit**
comment comment-string]

no url-rule rule-id

url-rule priority-swap rule-id1 rule-id2

rule-id	
subs-name	

obj-name	
time-name	
comment-string	
rule-id1	
rule-id2	



```
1 POLICYA URL
Ruijie# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# content-policy POLICYA
Ruijie(cont-plcy-.707 TD(Rlrr6175411 Tf> content 1 T132 -0.006 Tj/C2_0
Enter configuration commands, one per line. End with CNTL/Z.
```

25.2

25.2.1 show url-audit detail

```
show url-audit detail {recent          time-range from
                        to              day-interval      to
                        [hour-interval to [ to ]]} [interface
intf-name | bridge bridge-num subscriber subs-name [url-class
class-name | url-object obj-name] [host host-string] [permit | deny]
order-by time | url-class |url | url-class | host-times | IP]
```

yyyy mm dd	
hh:mm:ss	
hour1	
hour2	
hour3	
hour4	
intf-name	
bridge-num	
subs-name	
class-name	
obj-name	

=====

25.2.2 show url-audit stat

```
show url-audit stat {recent          time-range from
                    to                day-interval      to
                    [hour-interval    to                [ to          ]]} [interface
intf-name | bridge bridge-num subscriber subs-name [url-class
class-name | url-object obj-name] [host host-string] [permit | deny]
order-by time | url-class [url | url-class | host-times]
```

yyyy mm dd	
hh:mm:ss	
hour1	
hour2	
hour3	
hour4	
intf-name	
bridge-num	
subs-name	

class-name
obj-name

yyyy mm dd	
hh:mm:ss	
hour1	
hour2	
hour3	
hour4	
intf-name	
bridge-num	
subs-name	
class-name	

25.2.4 show url-rule

show url-rule content-policy policy-name

policy-name	

└───┘

└───┘

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```
#          URL
Ruijie#show url-rule content-policy POLICYA
content-policy:POLICYA
(active)url-rule 1 subscriber USERA url-object OBJA time-range any
action deny audit
(active)url-rule 2 subscriber any url-object OBJA time-range any
action permit audit
url-rule audit-default-enable
```


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26

26.1.1 content-object

no content-object object-name

object-name	

└───┘

└───┘

└───┘

└───┘

```
Ruijie# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# content-object name1
Ruijie(content-obj-config)# keyword hello
Ruijie(content-obj-config)# regexp .*\.163\.com
Ruijie(content-obj-config)# end
```

! !

26.1.2 ftp-rule audit-default-enable

ftp-rule audit-default-enable

no ftp-rule audit-default-enable


```

1          POLICYA          FTP
Ruijie# configure terminal
Ruijie(config)# content-policy POLICYA
Ruijie(cont-plcy-config)# ftp-rule delete-all
Ruijie(cont-plcy-config)# end

```


└──

26.1.4 ftp-rule priority-swap

ftp-rule priority-swap rule-id1 rule-id2

rule-id1	
rule-id2	

└──

└──

└──

```

1 ftp 10 20
Ruijie# configure terminal
Ruijie(config)# content-policy POLICYA
Ruijie(cont-plcy-config)# ftp-rule priority-swap 10 20
Ruijie(cont-plcy-config)# end

```


26.1.5 ftp-rule rule-id

```

ftp-rule rule-id subscriber subs-name any time-range time-name
direction in | out | double relation and or directory
content-object-name1 file-name content-object-name2 action permit
| deny audit comment comment-string
no ftp-rule rule-id

```

```

Ruijie# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# content-policy POLICYA
Ruijie(cont-plcy-config)# ftp-rule 2subscriberanytime- rangeany
directionoutrelationorfile-name FileBactiondenyauditc omment
DenyAllUserUpload
Ruijie(cont-plcy-config)# end

```


26.1.6 im-rule audit-default-enable

im-rule audit-default-enable
no im-rule audit-default-enable

26.1.9 im-rule rule-id subscriber

im-rule rule-id **subscriber** subs-name **any** **time-range** time-name

action permit | deny **audit** **comment** comment-string

no im-rule rule-id

rule-id	
subs-name	
time-name	
comment-string	

```
Ruijie# configure terminal
```

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

```
Ruijie(config)# content-policy POLICYA
```

```
Ruijie(cont-plcy-config)# im-rule 2 subscriber USERA time-range any
action permit audit comment PermitUserAMSN
```

```
Ruijie(cont-plcy-config)# im-rule 2 im-type msn relation or
account ACCOUNTA message KEYA comment PermitUserAMSN
```

```
Ruijie(cont-plcy-config)# end
```


--	--

26.1.10 im-rule rule-id relation

im-rule rule-id **im-type** im-name **relation** **and** **or** **account**
content-object-name1 **message** content-object-name2

no im-rule rule-id

rule-id	
im-name	
content-object-name1	
content-object-name2	

```
Ruijie# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# content-policy POLICYA
Ruijie(cont-plcy-config)# im-rule 2 subscriber USERA time-range any
action permit audit comment PermitUserAMSN
Ruijie(cont-plcy-config)# im-rule 2 im-type msn relation or
account ACCOUNTA message KEYA comment PermitUserAMSN
Ruijie(cont-plcy-config)# end
```


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26.1.11 keyword

no keyword string

string	

└───┘

└───┘

└───┘

```
Ruijie# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# content-object name1
Ruijie(content-obj-config)# keyword hello
Ruijie(content-obj-config)# regexp .*\.163\.com
Ruijie(content-obj-config)# end
```


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26.1.12 mail-rule audit-default-enable

mail-rule audit-default-enable

no mail-rule audit-default-enable

|

```

1    MAIL          10    20
Ruijie# configure terminal
Ruijie(config)# content-policy POLICYA
Ruijie(cont-plcy-config)# mail-rule priority-swap 10 20
Ruijie(cont-plcy-config)# end

```

|

|

|

26.1.15 mail-rule rule-id subscriber

mail-rule rule-id **subscriber** subs-name **any** **time-range** time-name
direction in | out | double **action** permit | deny **audit** **comment**
comment-string

no mail-rule rule-id

|

rule-id	
subs-name	
time-name	
comment-string	

|

|

|

```

Ruijie# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# content-policy POLICYA
Ruijie(cont-plcy-config)# mail-rule 1 subscriberanytime-ra ngeany
action permit audit comment mail-audit-1
Ruijie(cont-plcy-config)# mail-rule 1 relationorfrom OBJ-F subject
OBJ-S attachment-size less 20000
Ruijie(cont-plcy-config)# end

```


26.1.16 mail-rule rule-id relation

mail-rule rule-id **relation** **and** **or** **from** content-object-name1 **to**
content-object-name2 **subject** content-object-name3 **body**
content-object-name4 **attachment-name** content-object-name5
mail-size greater greater-equal less less-equal
no mail-rule rule-id

rule-id	
content-object-name1	
content-object-name2	

content-object-name3	
content-object-name4	
content-object-name5	
file-size	

regex	

L

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```
Ruijie# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# content-object name1
Ruijie(content-obj-config)# keyword hello
Ruijie(content-obj-config)# regex .*\.163\.com
Ruijie(content-obj-config)# end
```

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26.1.18 telnet-rule audit-default-enable

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26.1.20 telnet-rule priority-swap

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telnet-rule priority-swap rule-id1 rule-id2

rule-id1		rule-id1

26.1.21 telnet-rule rule-id

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26.1.22 web-bbs-rule audit-default-enable

web-bbs-rule audit-default-enable

no web-bbs-rule audit-default-enable

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└───┘

└───┘

```

1 WEB BBS
Ruijie# configure terminal
Ruijie(config)# content-policy POLICYA
Ruijie(cont-plcy-config)# web-bbs-rule audit-default-enable
Ruijie(cont-plcy-config)# end

```


└───┘

	rule-id1	
	rule-id2	

└───

└───

└───

comment-string

|

|

|

```
1 WEB MAIL
Ruijie# configure terminal
Ruijie(config)# content-policy POLICYA
Ruijie(cont-plcy-config)# web-mail-rule audit-default-enable
Ruijie(cont-plcy-config)# end
```

|

|

|

26.1.27 web-mail-rule delete-all

|

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```
Ruijie(config)# content-policy POLICYA
Ruijie(cont-plcy-config)# web-mail-rule delete-all
Ruijie(cont-plcy-config)# end
```


26.1.28 web-mail-rule priority-swap

web-mail-rule priority-swap rule-id1 rule-id2

rule-id1	
rule-id2	

```

1    WEB MAIL          10    20
Ruijie# configure terminal
Ruijie(config)# content-policy POLICYA
Ruijie(cont-plcy-config)# web-mail-rule priority-swap 10 20
Ruijie(cont-plcy-config)# end

```

26.1.29 web-mail-rule rule-id subscriber

web-mail-rule rule-id **subscriber** subs-name **any** **time-range**
time-name **direction** {

```

Ruijie# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# content-policy POLICYA
Ruijie(cont-plcy-config)# web-mail-rule 1 subscriber any
time-range any action permit audit comment mail-audit-1
Ruijie(cont-plcy-config)# web-mail-rule 1 relation or from OBJ-F
subject OBJ-S mail-size less 20000
Ruijie(cont-plcy-config)# end

```


26.1.31 web-search-rule audit-default-enable

```

web-search-rule audit-default-enable
no web-search-rule audit-default-enable

```

```
Ruijie(cont-plcy-config)# web-search-rule audit-default-enable
Ruijie(cont-plcy-config)# end
```


26.1.32 web-search-rule delete-all


```
1          POLICYA          WEB
Ruijie# configure terminal
Ruijie(config)# content-policy          POLICYA
Ruijie(cont-plcy-config)# web-search-rule delete-all
Ruijie(cont-plcy-config)# end
```

26.1.33 web-search-rule priority-swap

web-search-rule priority-swap rule-id1 rule-id2

rule-id1	
rule-id2	

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└
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```
1    WEB                10    20
Ruijie# configure terminal
Ruijie(config)# content-policy    POLICYA
Ruijie(cont-plcy-config)# web-search-rule priority-swap    10 20
Ruijie(cont-plcy-config)# end
```

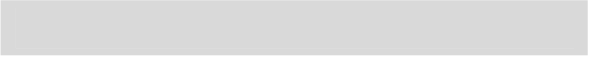

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26.1.34 web-search-rule rule-id

web-search-rule rule-id **subscriber** subs-name **any** time-range
time-name **content** content-object-name **action** **permit** | **deny** **audit**

```
show ftp-audit stat day-interval to hour-interval to
subscriber direction out
Ruijie# 50
```



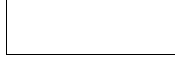
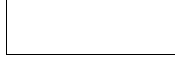
	rule-name	
	Integer1	

26.2.3 show im-audit stat

show im-audit stat recent hours **time-range from** yyyy mm dd
hh:mm:ss **to** yyyy mm dd hh:mm:ss **day-interval** yyyy mm dd **to** yyyy
mm dd **hour-interval** hour1 **to** hour2 hour3 **to** hour4 **interface**
intf-name | **bridge** bridge-num **subscriber** subs-name **direction in**
out double type qq msn message keyword **account**
account-string **rule-name** rule-name **ip** ip-address **permit | deny**

hours	
yyyy mm dd	

Ruijie# 50



```
#      2010-5-1  2010-5-7      09   18      USERA  MSN
      show im-audit detail day-interval      to      hour-interval to
subscriber      type msn order-by time desc start-item  end-item
```

show mail-audit stat recent hours time-range diff for [ord2] ord3] e

26.2.6 show mail-audit detail

show mail-audit detail recent hours **time-range** from yyyy mm dd hh:mm:ss to yyyy mm dd hh:mm:ss **day-interval** yyyy mm dd to yyyy mm dd **hour-interval** hour1 to hour2 hour3 to hour4 **interface** intf-name | **bridge** bridge-num **subscriber** subs-name **ip** addr **direction** in out **double** from keyword1 to keyword2 **subject** keyword3 **rule-name** rule-name **permit** | **deny** **order-by** time **subscriber** **internal-ip** **direction** **send-mail-addr** | **mail-size** **asc** **desc** **start-item** integer **end-item** integer

hours	
yyyy mm dd	
hh:mm:ss	
hour1	
hour2	
hour3	
hour4	
intf-name	
bridge-num	
subs-name	
addr	
keyword1	
Keyword2	
Keyword3	
rule-name	
Integer1	
integer2	

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show mail-audit detail day-interval to
hour-interval to subscriber order-by time desc start-item
end-item

x x x x x x

26.2.7 show mail-audit attachment-info

```
show mail-audit attachment-info timestamp timestamp rand-id
```

timestamp	
49 --id	

```
show mail-audit detail
```

```
timestamp                rand-id
show mail-audit attachment-info timestamp                49 --id
```

26.2.8 show telnet-audit stat

```
show telnet-audit stat recent hours time-range from yyyy mm dd  
hh:mm:ss to yyyy mm dd hh:mm:ss day-interval yyyy mm dd to yyyy  
mm dd hour-interval hour1 to hour2 hour3 to hour4 interface  
intf-name | bridge bridge-num subscriber subs-name ip addr  
direction in out double content keyword rule-name rule-name  
permit | deny
```

hours	
yyyy mm dd	
hh:mm:ss	
hour1	
hour2	
hour3	
hour4	
intf-name	
bridge-num	
subs-name	
addr	
keyword	
rule-name	

```
show telnet-audit stat day-interval from to  
hour-interval from to subscriber
```

Ruijie# 50	

26.2.9 show telnet-audit detail

show telnet-audit detail recent hours **time-range from** yyyy mm dd hh:mm:ss **to** yyyy mm dd hh:mm:ss **day-interval** yyyy mm dd **to** yyyy mm dd **hour-interval** hour1 **to** hour2 hour3 **to** hour4 **interface** intf-name | **bridge** bridge-num **subscriber** subs-name **ip** addr **direction** in out **double** **content** keyword **rule-name** rule-name **permit** | **deny** **order-by** time **subscriber** **internal-ip** | **external-ip** **direction** asc desc **start-item** integer **end-item** integer

hours	
yyyy mm dd	
hh:mm:ss	
hour1	
hour2	
hour3	
hour4	
intf-name	
bridge-num	
subs-name	
addr	
keyword	
rule-name	
Integer1	
integer2	

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show telnet-audit detail day-interval to hour-interval
to subscriber order-by time desc start-item end-item

X X X X X X



X X X X X X

26.2.10 show web-bbs-audit stat

show web-bbs-audit stat recent hours **time-range from** yyyy mm dd
hh:mm:ss **to** yyyy mm dd hh:mm:ss **day-interval** yyyy mm dd **to** yyyy
mm dd **hour-interval** hour1 **to** hour2 hour3 **to** hour4 **interface**
intf-name | **bridge** bridge-num **subscriber** subs-name **ip** ip-list
content keyword **rule-name** rule-name **permit | deny**

26.2.11 show web-bbs-audit detail

show web-bbs-audit detail recent hours **time-range from** yyyy mm dd hh:mm:ss **to** yyyy mm dd hh:mm:ss **day-interval** yyyy mm dd **to** yyyy mm dd **hour-interval** hour1 **to** hour2 hour3 **to** hour4 **interface** intf-name | **bridge** bridge-num **subscriber** subs-name **ip** ip-list **content** keyword **rule-name** rule-name **permit** | **deny** **order-by** time **subscriber** **inter**

rule-name

26.2.12 show web-mail-audit stat

```
show web-mail-audit stat recent hours { { # 4 - c 2 r A 1
```

Ruijie# 50



show web-mail-audit detail day-interval to
hour-interval to subscriber order-by time desc start-item
end-item

x x x x x x

┌

26.2.14 show web-search-audit stat

show web-search-audit stat recent

```
show web-search-audit stat day-interval to
hour-interval to subscriber
```

```
Ruijie# 50
```

```
#
```

└──

└──

1 hF... ÚÖh*ü #A

27

27.1

27.1.1 ping

ping vrf vrf-name **ip** ip-address **length** length **ntimes** times **timeout**
seconds **data** data

```

Ruijie# ping 8
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

```

```

Ruijie# ping 8          length 8  ntimes 0  timeout 3 data
source 8

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

```

27.1.2 Traceroute

```

traceroute vrf vrf-name ip ip-address ip-address probe number source
source-address timeout seconds ttl minimum maximum

```

vrf-name	
Ip-address	

number	
source-address	
seconds	
minimum maximum	

```
Ruijie# traceroute 8
< press Ctrl+C to break >
Tracing the route to 61.154.22.36

 1  192.168.12.1    0 msec  0 msec  0 msec
 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
Ruijie#
```

```
Ruijie# traceroute 8
< 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
Ruijie#
```

```
Ruijie# traceroute 64
Translating " 64 " ...[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
```

28 DHCP

28.1 DHCP

28.1.1 bootfile

bootfile

no

bootfile file-name

no bootfile

file-name	

next-server

bootfile router.conf

ip dhcp pool	
next-server	

28.1.2 client-identifier

client-identifier

no

client-identifier unique-identifier

no client-identifier

unique-identifier	

client-identifier

hardware-address	
host	
ip dhcp pool	

28.1.3 client-name

client-name

client-name client-name

no client-name

client-name	

client-name river

--	--

host	
ip dhcp pool	

28.1.4 default-router

no

default-router

default-router ip-address ip-address2 ip-address8

no default-router

ip-address	
ip-address2 ip-address8	

default-router 192.168.12.1

ip dhcp pool	

28.1.5 dns-server

no

dns-server

dns-server ip-address ip-address2 ip-address8

use-dhcp-client interface-type interface-number

no dns-server



ip-address

ip dhcp pool	
--------------	--

28.1.6 domain-name

domain-name

no

domain-name domain-name

no domain-name

domain-name	

domain-name i-net.com.cn

dns-server	
ip dhcp pool	

28.1.7 hardware-address

hardware-address

no

hardware-address hardware-address type

no hardware-address

hardware-address	
type	

hardware-address 00d0.f838.bf3d

client-identifier	
host	
ip dhcp pool	

28.1.8 host

host

no

host ip-address netmask

no host

ip-address	
netmask	

host 192.168.12.91 255.255.255.240

--	--

client-identifier

number	

ip dhcp ping packets 3

--	--

milli-seconds	
---------------	--

ip dhcp ping timeout 600

clear ip dhcp conflict	
ip dhcp ping packets	
show ip dhcp conflict	

Ruijie(dhcp-config)#

ip dhcp pool mypool0

host	
ip dhcp excluded-address	
network	

28.1.14 lease

noP leasP

minutes	
]bZ]b]hY	

lease 0 1

lease 0 0 1

ip dhcp pool	

28.1.15 netbios-name-server

netbios-name-server

netbios-name-server ip-address ip-address2 ip-address8

no netbios-name-server

ip-address	

ip-address2 ip-address8	
-------------------------	--

netbios-name-server 192.168.12.3

ip address dhcp	
ip dhcp pool	

28.1.16 netbios-node-type

netbios-node-type no

netbios-node-type type

no netbios-node-type

--	--

type	
------	--

28.1.17 network DHCP

no

network

network net-number net-mask

no network

net-number	
net-mask	

show ip dhcp binding

show ip dhcp conflict

ip dhcp pool	
---------------------	--

28.1.18 next-server

next-server **no**

next-server ip-address ip-address2 ip-address8

no next-server

ip-address	
ip-address2 ip-address8	

next-server 192.168.12.4

bootfile	
ip dhcp pool	
ip help-address	
option	

```
option 33 ip 172.16.12.0 192.168.12.12 172.16.16.0
192.168.12.16
```

ip dhcp pool	

28.1.20 service dhcp

```
no service dhcp
service dhcp
no service dhcp
```

```
service dhcp
```

show ip dhcp server statistics	

*	
ip-address	

statistics

clear ip dhcp server

clear ip dhcp server statistics

show ip dhcp server statistics	

28.2.4 debug ip dhcp client

debug ip dhcp client

debug ip dhcp client
no debug ip dhcp client

debug ip dhcp client

28.2.5 debug ip dhcp server

debug ip dhcp server

debug ip dhcp server
no debug ip dhcp server

debug ip dhcp server

28.2.6 show dhcp lease

show dhcp lease

show dhcp lease

show dhcp lease

```
Ruijie# show dhcp lease
Temp IP addr: 192.168.5.71 for peer on Interface:
GigabitEthernet0/0
Temp sub net mask: 255.255.255.0
DHCP Lease server: 192.168.5.70, state: 3 Bound
DHCP transaction id: 168F
Lease: 600 secs, Renewal: 300 secs, Rebind: 525 secs
Temp default-gateway addr: 192.168.5.1
Next timer fires after: 00:04:29
Retry count: 0 Client-ID: redgaint-00d0.f8fb.5740-Fa0/0
```

28.2.7 show ip dhcp binding

show ip dhcp binding

show ip dhcp binding ip-address

ip-address	

show ip dhcp binding

```
Ruijie# show ip dhcp binding
IP address      Client-Id/           Lease expiration  Type
              Hardware address
192.168.1.2    00d0.f866.4777      IDLE              Manual
```

Client-Id/	

clear ip dhcp confict	

28.2.9 show ip dhcp server statistics

show ip dhcp server

statistics

show ip dhcp server statistics

show ip dhcp server statistics

```
Ruijie# show ip dhcp server statistics
Address pools          4
Automatic bindings    4
Manual bindings       0
Expired bindings      0
Malformed messages 2
```

Message	Received
BOOTREQUEST	216
DHCPDISCOVER	33
DHCPREQUEST	25
DHCPDECLINE	0
DHCPRELEASE	1
DHCPINFORM	150

Message	Sent
BOOTREPLY	16
DHCPOFFER	9
DHCPACK	7
DHCPNAK	0

clear ip dhcp server statistics	

29 DHCP Relay

29.1 DHCP Relay

29.1.1 service dhcp

ervice dhcp

service dhcp

no service dhcp

service dhcp

ip helper-address vrf A.B.C.D	

29.1.2 ip helper-address

```
ip helper-address 61.154.26.49
ip helper-address vrf local 192.168.197.1
```

service dhcp	

29.1.3 ip dhcp relay information option dot1x

```
option dot1x          dhcp option dot1x          dhcp
```

```
Ip dhcp relay information option dot1x
```

Ip dhcp relay information option82



Service dhcp

```
Ruijie#  
Ruijie# configure terminal  
Ruijie(config)# interface GigabitEthernet 0  
Ruijie(config-if)# ip dhcp relay suppression  
Ruijie(config-if)# exit  
Ruijie(config)#
```

30 DNS

30.1

30.1.1 ip domain-lookup

ip-address	

Ruijie(config)# ip name-server 

show hosts	

30.1.3 ip host

ip host host-name ip-address

no ip host host-name ip-address

host-name	
ip-address	

show hosts	

30.1.5 show hosts

31 NTP

31.1 NTP

31.1.1 no ntp

no ntp

no ntp

ntp server	

31.1.2 ntp access-group

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	
serve	
serve-only	
query-only	

access-list-number

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

ip access-list	

31.1.3 ntp authenticate

```
ntp authenticate
no ntp authenticate
```

```
ntp authentication-key ntp trusted-key
```

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

ntp authentication-key	
ntp trusted-key	

31.1.4 ntp authentication-key

ntp authentication-key key-idmd5 key-string enc-type

no ntp authentication-key key-idmd5 key-string enc-type

key-id	
key-string	
enc-type	

ntp trusted-key

```
ntp authentication-key 6 md5 woooooop
```

ntp authenticate	
ntp trusted-key	
ntp server	

31.1.5 ntp disable

ntp disable



no ntp

31.1.6 ntp master

ntp master [stratum]
no ntp master

stratum	

Ruijie(config)# ntp master 2

31.1.7 ntp server

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

version	
if-name	
keyid	
prefer	

```
Ruijie(config)# ntp server 192.168.210.222
```

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

no ntp	

31.1.8 ntp synchronize

ntp synchronize

no ntp synchronize

Ntp synchronize

ntp server	

31.1.9 ntp trusted-key

ntp trusted-key key-id

no ntp trusted-key key-id

key-id	

```
ntp authentication-key 6 md5 woooooop
ntp trusted-key 6
ntp server 192.168.210.222 key 6
```

ntp authenticate	
ntp authentication-key	
ntp server	

31.1.10 ntp update-calendar

```
ntp update-calendar
no ntp update-calendar
```

Ruijie(config)# ntp update-calendar

31.2

31.2.1 debug ntp

debug ntp

no debug ntp

debug ntp

31.2.2 show ntp status

show ntp status

```
show ntp status
```

32 SNTP

32.1

32.1.1 sntp enable

no

no sntp enable

show sntp

RedGiant(config)# sntp enable

show sntp	
clock update-calendar	
clock set	


32.1.2 sntp server

sntp server ip-addr

no sntp server

ip-addr

show sntp

RedGiant(config)# sntp server 

show sntp	
sntp enable	

32.1.3 sntp interval

sntp interval seconds

no sntp interval

seconds

show sntp

RedGiant(config)# sntp interval 0

sntp enable	
show sntp	
clock update-calendar	

32.2

show sntp

32.2.1 show sntp

show sntp

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

sntp enable	
show sntp	

33 UDP-Helper

33.1

33.1.1 udp-helper enable

udp-helper enable
enable

no udp-helper

udp-helper enable
no udp-helper enable

Ruijie(config)# udp-helper enable

ip forward-protocol	

33.1.2 ip helper-address

ip helper-address address

no ip helper-address address

005B



**ip forward-protocol udp port tftp | domain | time | netbios-ns | netbios-dgm
| tacacs**

no ip forward-protocol udp port tftp | domain | time | netbios-ns |

udp-helper enable	
ip forward-protocol	

34 DDNS

34.1

34.1.1 peanut username

no peanut username name **password** word

name	
word	

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└───┘

└───┘

Ruijie#config
Ruijie(config)# peanut username test password test

└───┘

35

DNS

35.1

35.1.1 smartdns

no smartdns A.B.C.D interface **map**X.X.X.X

A.B.C.D	
Interface	
X.X.X.X	

```
Ruijie#config
```

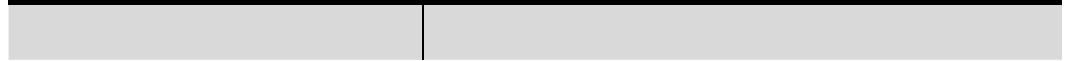
```
Ruijie(config)# smartdns # gigabitethernet 0/1  
202.101.99.55
```

```
Ruijie(config)# smartdns # gigabitethernet 0/1  
58.66.101.33
```

smartdns enable	

35.1.2 smartdns enable

no smartdns enable



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36

36.1

36.1.1 ip policy route-map

```

access-list 1 permit 10.0.0.1 0.0.0.0
access-list 2 permit 20.0.0.1 0.0.0.0
route-map lab1 permit 10
match ip address 1
set ip next-hop 196.168.4.6
exit
route-map lab1 permit 20
match ip address 2
set ip next-hop 196.168.5.6
exit
interface GigabitEthernet 0/0
ip policy route-map lab1
exit

```

access-list	
route-map	
set ip next-hop	
set ip default next-hop	
set interface	
set default interface	
set ip tos	
set ip dscp	
set ip precedence	
match ip address	
match length	

ip local policy route-map

ip local

policy route-map

ip local policy route-map route-map

no ip local policy route-map

route-map	

serial 2 0

access-list 1 permit 0

```

route-map 1 permit 0
match ip address 1
      20
exit

```

access-list	
route-map	
set ip next-hop	
set ip default next-hop	
set interface	
set default interface	
set ip tos	
set ip dscp	
set ip precedence	
match ip address	
match length	

36.1.2 ip policy

```

set ip next-hop
ip policy no

```

```
ip policy load-balance|redundance
```

```
no ip policy
```

load-balance redundance	

set ip next-hop

```
access-list 1 permit 0
access-list 2 permit 0
route-map h permit 0
match ip address 1
set ip next-hop 0
set ip next-hop 0
set ip next-hop 0
exit
route-map h permit 0
match ip address 2
set ip next-hop 0
set ip next-hop 0
set ip next-hop 0
exit
interface GigabitEthernet 0
ip policy route-map h
exit
ip policy redundance
```

37

37.1

37.1.2 route-auto-choose update

route-auto-choose update

38 RIP

38.1

38.1.1 address-family RIP

address-family

no

address-family ipv4 vrf vrf-name

no address-family ipv4 vrf vrf-name

vrf vrf-name	

address-family

exit-address-family **exit**

```
Ruijie(config)# ip vrf vpn1
Ruijie(config-vrf)# exit
Ruijie(config)# interface GigabitEthernet 1/0
Ruijie(config-if)# ip vrf forwarding vpn1
Ruijie(config-if)# ip address 10.10.10.1 255.255.255.0
```

```
Ruijie(config)# router rip
Ruijie(config-router)# version 2
```

```

Ruijie(config)# router rip
Ruijie(config-router)# default-metric 3
Ruijie(config-router)# redistribute ospf 0

```

redistribute	

38.1.4 default-information originate(RIP)

```

default-information originate no

```

```

default-information originate always metric metric-value
route-map map-name

```

```

no default-information originate always metric route-map
map-name

```

always	
metric metric-value	metric-value
route-map map-name	

default-information originate

always

TfB42_0C4(f0_Uw_r4p_266.3374T1 (14.165181CER435828F4547216346A4T3E8>JT



distance distance ip-address wildcard

no distance distance ip-address wildcard

distance	
ip-address	
wildcard	

no distribute-list access-list-number name **prefix** prefix-list-name
gateway prefix-list-name

38.1.7 distribute-list out RIP

distribute-list out **no**

distribute-list access-list-number name **prefix** prefix-list-name

out interface protocol process-id process-name

no distribute-list access-list-number name **prefix** prefix-list-name

out interface protocol process-id process-name

access-list-number	
prefix prefix-list-name	
interface	
protocol	
process-id	protocol
process-name	protocol

```
Ruijie(config)# router rip
Ruijie(config-router)# network ④
Ruijie(config-router)# network ④
```

```
Ruijie(config-router)# distribute-list      0out
Ruijie(config-router)# version    2
Ruijie(config)# access-list      0permit  0
0
```

access-list	
prefix-list	

address-family	
----------------	--

38.1.9 ip rip authentication key-chain

ip rip

authentication key-chain **no**

ip rip authentication key-chain name-of-keychain

no ip rip authentication key-chain

name-of-keychain	

key chain

```
Ruijie(config)# interface serial            0/0
Ruijie(config-if)# ip rip authentication key-chain
p
```

38.1.10 ip rip authentication mode

mode

ip rip authentication

38.1.11 ip rip authentication text-password

ip rip authentication
text-password **no**
ip rip authentication text-password password-string
no ip rip authentication text-password

password-string	

```
Ruijie(config)# interface serial            0/0  
Ruijie(config-if)# ip rip authentication text-password  
p
```

ip rip authentication mode	
ip rip authentication key-chain	

38.1.12 ip rip default-information

ip rip

default-information no

ip rip default-information only originate metric metric-value

no ip rip default-information

only	
originate	
metric metric-value	

metric

ip rip default-information
default-information originate

ip rip default-information

ip rip default-information

```
Ruijie(config)# interface ethernet 0/0  
Ruijie(config-if)# ip rip default-information only
```

--	--

default-information originate	
--	--

38.1.13 ip rip receive enable

receive enable no ip rip

ip rip receive enable
no ip rip receive enable

™ 0ĐO ••,, ù€Đ OÀ=@ùÃ SØi Än3 1.6/C2_0 1 Tf 0 Tc >- 0 6360EE1 T

38.1.15 ip rip send enable

send enable no

ip rip

ip rip send enable

no ip rip send enable

no

defaulto

no ip rip send version

version

vesion

```
Ruijie(config)# interface GigabitEthernet 0/0  
Ruijie(config-if)# ip rip v2-broadcast
```

version	

38.1.18 ip split-horizon (RIP)

ip split-horizon

ip split-horizon
no ip split-horizon

IP

ip summary-address rip

```
Ruijie(config)# interface GigabitEthernet 10
Ruijie(config-if)# ip summary-address rip 0
Ruijie(config-if)# ipaddress 0/0
Ruijie(config)# router rip
Ruijie(config-router)# network 0
Ruijie(config-router)# version 2
Ruijie(config-router)# no auto-summary
```



wildcard	
----------	--

network-number wildcard

wildcard

```
Ruijie(config)# router rip
Ruijie(config-router)# network 0
Ruijie(config-router)# network 00
```

38.1.21 neighbor (RIP)

no **neighbor**

neighbor ip-address

no neighbor

ip-address	

passive-interface

38.1.22 offset-list(RIP)

offset-list **no**

offset-list access-list-number in out offset interface-type
interface-number]

no offset-list access-list-number in out offset interface-type
interface-number

access-list-number	
in	
out	
offset	
interface-type	
interface-number	

```
Ruijie(config-router)# offset-list 7out 7
```

```
Ruijie(config-router)# offset-list 7in 7
```

```
Ruijie(config-router)# offset-list 8 in 7  
GigabitEthernet 10
```

38.1.23 output-delay

```
output-delay no
```

```
output-delay delay
```

```
no output-delay
```

delay	

output-delay

```
Ruijie(config)# router rip
Ruijie(config-router)# output-delay 0
```

38.1.24 passive-interface

passive-interface **no**

passive-interface default interface-type interface-num

no passive-interface default interface-type interface-num

default	
interface-type interface-num	

passive-interface default

no passive-interface interface-type interface-num

ip rip send enable

ip rip receive enable

enable

ip rip send enable

ip rip receive

```
Ruijie(config-router)# passive-interface default  
Ruijie(config-router)# no passive-interface ethernet  
0
```

ip rip receive enable	
ip rip send enable	

38.1.26 router rip

router rip no

router rip

no router rip

async default routing

update	update invalid Flush
invalid	invalid invalid invalid Invalid
flush	flush invalid Flush

show ip rip

```
Ruijie(config)# router rip
Ruijie(config-router)# timers basic 000
```

a

38.1.28 validate-update-source

validate-update-source no

validate-update-source

no validate-update-source

38.1.29 version (RIP)

version

no

version 1 2

no version

1	
2	

ip rip receive version

ip rip send version

```
Ruijie(config)# router rip
Ruijie(config-router)# version 2
```

ip rip receive version	
ip rip send version	
show ip rip	rip

38.2

38.2.1 show ip rip

show ip rip

show ip rip vrf vrf-name

vrf vrf-name	

```
Ruijie# show ip rip
Routing Protocol is "rip"
Sending updates every 10 seconds
Invalid after 20 seconds, flushed after 10 seconds
Outgoing update filter list for all interface is: not
set
Incoming update filter list for all interface is: not
set
Default redistribution metric is 2
Redistributing: connected
Default version control: send version 2, receive version
2
Interface          Send  Recv
GigabitEthernet 1/1      2    2
GigabitEthernet 1/0      2    2
Routing for Networks:
```

```
192.168.26.0 255.255.255.0
192.168.64.0 255.255.255.0
Distance: (default is 50)
```

<1-65535>	
-----------	--

```
Ruijie# show ip rip external connected
Protocol connected route:
[connected] 1.0.0.0/8 metric=0
nhop=0.0.0.0, if=2
[connected] 3.0.0.0/8 metric=0
nhop=0.0.0.0, if=16391
[connected] 4.4.0.0/16 metric=0
nhop=0.0.0.0, if=16388
[connected] 5.0.0.0/8 metric=0
nhop=0.0.0.0, if=16386
[connected] 192.168.195.0/24 metric=0
nhop=0.0.0.0, if=1
```



```
Ruijie# show ip rip interface
GigabitEthernet 1/1 is down, line protocol is down
  RIP is not enabled on this interface
GigabitEthernet 1/0 is up, line protocol is up
  Routing Protocol: RIP
  Receive RIPv2 packets only
  Send RIPv2 packets only
  Passive interface: Disabled
  Split horizon: Enabled
  V2 Broadcast: Disabled
  Multicast register: Registered
  Interface Summary Rip:
    Not Configured
  Authentication mode: Text
  Authentication key-chain: ripkl
  Authentication text-password: ruijie
  Default-information: only, metric 5
  IP interface address:
    192.168.64.100/24, next update due in 14 seconds
    2.2.1.1/24, next update due in 24 seconds
      neighbor 2.2.1.6, next update due in 3 seconds
      neighbor 2.2.1.77, next update due in 13 seconds
    2.2.2.57/24, next update due in 16 seconds

    RIP    BFD    ,    :
```

```
Ruijie#show ip rip interface
VLAN 1 is up, line protocol is up
  Routing Protocol: RIP
  Receive RIPv1 and RIPv2 packets
  Send RIPv1 packets only
  Receive RIP packet: Enabled
  Send RIP packet: Enabled
  Send RIP supernet routes: Enabled
  Passive interface: Disabled
  Split horizon: Enabled
```

BFD: Enabled

V2 Broadcast: Disabled

Multicast registe: Registered

Interface Summary Rip:

Not Configured

IP interface address:

2.2.2.111/24, next update due in 24 seconds

show ip rip	

39 OSPF

39.1

39.1.2 area authentication

no **area authentication**
area area-id authentication message-digest
no area area-id authentication

--	--

o

n

```

Ruijie(config)# interface GigabitEthernet 0
Ruijie(config-if)# ip address 10.255.255.0
Ruijie(config-if)# ip ospf message-digest-key 1 md5
1

```

```

Ruijie(config)# router ospf 1
Ruijie(config-router)# network 10.0.0.0
0.0.0.255 area 0
Ruijie(config-router)# area 0 authentication
message-digest

```


39.1.3 area default-cost

area default-cost no

area area-id **default-cost** cost

no area area-id **default-cost**

area-id	
cost	

```

stub area nssa area default-cost
area stub
nssa area default-cost
area
area

```

```

Ruijie(config)# router ospf 1
Ruijie(config-router)# network 0/0
area 0
Ruijie(config-router)# network 0/0
area 1
Ruijie(config-router)# area 1 stub
Ruijie(config-router)# area 1 default-cost 0

```


39.1.4 area filter-list

```

area area-id filter-list access acl-name prefix prefix-name in out
no area area-id filter-list access acl-name prefix prefix-name in out

```

area-id	
acl-name	
prefix-name	
access prefix	
in out	

```

Ruijie# configure terminal
Ruijie(config)# access-list permit 0
Ruijie(config)# router ospf 0
Ruijie(config-router)# area 1 filter-list access 1 in

```

39.1.5 area nssa

```

no
area nssa
area area-id nssa no-redistribution default-information-originate
metric 0-16777214 metric-type 1-2 no-summary
no area area-id nssa no-redistribution default-information-originate
no-summary

```

```
Ruijie(config-router)# network 0/0
area 1
Ruijie(config-router)# area 1 nssa
```

area default-cost	

39.1.6 area range

```

range          no          no          area
              cost
area area-id range ip-address net-mask advertise not-advertise
cost cost
no area area-id range ip-address net-mask cost

```

area-id	cost

no area area-id **virtual-link** router-id

area-id	
router-id	
dead-interval seconds	
hello-interval seconds	
retransmit-interval seconds	

router-id
show ip ospf neighbor

area virtual-link

area authentication

```
Ruijie(config)# router ospf 1
Ruijie(config-router)# network 0.0.0.0 area 0
Ruijie(config-router)# network 0.0.0.0 area 1
Ruijie(config-router)# area 1 virtual-link 2
```

```
Ruijie(config)# router ospf 1
Ruijie(config-router)# network 0.0.0.0 area 1
Ruijie(config-router)# network 0.0.0.0 area 0
Ruijie(config-router)# area 0 authentication message-digest
Ruijie(config-router)# area 1 virtual-link 1 message-digest-key 1 md5 hello
```

area authentication	
show ip ospf	

39.1.9 auto-cost

```
Ruijie(config-router)# network 0.0.0.0 area  
0  
Ruijie(config-router)# auto-cost reference-bandwidth 0
```



```
show ip ospf
```

commpatible rfc1583
no commpatible rfc1583



always	
metric metric	
metric-type type	
route-map map-name	

redistribute default-information

default-information originate

show ip ospf database

show ip route

**default-information originate
default-metric**

show ip route

Ruijie(config)# router ospf 1

```
Ruijie(config-router)# network 0
Ruijie(config-router)# version 2
Ruijie(config-router)# exit
Ruijie(config)# router ospf
Ruijie(config-router)# network 00
area 0
Ruijie(config-router)# default-metric 0
Ruijie(config-router)# redistribute rip subnets
```

redistribute	
show ip ospf	

39.1.14 distance ospf

```
Ruijie(config)# router ospf 1
Ruijie(config-router)# distance ospf external 0
```

39.1.15 distribute-list in

```
distribute-list listname gateway plist-name prefix plist-name
in interface-type num
no distribute-list listname gateway plist-name prefix plist-name
in interface-type num
```

listname	
gateway plist-name	
prefix plist-name	
interface-type num	

```
Ruijie(config)# access-list 3 permit 0
Ruijie(config)# router ospf 2
Ruijie(config-router)# redistribute rip metric 0
```

```
Ruijie(config-router)# distribute-list 3 in ethernet
Ø
Ruijie(config-router)# distribute-list 3 in ethernet
1
```

39.1.16 distribute-list out

redistribute

distribute-list

show ip ospf	
enable traps	

39.1.18 enable traps

no

**enable traps error ifauthfailure | ifconfigerror | ifrxbadpacket |
 virtifauthfailure | virtifconfigerror | virtifrxbadpacket lsa
 lsdapproachoverflow | lsdoverflow | maxagelsa | originatelsa
 retransmit iftxretransmit | virtiftxretransmit state-change
 ifstatechange | nbrstatechange | virtifstatechange |
 virtnbrstatechange**

**no enable traps error ifauthfailure | ifconfigerror | ifrxbadpacket |
 virtifauthfailure | virtifconfigerror | virtifrxbadpacket lsa
 lsdapproachoverflow | lsdoverflow | maxagelsa | originatelsa
 retransmit iftxretransmit | virtiftxretransmit state-change
 ifstatechange | nbrstatechange | virtifstatechange |
 virtnbrstatechange**

error	ifauthfailure ifconfigerror ifrxbadpacket virtifauthfailure virtifconfigerror virtifrxbadpacket

lsa	lsdbapproachoverflow lsdboverflow maxagelsa originatelsa
retransmit	iftxretransmit virtiftxretransmit
state-change	ifstatechange nbrstatechange virtifstatechange virtnbrstatechange

snmp-server
enable traps ospf

snmp-server

```
Ruijie(config)# router ospf 0
Ruijie(config)# enable traps
```

show ip ospf	
enable mib-binding	

39.1.19 ip ospf authentication

no

ip ospf authentication message-digest null

no ip ospf authentication

message-digest	
null	

no

null

Ruijie(config)# interface GigabitEthernet 0

Ruijie(config-if)# ip address 10.1.1.1 255.255.255.0

0

Ruijie(config-if)# ip ospf authentication

message-digest

area authentication	
ip ospf authentication-key	

ip ospf message-digest-key	
-----------------------------------	--

39.1.20 ip ospf authentication-key

ip ospf

authentication-key **no**

ip ospf authentication-key key

no ip ospf authentication-key

Key	

Ruijie(config-if)#ipospfauthentication-keyospfauth

area authentication	
ip ospf authentication	

39.1.21 ip ospf cost

```
Ruijie(config)# interface serial 0
Ruijie(config-if)# ip ospf cost 0
```

bandwidth	
show ip ospf	

39.1.22 ip ospf database-filter all out

Ruijie(config-if)# ip ospf database-filter all out

39.1.23 ip ospf dead-interval

ospf dead-interval **no** **ip**
ip ospf dead-interval seconds
no ip ospf dead-interval

seconds	

ip ospf hello-interval

ip ospf hello-interval	

39.1.24 ip ospf disable all

ip ospf disable all
no ip ospf disable all

network area

```
Ruijie(config)# interface serial 0
Ruijie(config-if)# ip address 0
Ruijie(config-if)# ip ospf disable all
```

39.1.25 ip ospf hello-interval

hello-interval no
ip ospf hello-interval seconds
no ip ospf hello-interval

ip ospf

seconds	

```

Ruijie(config)# interface serial 0
Ruijie(config-if)# ip address 10.1.1.1
Ruijie(config-if)# encapsulation ppp
Ruijie(config-if)# ip ospf hello-interval 5

```

ip ospf dead-interval	

39.1.26 ip ospf message-digest-key

message-digest-key

ip ospf

ip ospf message-digest-key key-id**md5** key
no ip ospf message-digest-key

Key	

```
Ruijie(config-if)# ip ospf message-digest-key 5md5  
hello5
```

```
Ruijie(config)# interface Serial 0  
Ruijie(config-if)# no ip ospf message-digest-key 0 md5  
hello10
```

area authentication	
ip ospf authentication	

39.1.27 ip ospf mtu-ignore

```
no mtu  
ip ospf mtu-ignore  
no ip ospf mtu-ignore
```

```
Ruijie(config)# interface serial 0
Ruijie(config-if)# ip ospf mtu-ignore
```

39.1.28 ip ospf network

```
no ip ospf network broadcast non-broadcast point-to-multipoint non-broadcast point-to-point
no ip ospf network broadcast non-broadcast point-to-multipoint non-broadcast point-to-point
```

broadcast	
non-broadcast	
point-to-multipoint non-broadcast	
point-to-point	

frame-relay map

X.25 map

```
Ruijie(config)# interface Serial 0
Ruijie(config-if)# ip address 10.1.1.1
Ruijie(config-if)# encapsulation frame-relay
Ruijie(config-if)# ip ospf network broadcast
```

```
Ruijie(config)# interface Serial 0
Ruijie(config-if)# ip address 10.1.1.1
Ruijie(config-if)# encapsulation frame-relay
```

```
Ruijie(config-if)#ipospfnetworkpoint-to-multipoint
```

```
Ruijie(config)# interface Serial 0
Ruijie(config-if)#ipaddress 10.1.1.1
Ruijie(config-if)# encapsulation frame-relay
Ruijie(config-if)# ip ospf network broadcast
Ruijie(config-if)# ip ospf priority 0
```

dialer map ip	
frame-relay map	
neighbor	
X25 map	

39.1.29 ip ospf priority

```
no ip ospf priority
ip ospf priority priority
no ip ospf priority
```

Priority	

broadcast non-broadcast

:

```
Ruijie(config)# interface GigabitEthernet        0
Ruijie(config-if)# ip ospf priority            0
```

ip ospf network	

39.1.30 ip ospf retransmit-interval

ip ospf retransmit-interval no

ip ospf retransmit-interval seconds

no ip ospf retransmit-interval

Seconds	

ip ospf transmit delay

virtual-link retransmit-interval area

```
Ruijie(config)# interface serial                      0
Ruijie(config-if)# ip ospf transmit delay                      0
```

area virtual-link	

39.1.32 log-adj-changes

no default

log-adj-changes detail
no log-adj-changes detail

detail	

detail

39.1.34 neighbor

neighbor **no**

neighbor ip-address **poll-interval** seconds **priority** priority **cost**
cost

no neighbor ip-address

ip-address	
poll-interval seconds	

```

Ruijie(config)# router ospf 0
Ruijie(config-router)# network 0.0.0.0
area 0
Ruijie(config-router)# neighbor 0.0.0.0 priority 1
poll-interval 0

```

ip ospf priority	
ip ospf network	

39.1.35 network area

network area no

network ip-address wildcard **area** area-id

no network ip-address wildcard **area** area-id

ip-address	
wildcard	
area-id	

ip-address wildcard

area

network

network

```
Ruijie(config)# router ospf 0
Ruijie(config-router)# network 0
0 area 0
Ruijie(config-router)# network 0
0 area 1
Ruijie(config-router)# network 0
area 0
```

router ospf	

39.1.36 overflow database

overflow database 0-4294967294 **hard soft**
no overflow database

1-4294967294	
hard soft	

```
Ruijie(config)# router ospf 1
Ruijie(config-router)# no overflow memory-lack
```

```
Ruijie(config)# router ospf 0
Ruijie(config-router)# passive-interface serial 0
```

show ip ospf interface	

39.1.40 redistribute

```
redistribute bgp isis area-tag ospf process-id rip connected
static level-1 level-1-2 level-2 metric value match internal
external | external external nssa-external | nssa-external
nssa-external metric-type 1|2 route-map map-tag tag
0-4294967295 subnets
```

```
no redistribute bgp isis area-tag ospf process-id rip connected
static level-1 level-1-2 level-2 metric value match internal
external external nssa-external nssa-external
metric-type 1|2 route-map map-tag tag 0-4294967295
subnets
```

bgp isis area-tag ospf process-id rip connected static	
metric	
Level-1/ level-1-2/ level-2	
match	
metric-typ	

route-map	
tag	
subnets	

isis

ospf

```
Ruijie(config-router)# redistribute static subnets
Ruijie(config)# router ospf 1
Ruijie(config-router)# redistribute ospf 2 subnets
Ruijie(config-router)# redistribute ospf 2 match
external 1 internal
Ruijie(config-router)# redistribute isis i
Ruijie(config-router)# redistribute isis i
Ruijie

router ospf 1
redistribute ospf 2 match external 1 internal subnets
```

```
redistribute isis isis-001 level-1-2
```

39.1.41 router ospf

router ospf

no

router ospf process-id **vrf** vrf-name

no router ospf process-id

process-id	
vrf-name	

vrf vpn_1

Ruijie(config)# **router ospf** **vrf** **vpn_1**

show ip protocols	
show ip ospf	

39.1.42 router-id

no

router-id router-id

no router-id

router-id	

summary-address **no**

summary-address ip-address net-mask **not-advertise** | **tag**
<0-4294967295> |

ip-address	
net-mask	
not-advertise	

area rang

summary-address

```
redRuijie(config)# router ospf 0
Ruijie(config-router)# summary-address 0 0
255.255.0.0
Ruijie(config-router)# redistribute static subnets
Ruijie(config-router)# network 0/0
area 1
Ruijie(config-router)# network 0/0
area 0
Ruijie(config-router)# area 1 nssa
```

--	--

area range	
------------	--

39.1.44 timers Isa-group-pacing

no

timers Isa-group-pacing seconds tno imers Isa-group-pacing)&HAB

39.1.45 timers spf

timers spf

timers spf spf-delay spf-holdtime

no timers spf

spf-delay	
spf-holdtime	

spf-delay spf-holdtime

spf-delay spf-holdtime

Ruijie(config)# router ospf 0

Ruijie(config-router)# timers spf 39

show ip ospf	

39.2

39.2.1 show ip ospf

show ip ospf

show ip ospf process-id

process-id	

show ip ospf

```
Ruijie# show ip ospf
Routing Process "ospf 1" with ID 1.1.1.1
Process uptime is 4 minutes
Process bound to VRF default
Conforms to RFC2328, and RFC1583Compatibility flag
isenabled
Supports only single TOS(TOS0) routes
Supports opaque LSA
This router is an ASBR (injecting external routing
information)
SPF schedule delay 5 secs, Hold time between two SPF's
10 secs
LsaGroupPacing: 240 secs
Number of incoming current DD exchange neighbors 0/5
Number of outgoing current DD exchange neighbors 0/5
Number of external LSA 4. Checksum 0x0278E0
Number of opaque AS LSA 0. Checksum 0x000000
Number of non-default external LSA 4
External LSA database is unlimited.
```

39.2.2 show ip ospf border-routers

show ip ospf border-routers

show ip ospf process-id **border-routers**

process-id	

show ip route

show ip ospf border-routers

Ruijie# show ip ospf border-routers

OSPF internal Routing Table

Codes: i - Intra-area route, I - Inter-area route

i 1.1.1.1 [2] via 10.0.0.1, GigabitEthernet 0/1, ABR,
ASBR, Area 0.0.0.1 select

39.2.3 show ip ospf database

ospf database **show ip**

show ip ospf process-id area-id **database**

show ip ospf process-id area-id **database adv-router** ip-ospf(a)<| process-id area-id

show ip ospf process-id area-id **database summary** link-state-id **self-originate**

show ip ospf process-id area-id **database asbr-summary** link-state-id

show ip ospf process-id area-id **database asbr-summary** link-state-id **adv-router** ip-address

show ip ospf process-id area-id **database asbr-summary** link-state-id **self-originate**

show ip ospf process-id area-id **database external** link-state-id

show ip ospf process-id area-id **database external** link-state-id **adv-router** ip-address

show ip ospf process-id area-id **database external** link-state-id **self-originate**

show ip ospf process-id area-id **database nssa-external** link-state-id

show ip ospf process-id area-id **database nssa-external** link-state-id **adv-router** ip-address

show ip ospf process-id area-id **database nssa-external** link-state-id **self-originate maxage**

show ip ospf process-id area-id **database database-summary**

Area-id	
adv-router	
link-state-id	
self-originate	
maxage	
router	
network	
summary	
asbr-summary	

external	
nssa-external	
opaque-area	
opaque-as	
opaque-link	
database-summary	

show ip ospf database

```

Ruijie# show ip ospf database
      OSPF Router with ID (1.1.1.1) (Process ID 1)

          Router Link States (Area 0.0.0.0)
Link ID          ADV Router      Age  Seq#          CkSum
Link count
1.1.1.1          1.1.1.1          2    0x80000011 0x6f39 2
3.3.3.3          3.3.3.3          120  0x80000002 0x26ac 1

          Network Link States (Area 0.0.0.0)

Link ID          ADV Router      Age  Seq#          CkSum
193.88.88.27    1.1.1.1          120  0x80000001 0x5366

          Summary Link States (Area 0.0.0.0)

Link ID          ADV Router      Age  Seq#          CkSum
Route
10.0.0.0          1.1.1.1          2    0x80000003 0x350d
10.0.0.0/24
100.0.0.0          1.1.1.1          2    0x8000000c 0x1ecb
100.0.0.0/16

          Router Link States (Area 0.0.0.1 [NSSA])

```

```

Link ID          ADV Router      Age  Seq#          CkSum
Link count
1.1.1.1          1.1.1.1         2   0x80000001 0x91a2 1

```

Summary Link States (Area 0.0.0.1 [NSSA])

```

Link ID          ADV Router      Age  Seq#          CkSum
Route
100.0.0.0        1.1.1.1         2   0x80000001 0x52a4
100.0.0.0/16
192.88.88.0      1.1.1.1         2   0x80000001 0xbb2d
192.88.88.0/24

```

NSSA-external Link States (Area 0.0.0.1 [NSSA])

```

Link ID          ADV Router      Age  Seq#          CkSum
Route            Tag
20.0.0.0         1.1.1.1         1   0x80000001 0x033c E2
20.0.0.0/24      0
100.0.0.0        1.1.1.1         1   0x80000001 0x9469 E2
100.0.0.0/28     0

```

AS External Link States

```

Link ID          ADV Router      Age  Seq#          CkSum
Route            Tag
20.0.0.0         1.1.1.1        380 0x8000000a 0x7627
E2 20.0.0.0/24   0
100.0.0.0        1.1.1.1        620 0x8000000a 0x0854
E2 100.0.0.0/28  0

```

show ip ospf database

show ip ospf database nssa-external

```

Ruijie# show ip ospf database nssa-external
OSPF Router with ID (1.1.1.1) (Process ID 1)
  NSSA-external Link States (Area 0.0.0.1 [NSSA])
LS age: 1
Options: 0x0 (*|---|---|---)
LS Type: AS-NSSA-LSA
Link State ID: 20.0.0.0 (External Network Number For
NSSA)
Advertising Router: 1.1.1.1
LS Seq Number: 80000001
Checksum: 0x033c
Length: 36
Network Mask: /24
Metric Type: 2 (Larger than any link state path)
TOS: 0
Metric: 20
NSSA: Forward Address: 100.0.2.1
External Route Tag: 0

```

show ip ospf database nssa-external

show ip ospf database external

```
Ruijie# show ip ospf database external
OSPF Router with ID (1.1.1.1) (Process ID 1)
AS External Link States
    : 1290
    : 0x2 (*|-|-|-|-|E|-)
LS Type: AS-external-LSA
Link State ID: 20.0.0.0 (External Network Number)
Advertising Router: 1.1.1.1
                : 8000000a
Checksum: 0x7627
Length: 36
Network Mask: /24
Metric Type: 2 (Larger than any link state path)
TOS: 0
Metric: 20
Forward Address: 0.0.0.0
External Route Tag: 0
```

show ip ospf database external



39.2.5 show ip ospf neighbor

show ip ospf neighbor

show ip ospf process-id **neighbor detail** interface-type
interface-number neighbor-id

--	--

detail





show ip ospf neighbor

Ruijie# show ip ospf neighbor

OSPF process 1, 1 Neighbors, 1 is Full:

39.2.6 show ip ospf route

show ip ospf process-id **route count**

process-id	
count	

Ruijie# **show ip ospf route**

OSPF process 1:

Codes: C - connected, D - Discard, O - OSPF,

IA - OSPF inter area N1 - OSPF NSSA external type 1,

N2 - OSPF NSSA external type 2

E1 - OSPF external type 1, E2 - OSPF external type 2

E2 100.0.0.0/24 [1/20] via 192.88.88.126,
GigabitEthernet 1/0

C 192.88.88.0/24 [1] is directly connected,
GigabitEthernet 1/0, Area 0.0.0.1

show ip ospf route

39.2.7 show ip ospf summary-address

```
show ip ospf summary-address
```

```
show ip ospf summary-address
```

```
f³â1, 'A±Ä 5âNDà Ù 6.A"x• 2°Q! 0" È@ Â ð WÂ, -4 A"w1i() su
```

39.2.8 show ip ospf virtual-link

show ip ospf

virtual-link

show ip ospf process-id **virtual-link**

show ip ospf neighbor

show ip ospf virtual-links

```
Ruijie# show ip ospf virtual-links
Virtual Link VLINK0 to router 1.1.1.1 is up
Transit area 0.0.0.1 via interface GigabitEthernet 0/1
Local address 10.0.0.37/32
Remote address 10.0.0.27/32
Transmit Delay is 1 sec, State Point-To-Point,
Timer intervals configured, Hello 10, Dead 40, Wait 40,
Retransmit 5
Hello due in 00:00:05
Adjacency state Full
```

```

Ruijie(config)# router rip
Ruijie(config-router)# network 0
Ruijie(config-router)# distribute-list 0 in
0
Ruijie(config-router)# no auto-summary
Ruijie(config-router)# exit
Ruijie(config)# access-list 0 permit 0
0

```

access-list	
prefix-list	

40.1.2 distribute-list out

distribute-list out no

distribute-list access-list-number access-list-name **prefix**
prefix-list-name **out** interface protocol process-id

no distribute-list access-list-number name **prefix** prefix-list-name
out interface protocol process-id

--	--

access-list-number	
access-list-name	
prefix prefix-list-name	
Interface	
protocol	

```

Ruijie(config)# router rip
Ruijie(config-router)# network 0
Ruijie(config-router)# network 0
Ruijie(config-router)# distribute-list 0out
Ruijie(config-router)# version 2
Ruijie(config-router)# exit
Ruijie(config)# access-list 0 permit 0
0

```

access-list	
prefix-list	

redistribute	
---------------------	--

40.1.3 ip community-list

ip community-list standard expanded community-list-name
community-list-number **permit deny** community-number..

no ip community-list standard expanded community-list-name
community-list-number

standard	
expanded	
community-list-name	
community-list-number	
permit	
deny	
community-number	

```
Ruijie(config)# ip community-list standard          test deny
00
Ruijie(config)# ipcommunity-liststandard          test2 permit
internet
```

match community	
set comm-list delete	
show ip community-list	
show ip bgp community-list	

40.1.4 ip default-network

ip default-network

ip default-network network

no ip default-network network



default-network

Ruijie(config)# ip route 0/0

seq-number	
deny	
permit	
ip-prefix	

minimum-prefix-length

```

Ruijie# configure terminal
Ruijie(config)# ip prefix-list pre1 permit
Ruijie(config)# router ospf
Ruijie(config-router)# distribute-list pre1 out
rip
Ruijie(config-router)# end

```

40.1.6 ip prefix-list description

ip prefix-list description

no

ip prefix-list prefix-lis-name **description** descripton-text

prefix-lis-name	
descripton-text	

Deny routes from Net-A

```

Ruijie# configure terminal
Ruijie(config)# ip prefix-list pre description Deny
routes from Net-A

```

40.1.7 ip prefix-list sequence-number

ip prefix-list description

no

ip prefix-list sequence-number

```
Ruijie# configure terminal
Ruijie(config)# ip prefix-list sequence-number
```

40.1.8 ip route

```
ip route vrf vrf_name network net-mask ip-address interface
ip-address distance tag tag permanent weight number disable
enable
```

vrf_name	
network	
net-mask	
ip-address	
Interface	
distance	
tag	
permanent	
number	
disable/enable	

show ip route weight

```
ip route 172.16.100.0 255.255.255.0 192.168.12.1 115
```

```
Ruijie(config)# ip route 172.16.100.0 255.255.255.0  
GigabitEthernet 0/0 192.168.12.1
```

```
distance/tag/weight
```

```
distance 100
```

```
ip route 20.0.0.0 255.0.0.0 Loopback 1 10.0.0.2 tag 5
weight 2
```

```
ip route 20.0.0.0 255.0.0.0 Loopback 1 100
```

```
ip route 20.0.0.0 255.0.0.0 Loopback 1 10.0.0.2 tag 5
weight 2
```

```
ip route 20.0.0.0 255.0.0.0 10.0.0.2 100
```

```
ip route 20.0.0.0 255.0.0.0 10.0.0.2
```

```
ip route 20.0.0.0 255.0.0.0 Loopback 1 100
```

```
40E6M-0NŸ, 0CP+5H4EM-0NIE=qP%ne=0}0&P >à44BâIIP v4p?=0}0à4p
```

Ruijie(config)# no ip routing

40.1.10 ip static route-limit

ip static route-limit

ip static route-limit number

no ip static route-limit

number	

route-limit

ip static

show running-config

```
Ruijie(config)# ip static route-limit 900
```

```
Ruijie(config)# no ip static route-limit
```

40.1.11 ipv6 prefix-list

ipv6 prefix-list

2222::/64

```
Ruijie# configure terminal
Ruijie(config)# ipv6 prefix-list pre permit 2:/64
Ruijie(config)# ipv6 router rip
Ruijie(config-router)# redistribute ospf 1
Ruijie(config-router)# distribute-list prefix pre out
Ruijie(config-router)# end
```

40.1.12 ipv6 prefix-list description

ipv6 prefix-list

```
description no
ipv6 prefix-list prefix-lis-name description descripton-text
```

!OIF&Jaf)wh(A&VA)BRbV&A&M%.

prefix-lis-name	
descripton-text	

```
Deny routes from
Net-A
Ruijie# configure terminal
Ruijie(config)# ipv6 prefix-list pre description Deny
routes from Net-A
```

40.1.13 ipv6 prefix-list sequence-number

```
no
ipv6 prefix-list 100 description
```

```
<G5B
```

```
no D l p v 6 p t s e [ ( I P v
```

as-path-acl-list-num	

match as-path

<41934B207EBE3C09CBC304B4.3T04>46

community-list-number	
communitys-list-name	
exact-match	

match community

exact-match

set **match** **match** **set**

```

Ruijie(config)# ipcommunity-list 1 permit 0/0
Ruijie(config)# route-map 1
Ruijie(config-route-map)# match community 1
exact-match
Ruijie(config-route-map)# set local-preference 0

```

ip community-list	
match as-path	
match metric	
match origin	
set as-path prepend	

set comm-list delete	
set community	
set metric	

40.1.16 match interface

match

interface **no**

match interface interface-type interface-number interface-type
interface-number

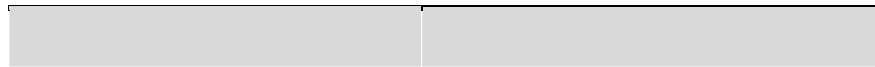
no match interface interface-type interface-number interface-type
interface-number

interface-type	
interface-number	

match interface

set **match** **match** **set**

```
Ruijie(config-router)# redistribute rip subnets
route-map p
Ruijie(config-router)# network 0/0
area 0
Ruijie(config-router)# exit
Ruijie(config)# access-list 0 permit 0/0
Ruijie(config)# route-map p permit 10
Ruijie(config-route-map)# match ip address 0
Ruijie(config-route-map)# set metric 0
Ruijie(config-route-map)# set metric-type type-1
```



access-list-name **prefix-list** prefix-list-name prefix-list-name...

access-list-number	
access-list-name	
prefix-list prefix-list-name	

match ip next-hop

set match match set

```
Ruijie(config)# router ospf
Ruijie(config-router)# redistribute rip subnets
route-map p
Ruijie(config-router)# network 0/0
area 0
Ruijie(config-router)# exit
Ruijie(config)# access-list 0 permithost 0
```

```
Ruijie(config)# access-list 0 permit host 0
Ruijie(config)# route-map 0 permit 0
Ruijie(config-route-map)# match ip next-hop 00
```

access-list	
match ip address	
match interface	
match ip route	
match metric	
match route-type	
match tag	
set metric	

access-list-name	
prefix-list prefix-list-name	

match ip route-source

match ip next-hop	
match metric	
match route-type	
match tag	
set metric	
set metric-type	
set tag	

40.1.20 match ipv6 address

match ipv6 address **no**

match ipv6 address access-list-name **prefix-list** prefix-list-name

no match ipv6 address

access-list-name	
prefix-list prefix-list-name	

40.1.21 match ipv6 next-hop

match ipv6 address **no**

match ipv6 next-hop access-list-name **prefix-list** prefix-list-name

no match ipv6 next-hop



```

Ruijie(config-router)# redistribute rip subnets
route-map p
Ruijie(config-router)# exit
Ruijie(config)# ipv6 access-list b
Ruijie(config-ipv6-acl)# 0 permit ipv6 a any
Ruijie(config-ipv6-acl)# exit
Ruijie(config)# route-map p permit 0
Ruijie(config-route-map)# match ipv6 next-hop b
Ruijie(config-route-map)# set metric 0

```

ipv6 access-list	
match interface	
match ipv6 address	
match ipv6 route-source	

access-list-name	
prefix-list prefix-list-name	

set
match
match
set

```

Ruijie(config)# ipv6 router ospf
Ruijie(config-router)# redistribute rip subnets
route-map 1
Ruijie(config-router)# exit
Ruijie(config)# ipv6 access-list 1
Ruijie(config-ipv6-acl)# 1 permit ipv6 0.0.0.0 any
Ruijie(config-ipv6-acl)# exit
Ruijie(config)# route-map 1 permit 1
Ruijie(config-route-map)# match ipv6 route-source 1
Ruijie(config-route-map)# set metric 0

```

ipv6 access-list	
match interface	
match ipv6 address	
match ipv6 route-source	
match metric	
match route-type	
match tag	
set metric	
set metric-type	
set tag	

40.1.23 match length

match

length **no**

match length min-length max-length

no match length min-length max-length

min-length	
max-length	

match metric metric

no match metric

metric	

set **match** **match** **set**

```
Ruijie(config)# router ospf
Ruijie(config-router)# redistribute rip subnets
route-map 1
Ruijie(config-router)# network 10.1.1.0 .255
area 0
Ruijie(config-router)# exit
Ruijie(config)# route-map 1 permit 1
Ruijie(config-route-map)# match metric 1
```

access-list	
match ip address	

match interface	
match ip next-hop	
match ip route-source	
match route-type	
match tag	
set metric	
set metric-type	
set tag	

40.1.25 match origin

>

İ(u „0 9#P€"i8C #g^ P %o„PYX~E õ"i4iQQS"P€ö•YÀ9 ...A P •İ G ÄÄÈ â Đ

```

Ruijie(config)# route-map M permit
Ruijie(config-route-map)# match origin egp
Ruijie(config-route-map)# set community 0
Ruijie(config-route-map)# exit
Ruijie(config)# route-map 00 permit
Ruijie(config-route-map)# match origin incomplete
Ruijie(config-route-map)# set community no-export

```

match as-path	
match metric	
match origin	
set as-path prepend	
set metric	
set origin	

40.1.26 match route-type

match route-type

no

match route-type local | internal | external type-1 | type-2 | level-1 | level-2

no match route-type local | internal | external type-1 | type-2 | level-1 | level-2

local	
Internal	
external	
type-1 type-2	
level-1 level-2	

set match match set

```

Ruijie(config)# router rip
Ruijie(config-router)# redistribute ospf route-map
p
Ruijie(config-router)# network 0
Ruijie(config-router)# exit
Ruijie(config)# route-map p permit 0
Ruijie(config-route-map)# match route-type internal

```

access-list	
match ip address	
match interface	
match ip next-hop	
match ip route-source	
match metric	
match tag	
set metric	
set metric-type	
set tag	

40.1.27 match tag

```
Ruijie(config)# route-map 0 permit 0
Ruijie(config-route-map)# match tag 68
```

access-list	
match ip address	
match interface	
match ip route-source	
match metric	
match ip next-hop	
match route-type	
set metric	
set metric-type	
set tag	

40.1.28 maximum-paths

maximum-paths

maximum-paths

config

show running

```
Ruijie(config)# maximum-paths 0  
Ruijie(config)# no maximum-paths
```

40.1.29 route-map

no

route-map

route-map route-map-name **permit deny** sequence-number

no route-map route-map-name **permit deny** sequence-number

```
] conf08>Tj/TT1 1 T0 1tch7 0 T174 437.4203 Tm3.1316E43C32BT1 3C31590Df-0.F48C7E 1 TfC7E > 0 T
```

deny	
sequence-number	

```
Ruijie(config)# router ospf
Ruijie(config-router)# redistribute rip subnets
route-map p
Ruijie(config-router)# network 0.0.0.0
area 0
Ruijie(config-router)# exit
Ruijie(config)# route-map p permit 0
Ruijie(config-route-map)# match metric 4
Ruijie(config-route-map)#
```

```

Ruijie(config)# route-map set-as-path
Ruijie(config-route-map)# match as-path 1
Ruijie(config-route-map)# set as-path prepend 00
0

```

match as-path	
match community	
match metric	
match origin	
set community	
set metric	
set metric-type	

40.1.32 set comm-list delete

```

no
set comm-list
set comm-list delete

```

```
Ruijie(config)# router bgp 0
Ruijie(config-router)# neighbor 0
remote-as 0
Ruijie(config-router)# neighbor 0
route-map 0 in
Ruijie(config-router)# neighbor 0
route-map
```

set community community-numbercommunity-number **additive**
none
no set community community-numbercommunity-number
additive none

community-number	
additive	
none	

```
Ruijie(config)# route-map 100 permit
Ruijie(config-route-map)# match as-path 1
Ruijie(config-route-map)# set community 0
Ruijie(config-route-map)# exit
Ruijie(config)# route-map 200 permit
Ruijie(config-route-map)# match as-path 2
Ruijie(config-route-map)# set community no-export
```

match as-path	
match community	
match metric	
match origin	
set as-path prepend	
set origin	
set metric-type	

40.1.34 set dampening

set

dampening **no**

set dampening half-life reuse suppress max-suppress-time

no set dampening

--	--

half-life

```
Ruijie(config)# route-map g
Ruijie(config-route-map)# match as path 0
Ruijie(config-route-map)# set dampening 000
0
Ruijie(config-route-map)# exit
Ruijie(config)# router bgp 0
Ruijie(config-router)# neighbor 8
route-map gin
```

set default interface

```
Ruijie(config)# interface 10
Ruijie(config-if)# ip policy route-map 10
Ruijie(config-if)# exit
Ruijie(config)# route-map 10 permit 0
Ruijie(config-route-map)# match length 00
Ruijie(config-route-map)# set default interface
10
```

match as-path	
match community	
match metric	
match origin	
set as-path prepend	
set metric	
set metric-type	

40.1.37 set interface

set

interface **no**

set interface interface-type interface-number interface-type
interface-number

no set interface interface-type interface-number interface-type
interface-number



```

Ruijie(config)#interface serial 0
Ruijie(config-if)#ip policy route-map 1

Ruijie(config)#route-map 1 permit 0
Ruijie(config-route-map)#match length 00
Ruijie(config-route-map)#set interface
GigabitEthernet 0

```

route-map	
match ip address	
match length	

40.1.39 set ip dscp

set ip

dscp **no**
set ip dscp dscp_value
no set ip dscp

dscp_value	

route-map	
match ip address	
set default interface	
set default interface	
set interface	
set ip default next-hop	
set ip precedence	

40.1.40 set ip next-hop

set ip next-hop **no**

set ip next-hop ip-address weight ip-address weight

no set ip next-hop ip-address weight ip-address weight

ip-address	
weight	

set

set ip next-hop

set

```

Ruijie(config)#interface serial 0
Ruijie(config-if)#ip policy route-map 1

Ruijie(config)#access-list 1 permit 0
Ruijie(config)#access-list 2 permit 0

Ruijie(config)#route-map 1 permit 1
Ruijie(config-route-map)#match ip address 1
Ruijie(config-route-map)#set ip next-hop 0

Ruijie(config)#route-map 2 e permit 2
Ruijie(config-route-map)#match ip address 2
Ruijie(config-route-map)#set ip next-hop 0

Ruijie(config)#route-map 3 permit 3
Ruijie(config-route-map)#set interface Null 0

```

route-map	
match ip address	
set default interface	
set default interface	
set interface	
set ip default next-hop	
set ip precedence	

40.1.41 set ip next-hop verify-availability

next-hop verify-availability **no** **set ip**

set ip next-hop verify-availability ip-address **track** track-obj-num
no set ip next-hop verify-availability ip-address **track** track-obj-num

ip-address	
track-obj-num	

```
Ruijie(config)#interface serial 0
Ruijie(config-if)#ip policy route-map 1

Ruijie(config)#access-list 0 permit 0
0
Ruijie(config)#access-list 0 permit 0
0

Ruijie(config)#route-map 1 permit 0
```

set ip precedence

```
Ruijie(config)#access-list 1 permit 0.0.0.0/0
Ruijie(config)#route-map m
Ruijie(config-route-map)#match ip address 1
Ruijie(config-route-map)#set ip precedence 4
Ruijie(config)#interface GigabitEthernet 0/0
Ruijie(config-if)#ip policy route-map m
```

match interface	
match ip address	
match ip next-hop	
match ip route-source	
match metric	
match route-type	
match tag	
set metric-type	
set tag	
set ip tos	

40.1.43 set ip tos

```
set ip tos no
set ip tos 0-15 max-reliability max-throughput min-delay
```

min-monetary-cost normal
no set ip tos 0-15 max-reliability max-throughput min-delay
min-monetary-cost normal

```
Ruijie(config)#access-list 1 permit 0.0.0.0/0
Ruijie(config)#route-map RM1
Ruijie(config-route-map)#match ip address 1
Ruijie(config-route-map)#set ip tos 4
Ruijie(config)#interface GigabitEthernet 0/0/0
Ruijie(config-if)#ip policy route-map RM1
```



match interface

40.1.44 set level

set level no

set level level 1 level 2 level 1-2 stub-area backbone
no set level

```
Ruijie(config)# router ospf
Ruijie(config-router)# redistribute rip subnets
route-map p
Ruijie(config-router)# network 0.0.0.0
area 0
Ruijie(config-router)# exit
Ruijie(config)# route-map p permit 0
Ruijie(config-route-map)# set level backbone
```

match interface	
match ip address	
match ip next-hop	
match ip route-source	
match metric	
match route-type	
match tag	
set metric-type	
set tag	

40.1.45 set local-preference

set local-preference **no**

set local-preference number

no set local-preference

number	

```
Ruijie(config)# route-map 1 permit 0
Ruijie(config-route-map)# match as-path 1
Ruijie(config-route-map)# set local-preference 0
Ruijie(config-route-map)# exit
Ruijie(config)# route-map 2 permit 0
Ruijie(config-route-map)# match as-path 2
Ruijie(config-route-map)# set local-preference 0
```

match as-path	
match metric	
match origin	

set as-path prepend

set metric-type	
-----------------	--

40.1.46 set metric

set

metric no

set metric metric-value - metric-value metric-value

no set metric

|

>

```

Ruijie(config)# router ospf
Ruijie(config-router)# redistribute rip subnets
route-map p
Ruijie(config-router)# network 0/0
area 0
Ruijie(config-router)# exit
Ruijie(config)# route-map p permit 0
Ruijie(config-route-map)# set metric 0

```

match interface	
match ip address	
match ip next-hop	
match ip route-source	
match metric	
match route-type	
match tag	

set metric-type

40.1.48 set next-hop

set next-hop **no**

set next-hop ip-address

no set next-hop ip-address

p-address	

set **match** **match** **set**

```
Ruijie(config)# route-map 1 permit 0
Ruijie(config-route-map)# match ip address 1
Ruijie(config-route-map)# set next-hop 1
```

match interface	
match ip address	
match ip next-hop	
match ip route-source	
match metric	
match route-type	
match tag	
set metric-type	
set tag	

40.1.49 set origin

```

set origin          no
set origin egp igp incomplete
no set origin

```

egp	
igp	
incomplete	

```
Ruijie(config-route-map)# match as-path 1
Ruijie(config-route-map)# set origin igp
Ruijie(config-route-map)# exit
config-rout igp
```

```
e-map)# match as-path
```

```

Ruijie(config-route-map)# set originator-id      5
Ruijie(config-route-map)# exit
Ruijie(config)# route-map 100 permit
Ruijie(config-route-map)# match as-path        2
Ruijie(config-route-map)# set originator-id    5

```

match as-path	
match metric	
match origin	
set as-path prepend	
set metric	
set local-preference	

40.1.51 set tag

```

no
set tag tag
no set tag

```

tag	

```

Ruijie(config)# router ospf
Ruijie(config-router)# redistribute rip subnets
route-map p
Ruijie(config-router)# network 0.0.0.0
area 0
Ruijie(config-router)# exit
Ruijie(config)# route-map p permit 0
Ruijie(config-route-map)# set tag 0

```

match interface	
match ip address	
match ip next-hop	
match ip route-source	
match metric	
match route-type	
match tag	
set metric	
set metric-type	

40.1.52 set weight

set weight no

set weight number

no set weight

number	

show ip community-list community-list-number community-list-name

community-list-number	
community-list-name	

```
Ruijie# show ip community-list
Community-list standard local
permit local-AS
Community-list standard Red-Giant
permit 0:10
deny 0:20
```

match community	
set comm-list delete	

40.2.2 show ip prefix-list

show ip prefix-list

show ip prefix-list prefix-name

prefix-name	

```
Ruijie# show ip prefix-list
ip prefix-list pre: 2 entries
seq 5 permit 192_0 8g34205B5164302>Tj/fix-list8g3442>6<01D0>]14E3g3
```

show ip route

```
Ruijie# show ip route
Codes: C - connected, S - static, R - RIP, B - BGP
O - OSPF, IA - OSPF inter area
N1-OSPF NSSA external type 1,N2 - OSPF NSSA external type
2
E1 - OSPF external type 1, E2 - OSPF external type 2
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2
- IS-IS level-2
ia - IS-IS inter area, * - candidate default
```

```
Gateway of last resort is no set
S 20.0.0.0/8 is directly connected, VLAN 1
S 22.0.0.0/8 [1/0] via 20.0.0.1
O E2 30.0.0.0/8 [110/20] via 192.1.1.1, 00:00:06, VLAN
1
R 40.0.0.0/8 [120/20] via 192.1.1.2, 00:00:23, VLAN
1
B 50.0.0.0/8 [120/0] via 192.1.1.3, 00:00:41
C 192.1.1.0/24 is directly connected, VLAN 1
C 192.1.1.254/32 is local host.
```

show ip route

40.2.4 show ipv6 prefix-list

show ipv6

prefix-list

show ipv6 prefix-list prefix-name

prefix-name	

```
Ruijie# show ipv6 prefix-list
ipv6 prefix-list p6: 2 entries
permit 13::/20
permit 14::/20
```

40.2.5 show route-map

show route-map

show route-map route-map-name

route-map-name	

```
Ruijie# show route-map
route-map AAA, permit, sequence 10
Match clauses:
ip address 2
Set clauses:
metric 10
```

1 ✕... ÚÖ] <

41.1

access-list

ip access-list

mac access-list

expert access-list

ip access-list resequence

deny

permit

list-remark text

no sn

ip access-group

mac access-group

expert access-group

41.1.1 access-list

no

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

access-list id **deny** **permit** **tcp** **VID** out **inner** in source source-wildcard
host Source **any** **host** source-mac-address **any** **operator** port
destination destination-wildcard **host** destination **any** **host**
destination-mac-address **any** **operator** **port** port **precedence** precedence
tos tos **fragments** **time-range** time-range-name **match-all** tcp-flag

User Datagram Protocol

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** **time-range** time-range-name

access-list list-remark text

id

Deny

Permit

Source

source-wildcard

tos
icmp-type
icmp-code
icmp-message
operator
port port range
host source-mac-address
host destination-mac-address
VID vid
ethernet-type
match-all tcp flag
tcp-flag

access-list

urg
ack
psh
rst
syn
fin

critical
flash

flash-override

immediate

internet

network

priority

routine

max-reliability

max-throughput

min-delay

min-monetary-cost

normal

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

z

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
ttl-exceeded
unreachable

bgp
chargen
cmd
daytime
discard
domain
echo
exec
finger
ftp
ftp-data
gopher
hostname
ident
irc
klogin
kshell

ldp
login
nntp
pim-auto-rp
pop2
pop3
smtp
sunrpc
syslog

syslog
tacacs
talk
tftp
time
who
xdmcp

aarp
appletalk
decnet-iv
diagnostic
etype-6000
etype-8042
lat
lavc-sca
mop-console
mop-dump
mumps
netbios
vines-echo
xns-idp

```
Ruijie(config)# access-list 1 permit 0.0.0.0
```

```
Ruijie(config)# access-list 0 permit tcp any any eq domain
Ruijie(config)# access-list 0 permit udp any any eq domain
Ruijie(config)# access-list 0 permit icmp any any echo
Ruijie(config)# access-list 0 permit icmp any any echo-reply
```

```
Ruijie(config)# access-list 1 deny host 0.0.0.0 anyarp
Ruijie(config)# interface gigabitethernet 1/0/24
Ruijie(config-if)# mac access-group 1 in
```

```
Ruijie(config)# access-list
```

deny permit

show access-lists

```
Ruijie(config)# ip access-list extended 2
Ruijie(config-ext-nacl)# show access-lists
ip access-list extended 123
Ruijie(config-ext-nacl)#
```

```
Ruijie(config)# ip access-list standard std-acl
Ruijie(config-std-nacl)# show access-lists
ip access-list standard std-acl
Ruijie(config-std-nacl)#
```

show access-lists	

41.1.3 expert access-list

no

```
expert access-list extended id name
no expert access-list extended id name
```

Id
Name

show access-lists

```
Ruijie(config)# expert access-list extended b  
Ruijie(config-exp-nacl)# show access-lists  
expert access-list extended exp-acl  
Ruijie(config-exp-nacl)#
```

```
Ruijie(config)# expert access-list extended 0  
Ruijie(config-exp-nacl)# show access-lists  
expert access-list extended 2704  
Ruijie(config-exp-nacl)#
```

--	--

start-sn

inc-sn

show access-lists

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**

Ruij9/TT3 1 Tex-1.4.8 0 Td(conf9/TTj/TT3 1 Tf-4.8#1.497 TD(Ruiji

destination-wildcard **precedence** precedence **tos** tos **fragments**
time-range time-range-name

Internet Control Message Protocol

sn **deny icmp** source source-wildcard **host** source **any**
destination destination-wildcard **host** destination **any** icmp-type icmp-type
icmp-code

destination-wildcard **host** destination **any host**
destination-mac-address **any precedence** precedence **tos** tos
fragments time-range time-range-name

Internet Control Message Protocol

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 **fragments**
time-range time-range-name

Transmission Control Protocol

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 **precedence**
precedence **tos** tos **fragments time-range** time-range-name
match-all tcp-flag

User Datagram Protocol

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 **precedence**
precedence **tos** tos **fragments time-range** time-range-name

access-list

sn
dscp
dscp

```
Ruijie(config)# expert access-list extended 0
Ruijie(config-exp-nacl)# deny tcp host
1 host 1 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)#
```

```
Ruijie(config)# ip access-list extended 1
Ruijie(config-ext-nacl)# deny tcp host 1 eq 0 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
Ruijie(config-if)# ip access-group 1 in
Ruijie(config-if)#
```

```
Ruijie(config)# mac access-list extended 1
Ruijie(config-mac-nacl)# deny host 1 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
Ruijie(config-if)# mac access-group mac1 in
```

```
Ruijie(config)# ip access-list standard 3
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
Ruijie(config-if)# ip access-group 3in
```

show access-lists	
ip access-group	
mac access-group	
ip access-list	
mac access-list	
expert access-list	

permit

Transmission Control Protocol

sn **permit tcp** source source-wildcard **host** Source **any** operator
port port destination destination-wildcard **host** destination **any**
operator **port** port **precedence** precedence **tos** tos **fragments**
time-range time-range-name **match-all** tcp-flag

User Datagram Protocol

sn **permit udp** source source-wildcard **host** source **any** operator
port port destination destination-wildcard **host** destination **any operator**
port port **precedence** precedence **tos** tos **fragments time-range**
time-range-name

sn **permit any host** source-mac-address **any host**
destination-mac-address ethernet-type **cos** out **inner** in

sn **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**
time-range time-range-name

sn **permit** ethernet-type **cos** out **inner** in **VID** out **inner** in
source source-wildcard **host** source **any host**
source-mac-address **any**

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

sn **permit tcp** **VID** ou **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** **time-range** time-range-name
match-all tcp-flag

User Datagram Protocol

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 **precedence**
precedence **tos** tos **fragments** **time-range** time-range-name

```
Ruijie(config)# ip access-list extended 102
Ruijie(config-ext-nacl)# permit tcp host 192.168.4.12 eq 100
any
Ruijie(config-ext-nacl)# show access-lists
ip access-list extended 102
10 permit tcp host 192.168.4.12 eq 100 any
Ruijie(config-ext-nacl)# exit
Ruijie(config)# interface gigabitethernet 1/0/24
Ruijie(config-if)# ip access-group 102 in
Ruijie(config-if)#
```

```
Ruijie(config)# mac access-list extended 103
Ruijie(config-mac-nacl)# permit host any aarp
Ruijie(config-mac-nacl)# show access-lists
mac access-list extended 103
10 permit host 0013.0049.8272 any aarp
Ruijie(config-mac-nacl)# exit
Ruijie(config)# interface gigabitethernet 1/0/24
Ruijie(config-if)# mac access-group 103
```

mac access-list	
expert access-list	
deny	

41.1.7 list-remark text

no

list-remark text

Text

```
Ruijie# ip access-list extended 102
Ruijie(config-ext-nacl)# list-remark 102 this acl is to filter the host 192.168.4.12
Ruijie(config-ext-nacl)# show access-lists
ip access-list extended 102
deny ip host 192.168.4.12 any
1000 hits
this acl is to filter the host 192.168.4.12
Ruijie(config-ext-nacl)#
```

show access-lists	
ip access-list	

41.1.8 no sn

no sn

sn

```
Ruijie(config)# ip access-list extended ①
Ruijie(config-ext-nacl)# permit ip host ② any
Ruijie(config-ext-nacl)# ③deny ip any any
Ruijie(config-ext-nacl)# show access-lists
ip access-list extended 100
10 permit ip host 192.168.4.12 any
12 deny ip any any
Ruijie(config-ext-nacl)# no ④
Ruijie(config-ext-nacl)# show access-lists
ip access-list extended 100
10 permit ip host 192.168.4.12 any
```

show access-lists	
ip access-list	
deny	
permit	

41.1.9 ip access-group

ip access-group

ip access-group id name **in out reflect | unreflect**
no ip access-group id name **in out reflect | unreflect**

id

name

in

out

unreflect

```
expert access-group id name in out unreflect
no expert access-group id name in out unreflect
```

```
id
name
in
out
unreflect
```

show

access-group

```
Ruijie(config)# interface GigaEthernet 0
Ruijie(config-if)# expert access-group
accept_00d0f8xxxxxx_only in
```

show access-group	

41.2

```
show access-lists
show ip access-group
show mac access-group
```

show expert access-group
show access-group

41.2.1 show access-lists

show access-lists id name

id

name

id name

```
Ruijie# show access-lists h
ip access-list standard n_acl
Ruijie# show access-lists 0
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-list extended exp_acl
```

--	--

show ip access-group interface interface

interface

```
Ruijie# show ip access-group interface gigabitethernet 0/1
ip access-group aaa in
Applied On interface GigabitEthernet 0/1.
```

ip access-list	

41.2.3 show expert access-group

show expert access-group interface interface

interface

```
Ruijie# show expert access-group interface gigabitethernet 0/1
expert access-group ee in
```

Applied On interface GigabitEthernet 0/2.

42 RPL

42.1

42.1.1 reverse-path

reverse-path

reverse-path

no reverse-path

└──

└──

└──

└──

reverse-path

└──

└──

43

43.1

43.1.1 acpp

acpp bw-rate rate bw-burst-rate burst-rate log

no acpp

rate	
burst-rate	

|

|

|

```
Ruijie(config)# control-plane data
Ruijie(config-cp)# acpp bw-rate 200 bw-burst-rate 300
```

--	--

43.1.2 arp-car

arp-car packet_rate_per_group log

no arp-car

packet_rate_per_group	

|

|

|

Ruijie(config)# control-plane manage
Ruijie(config-cp)# arp-car 10

|

-	
---	--

43.1.3 control-plane

control-plane protocol manage data

|

|

|

|
%
Ruijie(config)# control-plane protocol
Ruijie(config-cp)#

	!

```
Ruijie(config)# control-plane
Ruijie(config-cp)# ef-rnfp disable
```


-	

43.1.5 glean-car

```
glean-car packet_rate_per_group log
no glean-car
```

	control-plane protocol manage data	
	-	

43.1.6 management-interface

scpp list acl_no **bw-rate** bw-rate**bw-burst-rate** bw-burst-rate **log**

no scpp list

acl_no	
bw-rate	
bw-burst-rate	

%

Ruijie(config)# access-list 100 permit tcp 192.168.52.0 0.0.0.255 any

Ruijie(config)# control-plane manage

Ruijie(config-cp)# scpp list 100 bw-rate 100 bw-burst-rate 150

control-plane	
protocol manage data	

-	

43.2

STATISTIC:

bandwidth rate limit dropped 0 packets

TOTALLY dropped 0 packets

Protocol subinterface: disable

ARP CAR information: //ARP-CAR

Manage subinterface: enable

RULE:

allow packet rate per source: 30(pps)

log: off

STATISTIC:

dropped 181 packets

Glean CAR information: //Glean-CAR

Data subinterface: disable

Port Filter information:

Manage subinterface: disable

Management plane protection information: //MPP

Manage subinterface: disable

-	-

-	

show ip inspect parameter

parameter: **name** inspection_name

interface

all

```
Ruijie# show ip inspect name       abc
Inspection name abc
      ftp
      mms
```

44.1.3 ip inspect

ip inspect inspection_name **in out**

no ip inspect inspection_name **in out**

inspection_name

in out:

```
Ruijie(conf)# interface ethernet      1/0
Ruijie(conf-if)# ip inspect      bin
```

44.2 IP MAC

44.2.1 ipmacbind

no

```
ipmacbind A.B.C.D H.H.H log
no ipmacbind A.B.C.D H.H.Hlog
```

A.B.C.D

H.H.H

log

permit

deny

Ruijie# clear ipmacbind dynamic

44.2.5 show ipmacbind

show ipmacbind table | hash | statistic

table

hash

statistic

Ruijie# show ipmacbind table

No.	Type	IP address	MAC address
-----	------	------------	-------------

Log file
11/11/2011 11:09:11 AM

no ip ingress-filter

log

```
interface ethernet      1/0
Ruijie(conf-if) ip ingress-filter log
```

44.3.2 show ip ingress-filter

show ip ingress-filter

```
Ruijie# show ip ingress-filter
Firewall Network-ingress-filter is enable, blocked 0 flows
```

Interface GigabitEthernet 1/0: log is on, blocked 0 flows

44.4 TCP SYN

44.4.1 ip tcp-intercept list

ip tcp-intercept list extended_ACL_# **in out log**

no ip tcp-intercept list extended_ACL_# **in out log**

extended_ACL_#

in out:

log:

```
Ruijie(config)# access-list 100 tcp permit any any
```

```
Ruijie(config)# interface ethernet 1/0
```

```
Ruijie(config-if)# ip tcp-intercept list 100 in log
```

44.4.2 show ip tcp-intercept

show ip tcp-intercept

```
Ruijie# show ip tcp-intercept
Intercepting new connections using access-list 100 at
GigabitEthernet 0/1 in
12 incomplete, 5 established connections (total 17)
```

44.5 TCP

44.5.1 ip inspect name tcp

```
ip inspect name inspection_name tcp
no ip inspect name inspection_name tcp
```

```
inspection_name
```

```
session-limit access-group 1 rate 100 concurrent 10000 in log
```

44.7

44.7.1 ip rate-control

```
ip rate-control acl_no bandwidth both|up|down rate <session total  
session_no> <rate rate_no>
```

```
no ip rate-control acl_no bandwidth both|up|down rate <session total  
session_no> <rate rate_no>
```

acl_no

rate

session_no

rate_no

```
ip rate-control 1 bandwidth both 200 session total 500 rate 100
```

44.8

44.8.1 ip session log-on

ip session log-on

no ip session log-on

```
Ruijie(config)#ip session log-on
```

44.8.2 ip session timeout

ip session timeout icmp-closed timeout_value

ip session timeout icmp-started timeout_value

ip session timeout icmp-connected timeout_value

ip session timeout tcp-established timeout_value

ip session timeout tcp-syn-sent timeout_value
ip session timeout tcp-syn-receive timeout_value
ip session timeout tcp-fin-wait timeout_value
ip session timeout tcp-time-wait timeout_value
ip session timeout tcp-closed timeout_value
ip session timeout tcp-close-wait timeout_value
ip session timeout tcp-last-ack timeout_value
ip session timeout udp-closed timeout_value
ip session timeout udp-started timeout_value
ip session timeout udp-connected timeout_value
ip session timeout udp-established timeout_value
ip session timeout rawip-closed timeout_value
ip session timeout rawip-started timeout_value
ip session timeout rawip-connected timeout_value
ip session timeout rawip-established timeout_value
no ip session timeout icmp-closed
no ip session timeout icmp-started
no ip session timeout icmp-connected
no ip session timeout tcp-established
no ip session timeout tcp-syn-sent
no ip session timeout tcp-syn-receive
no ip session timeout tcp-fin-wait
no ip session timeout tcp-time-wait
no ip session timeout tcp-closed
no ip session timeout tcp-close-wait
no ip session timeout tcp-last-ack
no ip session timeout udp-closed
no ip session timeout udp-started
no ip session timeout udp-connected
no ip session timeout udp-established

44.8.3 ip session threshold

ip session threshold icmp-closed threshold_value
ip session threshold icmp-started threshold_value
ip session threshold tcp-syn-sent threshold_value
ip session threshold tcp-syn-receive threshold_value
ip session threshold tcp-closed threshold_value
ip session threshold udp-closed threshold_value
ip session threshold rawip-closed threshold_value
no ip session threshold icmp-closed
no ip session threshold icmp-started
no ip session threshold tcp-syn-sent
no ip session threshold tcp-syn-receive
no ip session threshold tcp-closed
no ip session threshold udp-closed
no ip session threshold rawip-closed

threshold_value

Ruijie(config)#ip session threshold icmp-started

10

44.8.4 ip session track-state-strictly

ip session track-state-strictly

no ip session track-state-strictly

Ruijie(config)#ip session track-state-strictly

45 VPDN

45.1 VPDN

45.1.1 vpdn enable

no

vpdn enable

no vpdn enable

```
Ruijie(config)# vpdn enable  
Ruijie(config)#
```

45.1.2 vpdn source-ip

no

vpdn source-ip A.B.C.D

no vpdn source-ip

A.B.C.D

```
Ruijie(config)# vpdn source-ip 0
Ruijie(config)#
```

45.1.3 vpdn session-limit

no

```
vpdn session-limit sessions
no vpdn session-limit
```

```
sessions
```

```
Ruijie(config)# vpdn session-limit 0
Ruijie(config)#
```

45.2 VPDN

%CHANGED: Interface Virtual-Access1, changed state to administratively down

```
Ruijie# show vpdn
%No active L2TP tunnels
%No active PPTP tunnels
Ruijie#
```

45.2.2 show vpdn

show vpdn session | tunnel

session

tunnel

```
Ruijie# show vpdn
L2TP Tunnel and Session Information Total tunnels 1 sessions
1
LocID RemID Remote Name State Remote Address Port Sessions
L2TP Class/
VPDN Group
4 77 BLIZZARD est 192.168.12.213 1701 1 1
LocID RemID TunID Username, Intf/ State
Last Chg
Vcid, Circuit
1 1 4 ms,Vil1 est
00:33:58
%No active PPTP tunnels
Ruijie#
```

```
Ruijie# show vpdn tunnel
L2TP Tunnel Information Total tunnels 1
LocID RemID Remote Name State Remote Address Port Sessions
L2TP Class/
VPDN Group
4 77 BLIZZARD est 192.168.12.213 1701 1 1
%No active PPTP tunnels
Ruijie#
```

```
Ruijie# show vpdn session
L2TP Session Information Total sessions 1
LocID RemID TunID Username, Intf/ State
Last Chg
Vcid, Circuit
1 1 4 ms,Vil est
00:37:03
%No active PPTP tunnels
Ruijie#
```

45.2.3 debug vpdn

vpdn

```
debug vpdn error event l2x-data l2x-errors l2x-events l2x-packets
packet
```

```
no debug vpdn error event l2x-data l2x-errors l2x-events
l2x-packets packet
```

```
error
```

```
event
```

```
l2x-data
```

```
l2x-errors
```

```
l2x-events
```

```
l2x-packets
```

```
packet
```

Protocol Version 0x100
Framing Type 0x2
Bearer Type 0x3
Maximum Channels 0x0
Firmware Revision 0x100
Host Name: Dingjs
Vendor String: Ret-Giant Network Operating System
PPTP: I Outgoing-Call-Request len 168 Magic Cookie 0x1A2B3C4D
Call Id 0x4000
Call Serial Number 0x96A5
Min BPS 0x12C
Max BPS 0x5F5E100
Bearer Type 0x3
Framing Type 0x3
Rec Window Size 0x40
Proc Delay 0x0
Phone Number Length 0x0
Phone Number:
Subaddress:
PPTP: O Outgoing-Call-Reply len 32 Magic Cookie 0x1A2B3C4D
Call Id 0x1
Peer Call Id 0x4000
Result Code 0x1
Error Code 0x0
Cause Code 0x0
Connect Speed 0xFA00
Rec Window Size 0x10
Physical Channel Id 0x0
PPTP: I Set-Link-Info len 24 Magic Cookie 0x1A2B3C4D
Peer Call Id 0x1
Send ACCM 0xFFFFFFFF
Recv ACCM 0xFFFFFFFF
%UPDOWN: Interface Virtual-Access1, changed state to up
Vil VPDN PROCESS Into tunnel: Sending 54 byte pak
Vil VPDN PROCESS Into tunnel: Sending 64 byte pak
Vil VPDN PROCESS Into tunnel: Sending 50 byte pak
PPTP: I Set-Link-Info len 24 Magic Cookie 0x1A2B3C4D
Peer Call Id 0x1
Send ACCM 0xFFFFFFFF
Recv ACCM 0xFFFFFFFF
Vil VPDN PROCESS Into tunnel: Sending 45 byte pak
Vil VPDN PROCESS Into tunnel: Sending 46 byte pak
Vil VPDN PROCESS Into tunnel: Sending 187 byte pak
Vil VPDN PROCESS Into tunnel: Sending 56 byte pak

Vil VPDN PROCESS Into tunnel: Sending 64 byte pak
Vil VPDN PROCESS Into tunnel: Sending 50 byte pak
Vil VPDN PROCESS Into tunnel: Sending 50 byte pak
Vil VPDN PROCESS Into tunnel: Sending 52 byte pak

debug vpdn error

VPDN: PPTP session Virtual-Access1 wait pak ack timeout(wait seq=37, ack=36), decrease send window to half of current = 33!
VPDN: PPTP session Virtual-Access1 adjust ATO to 220 ms!
VPDN: PPTP session Virtual-Access1 wait pak ack timeout(wait seq=38, ack=36), decrease send window to half of current = 16!
VPDN: PPTP session Virtual-Access1 adjust ATO to 280 ms!
VPDN: PPTP session Virtual-Access1 wait pak ack timeout(wait seq=39, ack=36), decrease send window to half of current = 8!
VPDN: PPTP session Virtual-Access1 adjust ATO to 400 ms!
VPDN: Pptp EGRE encap fail, err=-4!
VPDN: PPTP session Virtual-Access1 wait pak ack timeout(wait seq=40, ack=36), decrease send window to half of current = 4!
VPDN: PPTP session Virtual-Access1 adjust ATO to 640 ms!

Ruijie# **debug vpdn error**

vpdn protocol errors debugging is on

Ruijie# **debug vpdn event**

vpdn events debugging is on

Ruijie# **debug vpdn packet**

vpdn packet debugging is on

Ruijie# **show debug**

VPDN:

vpdn events debugging is on

vpdn protocol errors debugging is on

vpdn packet debugging is on

Ruijie#

VPDN PROCESS From tunnel: Received 158 byte pak

L2X: UDP socket write 168 bytes, 192.168.12.217(1701) to 192.168.12.242(1701)

L2X: UDP socket write 40 bytes, 192.168.12.217(1701) to 192.168.12.242(1701)

VPDN PROCESS From tunnel: Pak consumed

VPDN PROCESS From tunnel: Received 70 byte pak

L2X: UDP socket write 40 bytes, 192.168.12.217(1701) to 192.168.12.242(1701)

VPDN PROCESS From tunnel: Pak consumed

VPDN PROCESS From tunnel: Received 76 byte pak
Get virtual-access from free queue: Virtual-Access1
Clone virtual-access from interface Virtual-Templat1
L2X: UDP socket write 56 bytes, 192.168.12.217(1701) to
192.168.12.242(1701)
L2X: UDP socket write 40 bytes, 192.168.12.217(1701) to
192.168.12.242(1701)
VPDN PROCESS From tunnel: Pak consumed
VPDN PROCESS From tunnel: Received 76 byte pak
L2X: UDP socket write 40 bytes, 192.168.12.217(1701) to
192.168.12.242(1701)
Vil Tnl/Sn 3/1 L2TP: Virtual interface created for unknown,
bandwidth 1024 Kbps
Vil Tnl/Sn 3/1 L2TP: VPDN session up
VPDN PROCESS From tunnel: Pak consumed
VPDN PROCESS From tunnel: Received 50 byte pak
Vil VPDN PROCESS From tunnel: Queue 14 byte pak to ppp parse
and iqueue
Vil VPDN PROCESS From tunnel: Pak send successful
%UPDOWN: Interface Virtual-Access1, changed state to up
Vil VPDN PROCESS Into tunnel: Sending 54 byte pak
L2X: UDP socket write 54 bytes, 255.255.255.255(1701) to
4.83.68.68(1701)
VPDN PROCESS From tunnel: Received 50 byte pak
Vil VPDN PROCESS From tunnel: Queue 14 byte pak to ppp parse
and iqueue
Vil VPDN PROCESS From tunnel: Pak send successful
Vil VPDN PROCESS Into tunnel: Sending 50 byte pak
L2X: UDP socket write 50 bytes, 255.255.255.255(1701) to
4.83.68.68(1701)
Vil VPDN PROCESS Into tunnel: Sending 54 byte pak
L2X: UDP socket write 54 bytes, 255.255.255.255(1701) to
4.83.68.68(1701)
VPDN PROCESS From tunnel: Received 50 byte pak
Vil VPDN PROCESS From tunnel: Queue 14 byte pak to ppp parse
and iqueue
Vil VPDN PROCESS From tunnel: Pak send successful
Vil VPDN PROCESS Into tunnel: Sending 50 byte pak
L2X: UDP socket write 50 bytes, 255.255.255.255(1701) to
4.83.68.68(1701)
Vil VPDN PROCESS Into tunnel: Sending 54 byte pak
L2X: UDP socket write 54 bytes, 255.255.255.255(1701) to
4.83.68.68(1701)
VPDN PROCESS From tunnel: Received 50 byte pak

Vil VPDN PROCESS From tunnel: Queue 14 byte pak to ppp parse
and iqueue
Vil VPDN PROCESS From tunnel: Pak send successful
Vil VPDN PROCESS Into tunnel: Sending 50 byte pak
L2X: UDP socket write 50 bytes, 192.168.12.217(1701) to
192.168.12.242(1701)
Vil VPDN PROCESS Into tunnel: Sending 54 byte pak
L2X: UDP socket write 54 bytes, 192.168.12.217(1701) to
192.168.12.242(1701)
VPDN PROCESS From tunnel: Received 54 byte pak
Vil VPDN PROCESS From tunnel: Queue 18 byte pak to ppp parse
and iqueue
Vil VPDN PROCESS From tunnel: Pak send successful
VPDN PROCESS From tunnel: Received 56 byte pak
Vil VPDN PROCESS From tunnel: Queue 20 byte pak to ppp parse
and iqueue
Vil VPDN PROCESS From tunnel: Pak send successful
Vil VPDN PROCESS Into tunnel: Sending 45 byte pak
L2X: UDP socket write 45 bytes, 192.168.12.217(1701) to
192.168.12.242(1701)
Vil VPDN PROCESS Into tunnel: Sending 50 byte pak
L2X: UDP socket write 50 bytes, 192.168.12.217(1701) to
192.168.12.242(1701)
VPDN PROCESS From tunnel: Received 50 byte pak
Vil VPDN PROCESS From tunnel: Queue 14 byte pak to ppp parse
and iqueue
Vil VPDN PROCESS From tunnel: Pak send successful
Vil VPDN PROCESS Into tunnel: Sending 50 byte pak
L2X: UDP socket write 50 bytes, 192.168.12.217(1701) to
192.168.12.242(1701)
VPDN PROCESS From tunnel: Received 50 byte pak
Vil VPDN PROCESS From tunnel: Queue 14 byte pak to ppp parse
and iqueue
Vil VPDN PROCESS From tunnel: Pak send successful
VPDN PROCESS From tunnel: Received 50 byte pak
Vil VPDN PROCESS From tunnel: Queue 14 byte pak to ppp parse
and iqueue
Vil VPDN PROCESS From tunnel: Pak send successful
Vil VPDN PROCESS Into tunnel: Sending 50 byte pak
L2X: UDP socket write 50 bytes, 192.168.12.217(1701) to
192.168.12.242(1701)
%UPDOWN: Line protocol on Interface Virtual-Access1, changed
state to up

Vil Tnl/Sn 20/1 L2TP: Session state change from
wait-for-service-selection- iccn to established
%UPDOWN: Interface Virtual-Access1, changed state to up
%UPDOWN: Line protocol on Interface Virtual-Access1, changed
state to up

debug

vpdn l2x-packets

L2TP: I SCCRQ from C3640 tnl 18889
L2X: Parse AVP 0, len 8, flag 0x8000 (M)
L2X: Parse SCCRQ
L2X: Parse AVP 2, len 8, flag 0x8000 (M)
L2X: Protocol Ver 1
L2X: Parse AVP 6, len 8, flag 0x0
L2X: Firmware Ver 0x1130
L2X: Parse AVP 7, len 11, flag 0x8000 (M)
L2X: Hostname C3640
L2X: Parse AVP 8, len 25, flag 0x0
L2X: Vendor Name Cisco Systems, Inc.
L2X: Parse AVP 10, len 8, flag 0x8000 (M)
L2X: Rx Window Size 800
L2X: Parse AVP 11, len 22, flag 0x8000 (M)
L2X: Chlng
 98 20 4E 34 6A 4C E1 E7 FA CF 58 07 FF 4E 56 A3
L2X: Parse AVP 9, len 8, flag 0x8000 (M)
L2X: Assigned Tunnel ID 18889
L2X: Parse AVP 3, len 10, flag 0x8000 (M)
L2X: Framing Cap 0x3
L2X: Parse AVP 4, len 10, flag 0x8000 (M)
L2X: Bearer Cap 0x3
L2X: No missing AVPs in SCCRQ
L2X: I SCCRQ, flg TLS, ver 2, len 130, tnl 0, ns 0, nr 0 contiguous
pak, size 130
C8 02 00 82 00 00 00 00 00 00 00 80 08 00 00
00 00 00 01 80 08 00 00 00 02 01 00 00 08 00 00
00 06 11 30 80 0B 00 00 00 07 43 33 36 34 30 00
19 00 00 00 08 43 69 73 63 6F 20 53 79 73 74 65
6D 73 2C 20 49 6E 63 2E ...
Tnl 22 L2TP: O SCCRP to C3640 tnlid 18889
Tnl 22 L2TP: O SCCRP, flg TLS, ver 2, len 140, tnl 18889, ns
0, nr 1
C8 02 00 8C 49 C9 00 00 00 00 00 01 80 08 00 00
00 00 00 02 80 08 00 00 00 02 01 00 80 0A 00 00
00 03 00 00 00 01 80 0A 00 00 00 04 00 00 00 00

00 08 00 00 00 06 11 30 80 0A 00 00 00 07 52 36
32 31 00 0E 00 00 00 08 ...
Tnl 22 L2TP: O ZLB ctrl ack, flg TLS, ver 2, len 12, tnl 18889,
ns 1, nr 1
C8 02 00 0C 49 C9 00 00 00 01 00 01
Tnl 22 L2TP: Parse AVP 0, len 8, flag 0x8000 (M)
Tnl 22 L2TP: Parse SCCCN
Tnl 22 L2TP: I SCCCN from C3640 tnl 18889
Tnl 22 L2TP: Parse AVP 13, len 22, flag 0x8000 (M)
Tnl 22 L2TP: Chlng Resp
5C D5 A4 37 36 A6 7D 0F FE EF 22 48 B8 DF F5 12
Tnl 22 L2TP: No missing AVPs in SCCCN
Tnl 22 L2TP: I SCCCN, flg TLS, ver 2, len 42, tnl 22, ns 1, nr
1 contiguous pak, size 42
C8 02 00 2A 00 16 00 00 00 01 00 01 80 08 00 00
00 00 00 03 80 16 00 00 00 0D 5C D5 A4 37 36 A6
7D 0F FE EF 22 48 B8 DF F5 12
Tnl 22 L2TP: O ZLB ctrl ack, flg TLS, ver 2, len 12, tnl 18889,
ns 1, nr 2
C8 02 00 0C 49 C9 00 00 00 01 00 02
Tnl 22 L2TP: Parse AVP 0, len 8, flag 0x8000 (M)
Tnl 22 L2TP: Parse ICRQ
Tnl 22 L2TP: I ICRQ from C3640 tnl 18889
Tnl 22 L2TP: Parse AVP 15, len 10, flag 0x8000 (M)
Tnl 22 L2TP: Serial Number -1714567290
Tnl 22 L2TP: Parse AVP 14, len 8, flag 0x8000 (M)
Tnl 22 L2TP: Assigned Call ID 1280
Tnl 22 L2TP: Parse AVP 18, len 10, flag 0x8000 (M)
Tnl 22 L2TP: Bearer Type 0
Tnl 22 L2TP: No missing AVPs in ICRQ

```
Tnl/Sn 22/1 L2TP: Parse AVP 0, len 8, flag 0x8000 (M)
Tnl/Sn 22/1 L2TP: Parse ICCN
Vil Tnl/Sn 22/1 L2TP: Parse AVP 24, len 10, flag 0x8000 (M)
Vil Tnl/Sn 22/1 L2TP: Connect Speed 0
Vil Tnl/Sn 22/1 L2TP: Parse AVP 19, len 10, flag 0x8000 (M)
Vil Tnl/Sn 22/1 L2TP: Framing Type 1
Tnl/Sn 22/1 L2TP: No missing AVPs in ICCN
Tnl/Sn 22/1 L2TP: I ICCN, flg TLS, ver 2, len 48, tnl 22, lsid
1, rsid 1280, ns 3, nr 2 contiguous pak, size 48
C8 02 00 30 00 16 00 01 00 03 00 02 80 08 00 00
00 00 00 0C 80 0A 00 00 00 18 00 00 00 00 80 0A
00 00 00 13 00 00 00 01 00 08 00 00 00 1D 00 04
Tnl 22 L2TP: O ZLB ctrl ack, flg TLS, ver 2, len 12, tnl 18889,
ns 2, nr 4
C8 02 00 0C 49 C9 00 00 00 02 00 04
%UPDOWN: Interface Virtual-Access1, changed state to up
%UPDOWN: Line protocol on Interface Virtual-Access1, changed
state to up
```

46 VPDN-Group

46.1 VPDN-Group

46.1.1 accept dialin

no

accept-dialin

no accept-dialin

```
Ruijie(config-vpdn)# accept-dialin
```

```
Ruijie(config-vpdn)#
```

46.1.2 ip precedence

no

ip precedence precedence-value **critical flash flash-override**
immediate internet network priority routine

no ip precedence

precedence-value

critical

flash

flash-override

immediate

internet

network

priority

routine

routine

```
Ruijie(config-vpdn)# ip precedence 7
Ruijie(config-vpdn)#
```

46.1.3 ip tos

no

ip tos tos-value **max-reliability** **max-throughput** **min-delay**
min-monetary-cost **normal** **reflect**

no ip tos

tos-value

max-reliability

max-throughput

min-delay

min-monetary-cost

normal

reflect

46.1.5 protocol

no

protocol any l2tp pptp

no protocol

any

l2tp

pptp

Ruijie(config-vpdn)# **accept-dialin**

Ruijie(config-vpdn-acc-in)# **protocol l2tp**

Ruijie(config-vpdn-acc-in)#

46.1.6 source-ip

no

source-ip A.B.C.D

no source-ip

A.B.C.D

```
Ruijie(config-vpdn)# source-ip 0
Ruijie(config-vpdn)#
```

46.1.7 terminate-from

no

terminate-from hostname remote-hostname-string

no terminate-from

remote-hostname-string

```
Ruijie(config-vpdn)# terminate-from hostname A
Ruijie(config-vpdn)#
```

46.1.8 virtual-template

no

virtual-template number

no virtual-template

number

```
Ruijie(config-vpdn-acc-in)# virtual-template 1
Ruijie(config-vpdn-acc-in)#
```

46.1.9 vpdn-group

no

vpdn-group vpdn-group-name

no vpdn-group vpdn-group-name

vpdn-group-name vpdn-group

vpdn-group

```
Ruijie(config)# vpdn-group 1
Ruijie(config-vpdn)#
```

47 PPTP

47.1 PPTP

47.1.1 Pptp flow-control receive-window

no

Pptp flow-control receive-window packets

No pptp flow-control receive-window

packets

protocol pptp

protocol any

```
Ruijie(config-vpdn)# accept-dialin
Ruijie(config-vpdn-acc-in)# protocol pptp
Ruijie(config-vpdn-acc-in)# exit
Ruijie(config-vpdn)# pptp flow-control receive-window
2
Ruijie(config-vpdn)#
```

echo-packet-interval

protocol any

echo-packet-interval

echo-packet-interval

echo request

protocol ptp

echo-packet-interval

echo reply

echo reply

pptp echo request

Ruijie(config-vpdn)# accept-dialin

Ruijie(config-vpdn-acc-in)# protocol pptp

Ruijie(config-vpdn-acc-in)# exit

Ruijie(config-vpdn)# pptp tunnel echo 0

Ruijie(config-vpdn)#

l2tpv2

```
Ruijie(config-pw-class)# encapsulation l2tpv2  
Ruijie(config-pw-class)#
```

48.1.3 hello

no

hello interval

no hello

interval

```
Ruijie(config-l2tp-class)# hello 0
```

```
Ruijie(config-l2tp-class)#
```

48.1.4 hostname (L2TP)

no

hostname local-hostname-string

no hostname

local-hostname-string

```
Ruijie(config-l2tp-class)# hostname 
Ruijie(config-l2tp-class)#
```

48.1.5 ip dfbit set

ip dfbit set

no ip dfbit set

```
Ruijie(config-pw-class)# ip dfbit set  
Ruijie(config-pw-class)#
```

48.1.6 ip local interface

no

ip local interface interface-name

ttl-value

```
Ruijie(config-pw-class)# ip ttl      3
Ruijie(config-pw-class)#
```

48.1.8 l2tp ip udp checksum

no

```
l2tp ip udp checksum
no l2tp ip udp checksum
```

```
Ruijie(config-vpdn)# l2tp ip udp checksum
Ruijie(config-vpdn)#
```

48.1.9 I2tp tunnel authentication

no

I2tp tunnel authentication

no I2tp tunnel authentication

```
Ruijie(config-vpdn)# I2tp tunnel authentication
```

```
Ruijie(config-vpdn)#
```

48.1.10 I2tp tunnel hello

no

I2tp tunnel hello interval

no I2tp tunnel hello

interval

```
Ruijie(config-vpdn)# l2tp tunnel hello      3
Ruijie(config-vpdn)#
```

48.1.11 l2tp tunnel password

```
no
l2tp tunnel password password-string
no l2tp tunnel password
```

```
password-string
```

```
Ruijie(config-vpdn)# l2tp tunnel password share
Ruijie(config-vpdn)#
```

48.1.12 l2tp tunnel receive-window

```
no
l2tp tunnel receive-window size
```

```
Ruijie(config-vpdn)# l2tp tunnel receive-window 2
Ruijie(config-vpdn)#
```

48.1.13 l2tp tunnel retransmit

no

l2tp tunnel retransmit retries number **timeout min max** seconds

no l2tp tunnel retransmit retries timeout min max

number

seconds

```
Ruijie(config-vpdn)# l2tp tunnel retransmit retries 0
Ruijie(config-vpdn)#
```

48.1.14 l2tp tunnel timeout

no

l2tp tunnel timeout no-session | setup seconds

no l2tp tunnel timeout no-session setup

no-session

setup

seconds

```
Ruijie(config-vpdn)# l2tp tunnel timeout no-session  
Ruijie(config-vpdn)#
```

0

48.1.15 l2tp-class

no

l2tp-class l2tp-class-name

no l2tp-class l2tp-class-name

l2tp-class-name

```
Ruijie(config)# l2tp-class l2x
Ruijie(config-l2tp-class)#
```

48.1.16 password (L2TP)

no

password password-string

no password

password-string

```
Ruijie(config-l2tp-class)# password share
Ruijie(config-l2tp-class)#
```

48.1.17 protocol (L2TP)

no

protocol l2tpv2 l2tp-class-name
no protocol

l2tpv2
l2tp-class-name

```
Ruijie(config-pw-class)# protocol l2tpv2 l2x  
Ruijie(config-pw-class)#
```

48.1.18 pseudowire

no
pseudowire peer-ip-address vcid **encapsulation** **l2tpv2** **pw-class**
pw-class-name **pw-class** pw-class-name

no pseudowire

hostname **pseudowire**

pseudowire hostname peer-hostname vcid **encapsulation** **l2tpv2** **pw-class**
pw-class-name **pw-class** pw-class-name

no pseudowire

peer-ip-address

peer-hostname

pw-class-name

```
Ruijie(config)# interface virtual-ppp          1
Ruijie(config-if)# pseudowire 33              pw-class pw
Ruijie(config-if)#
```

hostname

ip domain-lookup

ip name-server 192.168.5.119

ip name-server 61.154.22.41

interface Virtual-ppp 1

pseudowire hostname

encapsulation l2tpv2

ip route 0.0.0.0 0.0.0.0 192.168.52.1

48.1.19 pseudowire-class

no

pseudowire-class pseudowire-class-name

no pseudowire-class pseudowire-class-name

pseudowire-class-name

```
Ruijie(config)# pseudowire-class pw
Ruijie(config-pw-class)#
```

48.1.20 receive-window

no

receive-window size

no receive-window

size

```
Ruijie(config-l2tp-class)# receive-window 12
Ruijie(config-l2tp-class)#
```

48.1.21 retransmit

no

retransmit initial retries initial-retries **timeout max min** initial-timeout
retries retries **timeout max min** timeout

no retransmit initial retries **max min retries timeout max**
min

initial-retries

initial-timeout

retries

timeout

```
Ruijie(config-l2tp-class)# retransmit initial retries    3
Ruijie(config-l2tp-class)#
```

48.1.22 timeout setup

no

timeout setup seconds

no timeout setup

seconds

```
Ruijie(config-l2tp-class)# timeout setup    0
Ruijie(config-l2tp-class)#
```

49

IPSec

49.1

49.1.1 authentication (IKE policy)

authentication

no

authentication pre-share rsa-sig

no authentication

pre-share	
rsa-sig	

└───┘

└───┘

└───┘

└───┘

crypto isakmp enable	
encryption des 3des	
hash sha md5	
group 1 2	
lifetime	

└───┘

--	--

	-	
--	---	--

49.1.2 clear crypto isakmp

clear crypto

isakmp

clear crypto isakmp connection-id

	connection-id	

connection-id

show crypto isakmp sa
clear crypto isakmp

	-	

49.1.3 clear crypto sa

clear crypto sa

clear crypto sa

clear crypto sa peer ip-address peer-name

clear crypto sa map map-name

clear crypto sa spi destination-address **ah esp** spi

ip-address	
Peer-name	
Map-name	
Destination-address	
Spi	

peer map spi

peer map spi

peer map spi

%
Ruijie# clear crypto sa

clear crypto isakmp	

-	

-

crypto ipsec df-bit

clear set copy

clear	
set	
copy	

|

|

|

clear

copy

|

crypto ipsec df-bit clear

|

-	

|

seconds seconds	
kilobytes kilobytes	

└──

└──

└──

clear crypto sa

crypto ipsec security-associationlifetime

seconds

crypto ipsec security-association lifetime kilobytes

seconds

kilobytes

seconds

kilobytes

%



show	crypto	ipsec	
transform-set			

49.1.7 crypto dynamic-map

crypto dynamic-map

no

crypto dynamic-map dynamic-map-name dynamic-seq-num

no crypto dynamic-map dynamic-map-name dynamic-seq-num

dynamic-map-name	
dynamic-seq-num	

crypto map

-	

49.1.9 crypto isakmp key

crypto isakmp key

no

crypto isakmp key 0|7 kestring **hostname** peer-hostname **address**
peer-address mask

no crypto isakmp key 0|7 kestring **hostname** peer-hostname **address**
peer-address mask

0 7	
kestring	
peer-hostname	
peer address	
mask	

```
Ruijie(config)# crypto isakmp key 0 mysecret address 0
Ruijie(config)# crypto isakmp key 0 mysecret address 0
0
```

crypto isakmp enable	
encryption des 3des	

	crypto isakmp keepalive	60 5 on-demand
	-	
	-	

49.1.11 crypto isakmp mode-detect

49.1.12 crypto isakmp policy

crypto isakmp policy

no

crypto isakmp policy priority

no crypto isakmp policy priority

priority	

```
Ruijie(config)# crypto isakmp policy      0
Ruijie(config-isakmp)# authentication pre-share
Ruijie(config-isakmp)# encryption des
Ruijie(config-isakmp)# group 2
Ruijie(config-isakmp)# hash sha
Ruijie(config-isakmp)# ^Z
Ruijie# show crypto isakmp policy
Protection suite of priority 100
encryption algorithm:  DES - Data Encryptin Standard (56 bit keys).
hash algorithm:       Secure Hash Standard
authentication method: Pre-Shared Key
Diffie-Hellman group: #2 (1024 bit)
```

```

lifetime:                3600 seconds
Default protection suite
encryption algorithm:    DES - Data Encryption Standard (56 bit keys).
hash algorithm:          Secure Hash Standard
authentication method:   Rsa-Sig
Diffie-Hellman group:    #1 (768 bit)

```

crypto isakmp enable	
encryption des 3des	
hash sha md5	
authentication pre-share rsa-sig	
group 1 2	
lifetime	

-	

49.1.13 crypto map (global IPSec)

crypto map **no**

crypto map map-name seq-num ipsec-manual

crypto map map-name seq-num ipsec-isakmp **dynamic**

dynamic-map-name

no crypto map map-name seq-num

map-name	
seq-num	
ipsec-manual	
ipsec-isakmp	

	dynamic-map-name	
--	------------------	--

--

```

Ruijie(config)# crypto map mymap 3 ipsec-manual
Ruijie(config-crypto-map)# set peer 2.2.2.2
Ruijie(config-crypto-map)# set session-key inbound esp 0 cipher
Ruijie(config-crypto-map)# set sesession-key
outbound esp 0 cipher
Ruijie(config-crypto-map)# set transform-set myset
Ruijie(config-crypto-map)# match address 0

Ruijie(config)# crypto map mymap 4ipsec-isakmp
Ruijie(config-crypto-map)# set peer 2
Ruijie(config-crypto-map)# set transform-set myset
Ruijie(config-crypto-map)# match address 0

```

crypto map(interface IPsec)	
match address	
Set peer	
Set transform-set	
show crypto map	

-	

49.1.14 crypto map (interface IPsec)

crypto map

no

crypto map map-name

no crypto map map-name

map-name	

└───

└───

```
map-name seq-num  
Seq-num
```

└───

```
Ruijie(config)# interface serial 0  
Ruijie(config-if)# crypto map mymap
```

└───

crypto map(global IPSec)	
show crypto map	

└───

└───

-	

49.1.15 crypto map local-address

crypto map local-address

no

crypto map map-name **local-address** interface-type interface-number

no crypto map map-name **local-address**

└───

map-name	
interface-type interface-number	

└───

└───

└───

loopback

```
interface serial0
crypto map mymap
interface serial1
crypto map mymap
crypto map mymap local address loopback0
```

crypto isakmp enable	
encryption	
hash sha md5	
authentication pre-share rsa-sig	
group 1 2	
lifetime	

-	

49.1.16 crypto software

crypto software

-	

	-	
--	---	--

49.1.18 debug crypto ipsec

debug

debug crypto ipsec

no debug crypto ipsec

--	--	--

--

--

--

--

--	--	--

--

	-	

49.1.19 debug crypto isakmp

debug

debug crypto isakmp

no debug crypto isakmp

--	--	--

```
Ruijie(config)# crypto isakmp policy 0
Ruijie(config-isakmp)# encryption des
```

crypto isakmp enable	
hash sha md5	
authentication pre-share rsa-sig	
group 1 2	
lifetime	

-	

49.1.21 group (IKE policy)

```

no
group 1|2
no group

```

--	--

```
Ruijie(config)# crypto isakmp policy ①
Ruijie(config-isakmp)# group 2
```

crypto isakmp enable	
encryption des 3des	
hash sha md5	
authentication pre-share rsa-sig	
lifetime	

-	

49.1.22 hash (IKE policy)

hash no

hash sha | md5

no hash

sha	
Md5	

```
Ruijie(config)# crypto isakmp policy ①
Ruijie(config-isakmp)# hash md5
```



```
Ruijie(config)# crypto isakmp policy 0
Ruijie(config-isakmp)# lifetime 0
```

crypto isakmp enable	
encryption des 3des	
hash sha md5	
authentication pre-share rsa-sig	
group 1 2	

-	

49.1.24 match address (IPSec)

no **match address**

match address access-list-number

no match address

access-list-number	

```
Ruijie(config)# crypto map mymap 4 ipsec-isakmp
Ruijie(config-crypto-map)# match address 0
```

crypto map(global IPsec)	
show crypto map	
crypto map(interface IPsec)	

-	

49.1.25 mode (IPSec)

mode no

mode tunnel transport
no mode

tunnel transport	

crypto ipsec transform-set	

-	

49.1.26 self-identity

self-identity address fqdn fqdn user-fqdn user-fqdn
no self-identity

address	
fqdn	
user-fqdn	

└──

└──

└──

```
Ruijie(config)# self-identity fqdn
Ruijie(config)# self-identity user-fqdn
Ruijie(config)# self-identity address
```

-	

└──



|

	-	

49.1.28 set peer (IPSec)



	-	

49.1.31 set transform-set

```

transform-set          no                                set
Set      transform-set      transform-set-name1      transform-set-name2
transform-set-name3      transform-set-name4      transform-set-name5
transform-set-name6

```

no set transform-set

	transform-set	

┌

┌

┌

```

Ruijie(config)# crypto ipsec transform-set          5n  p          ds
n
Ruijie(config)# crypto map mymap          5ipsec-isakmp
Ruijie(config-crypto-map)# set transform-set          5n

```

-	

49.2

49.2.1 show crypto dynamic-map (IPSec)

show crypto

dynamic-map

show crypto dynamic-map map-name

map-name	

┌

┌

┌

```

1 Ruijie# show crypto dynamic-map
   Crypto Map Template "mydmap" 1
No matching address list set.
Security association lifetime: 4608000 kilobytes/3600
seconds(id=34)
PFS (Y/N): N
Transform sets = { }

```

-	

┌

-	

49.2.2 show crypto ipsec sa

show

crypto ipsec sa

show crypto ipsec sa

-	

Ruijie# show crypto ipsec sa

Interface: Serial0

Crypto map tag:mymap, local addr 2.2.2.2

media mtu 1500

local ident (addr/mask/prot/port):

(192.168.202.0/0.0.0.255/0/0)

remote ident (addr/mask/prot/port):

(192.168.12.0/0.0.0.255/0/0)

PERMIT

IV size: 8 bytes

Replay detection support:Y

outbound esp sas:

spi:0x106A0DFA (275385850)

transform: esp-des esp-md5-hmac

in use settings={Tunnel,}

sa timing: remaining key lifetime (k/sec): (4607999/3577)

IV size: 8 bytes

Replay detection support:Y

-	

-	

49.2.3 show crypto ipsec transform-set

show crypto ipsec

transform-set

show crypto ipsec transform-set

-	

```

Ruijie# show crypto ipsec transform-set
transform set myset: { esp-sha-hmac,esp-des,}
will negotiate = {Tunnel,}
transform set myset1: { esp-des,}
will negotiate = {Tunnel,}

```

-	

-	

49.2.4 show crypto isakmp policy

show crypto isakmp

policy

show crypto isakmp policy

-	

```

Ruijie# show crypto isakmp p
Protection suite of priority 9
encryption algorithm: 3DES - Data Encryption Standard (56 bit
keys).
hash algorithm: Message Digest 5
authentication method: Pre-Shared Key

```

Diffie-Hellman group: #2 (1024 bit)
lifetime: 1000 seconds
Protection suite of priority 10
encryption algorithm: DES - Data Encryption Standard (56 bit keys).
hash algorithm: Message Digest 5
authentication method: Pre-Shared Key
Diffie-Hellman group: #2 (1024 bit)
lifetime: 1000 seconds
Default protection suite
encryption algorithm: DES - Data Encryption Standard (56 bit keys).
hash algorithm: Secure Hash Standard
authentication method: Rsa-Sig
Diffie-Hellman group: #1 (768 bit)
lifetime: 86400seconds

-	



```
Ruijie# show crypto isakmp sa
destination  source state  conn-id lifetime(second)
2.2.2.1     2.2.2.2   QM_IDLE  36      5013
```

-	

-	

49.2.6 show crypto map (IPSec)

show crypto map

show crypto map map-name

map-name	

```
Ruijie# show crypto map mymap
Crypto Map:"mymap" 1 ipsec-isakmp
Peer = 0.0.0.0
No matching address list set.
Security association lifetime: 2304000 kilobytes/2500
seconds(id=32)
PFS (Y/N): N
Transform sets = { }
Crypto Map:"mymap" 4 ipsec-isakmp
Peer = 2.2.2.2
Extended IP access list 101
```

Security association lifetime: 2304000 kilobytes/2500
seconds(id=35)

PFS (Y/N): N

Transform sets = { myset, }

Crypto Map:"mymap" 5 ipsec-isakmp

Peer = 2.2.2.2

No matching address list set.

Security association lifetime: 2304000 kilobytes/2500
seconds(id=36)

PFS (Y/N): N

Transform sets = { myset, }

--	--

50 Tunnel

50.1

50.1.1 tunnel checksum

tunnel checksum

tunnel checksum

no tunnel checksum

	-	

μ

tunnel destination

tunnel destination ip-address

no tunnel destination

└───┘

└───┘

└───┘

└───┘

```
Ruijie(config)# interface tunnel 0
Ruijie(config-if)# tunnel destination
```

show interface tunnel	

└───┘

-	

50.1.3 tunnel key

tunnel key

tunnel key value

no tunnel key

value	hi bbY \$! (& (- * + &)

└───┘

tunnel key

```
Ruijie(config)# interface tunnel 0  
Ruijie(config-if)# tunnel key 2
```

show interface tunnel	

-	

50.1.4 tunnel mode

tunnel mode

tunnel mode gre ip | ipip | ipv6ip

gre ip	



50.1.6 tunnel source

tunnel source

tunnel source ip-address interface-type interface-number

no tunnel source

ip-address	
interface-type	
interface-number	

no tunnel ttl

	hop-count	

51 Web

51.1

51.1.1 http redirect

http redirect

no

http redirect ip-address

no http redirect

ip-address	

|

|

|

|

Ruijie(config)# http redirect @

--	--

show http redirect

http redirect homepage

|

-	

51.1.2 http redirect direct-site

no

http redirect direct-site ip-address ip-mask

no http redirect direct-site ip-address ip-mask

ip-address	
ip-mask	

Ruijie(config)# http redirect direct-site

Ø

show http redirect	

-	

51.1.3 http redirect homepage

no

http redirect homepage url-string

no http redirect homepage

url-string	

└──

└──

└──

└──

www.web-auth.net/login

Ruijie(config)#

http redirect homepage ~~no~~

show http redirect	
http redirect	

└──

└──

-	

51.1.4 http redirect port

http redirect port

no

http redirect port port-num

no http redirect port port-num

└──

port-num	

└──

└──

└──

```
Ruijie(config)# http redirect port 8
```

```
Ruijie(config)# no http redirect port 8
```

show http redirect	

```
Ruijie(config)# http redirect session-limit 4
```

show http redirect	

-	

51.1.6 http redirect timeout

no

http redirect timeout seconds

no http redirect timeout

seconds	

	seconds

```
Ruijie(config)# http redirect timeout 4
```

show http redirect	

	-	

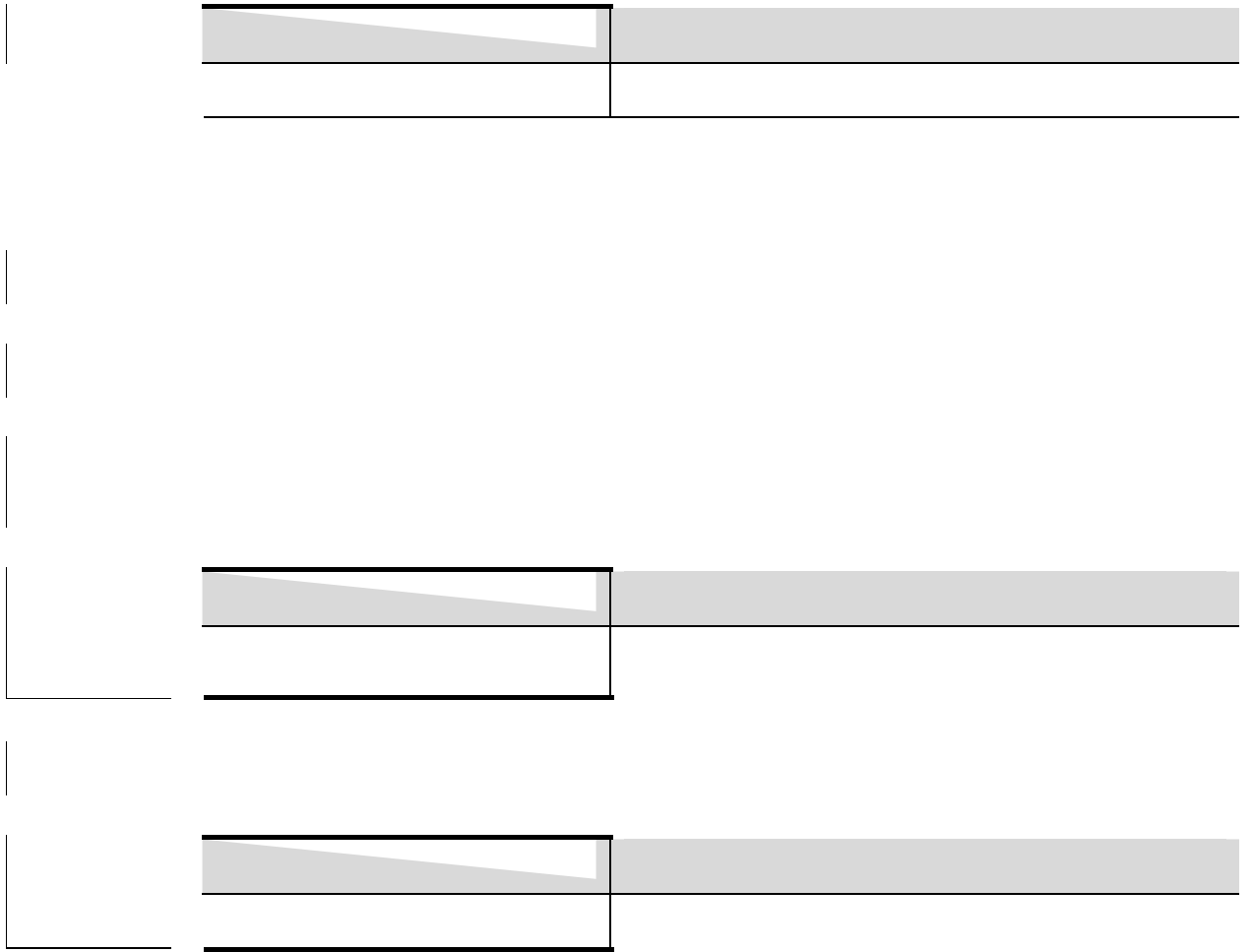
51.1.7 web-auth direct-host

no

web-auth direct-host ip-address p-mask

no web-auth direct-host ip-address

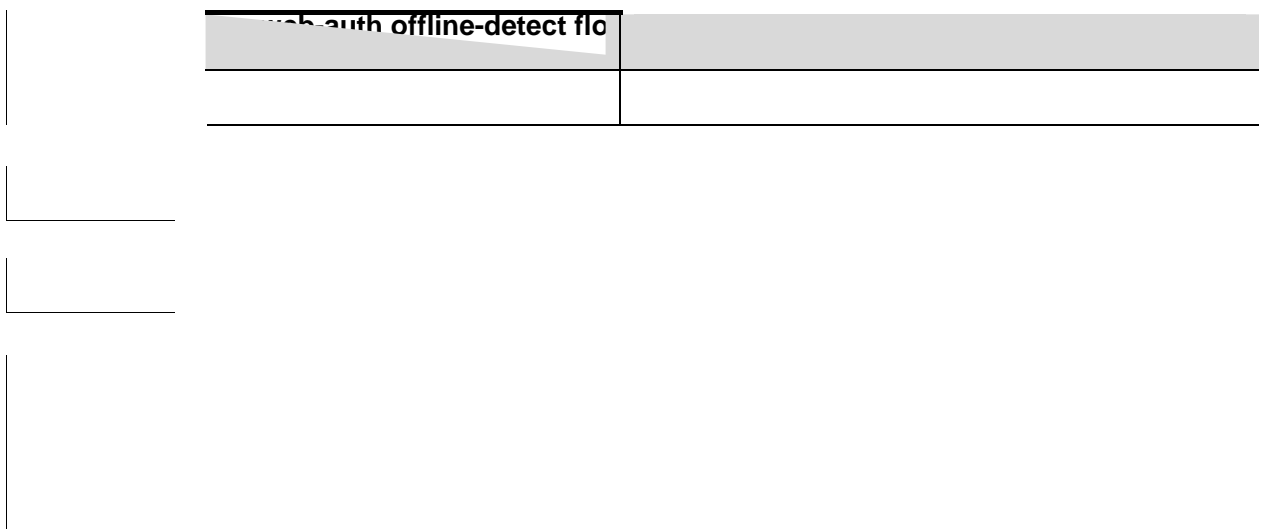
ip-address	
ip-mask	



51.1.9 web-auth offline-detect flow

no

web-autbffline-detedfow



	web-auth port-control	
	-	

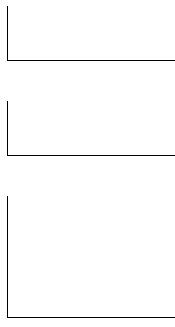
51.1.11 web-auth update-interval

no

web-auth update-interval seconds

no web-auth update-interval

	seconds	



Ruijie(config)# web-auth update-interval 3



	-	

51.1.12 web-auth user-mode

|

|

Ruijie(config)# web-auth webauth-type external

|

|

|

-	

51.1.14 web-auth redirect url

web-auth redirect url url-string

|

url-string	

|

|

|

|

www.baidu.com/
Ruijie(config)#
web-auth redirect url http://~~www~~

|

web-auth direct-host ip-address p-mask	

|

web-auth local-portal port port

no web-auth local-portal port



```
1 IP 192.168.1.10 ip :
Ruijie# clear web-auth user 192.168.1.10
```

web-auth authentication	
web-auth local-portal port	

10.3(4t76)

51.3.3 debug web-auth

debug web-auth

|
 |
 |
 |
 |

```

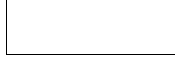
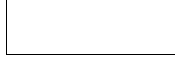
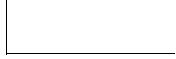
1      web      :
Ruijie# debug web-auth
  
```

web-auth	

|

51.3.4 show http redirect

show http redirect



```
Ruijie# show http redirect
HTTP redirection settings:
```

Ruijie# show web-auth direct-host

Direct hosts:

Address	Mask
-----	-----
192.168.0.1	255.255.255.255
192.168.4.11	255.255.255.255
192.168.5.0	255.255.255.0

web-auth direct-host	

Public account : disable

Server-port	
AAA method-list	
Public account	

-	

10.3(4t76)	

51.3.7 show web-auth user

show web-auth user ip-address | {online | all}[pos count]

ip-address	
pos	
count	

Ruijie# show web-auth user
Current user num : 4

User	Address	Online	Time Limit	Time Used	Status

	10.3(4t76)	

1 ?F... ÚÖ^M4 B

52 VRRP

52.1

52.1.1 vrrp authentication

no

vrrp group authentication string

no vrrp group authentication

group

string

vrrp 1 authentication x30dn78k

vrrp group ip address secondary	

52.1.2 vrrp delay

vrrp delay minimum min-seconds **reload** reload-seconds

no vrrp delay

min-seconds

no

vrrp groupdescription text

no vrrp group description

group

text

```
interface GigabitEthernet 0/0
ip address 10.0.1.1 255.255.255.0
vrrp 1 ip 10.0.1.20
vrrp 1 description "Building A - Marketing and
Administration"
```

vrrp group ipaddress secondary	

52.1.4 vrrp ip

no

vrrp groupip ipaddress **secondary**

no vrrp groupip ipaddress **secondary**

group

ipaddress
secondary

```
interface GigabitEthernet 0/0  
no switchport  
ip address 10.0.1.1 255.255.255.0  
ip address 10.0.2.1 255.255.255.0 secondary  
vrrp 1 ip 10.0.1.20  
vrrp 1 ip 10.0.2.20 secondary
```

show vrrp brief group	

52.1.5 vrrp preempt

vrrp group preempt delay seconds
no vrrp group preempt delay

group

delay seconds

```
vrrp 1 preempt delay 15
vrrp 1 priority 200
```

ipaddress vrrp group ip secondary	
level vrrp group priority	

52.1.6 vrrp priority

no

```
vrrp group priority level
no vrrp group priority
```

group

level

```
vrrp 1 priority 254
```

<code>vrrp group ip</code> <code>ipaddress secondary</code>	
<code>vrrp group preempt</code> <code>delay seconds</code>	

52.1.7 vrrp timers advertise

```
vrrp group timers advertise interval  
no vrrp group timers advertise
```

group

interval

```
vrrp 1 timers advertise 4
```



vrrp group ip
ipaddress **secondary**

52.1.9 vrrp track

vrrp group track interface-type number

vrrp group track ip-address

vrrp group track bfd

no

vrrp group **track** [interface-type number **bfd** interface-type
interface-number ipv4-address priority

vrrp group **track** ip-address **interval** interval-value **timeout**
timeout-value **retry** retry-value priority

vrrp group **track** [interface-type number **bfd** interface-type
interface-number ipv4-address ip-address

group

interface-type

number

ipv4-address

interval-value

timeout-value

retry-value

priority


```
Ruijie# debug vrrp
Ruijie#
VRRP: Grp 1 Advertisement priority 120, ipaddr
192.168.201.213
VRRP: Grp 1 Event - Advert higher or equal priority
%VRRP-6-STATECHANGE: GigabitEthernet 0/0 Grp 1 state
Master -> Backup
VRRP: Grp 1 Advertisement from 192.168.201.213 has
invalid virtual address 192.168.1.1
%VRRP-6-STATECHANGE: GigabitEthernet 0/0 Grp 1 state
Backup -> Master
Ruijie#
```

```
Ruijie#  
VRRP: Grp 1 Advertisement from 192.168.201.213 has  
invalid virtual address 192.168.1.1  
VRRP: Grp 1 Advertisement from 192.168.201.213 has  
invalid virtual address 192.168.1.1  
VRRP: Grp 1 Advertisement from 192.168.201.213 has  
invalid virtual address 192.168.1.1
```

52.2.3 debug vrrp events

```
debug vrrp events  
no debug vrrp events
```

```
Ruijie# debug vrrp events  
Ruijie#  
VRRP: Grp 1 Event - Advert higher or equal priority  
VRRP: Grp 1 Event - Advert higher or equal priority  
VRRP: Grp 1 Event - Advert higher or equal priority
```

52.2.4 debug vrrp packets

```
no  
debug vrrp packets  
no debug vrrp packets
```

```
Ruijie# debug vrrp packets
Ruijie#
VRRP: Grp 2 sending Advertisement checksum DD4D
VRRP: Grp 2 sending Advertisement checksum DD4D
VRRP: Grp 2 sending Advertisement checksum DD4D
```

```
Ruijie# debug vrrp packets
Ruijie#
VRRP: Grp 1 Advertisement priority 120, ipaddr
192.168.201.213
VRRP: Grp 1 Advertisement priority 120, ipaddr
192.168.201.213
VRRP: Grp 1 Advertisement priority 120, ipaddr
192.168.201.213
```

52.2.5 debug vrrp state

```
Ruijie(config)# interface GigabitEthernet 0
Ruijie(config-if)# no shutdown
Ruijie(config-if)# end
Ruijie#
%VRRP-6-STATECHANGE: GigabitEthernet 0/0 Grp 2 state
Master -> Init
Ruijie#
```

52.3

52.3.1 show vrrp

```
show vrrp brief grou
```

```
brief
```

```
group
```

```
Ruijie# show vrrp
GigabitEthernet 0/0 - Group 1
State is Backup
Virtual IP address is 192.168.201.1 configured
Virtual MAC address is 0000.5e00.0101
Advertisement interval is 3 sec
Preemption is enabled
min delay is 0 sec
Priority is 100
Master Router is 192.168.201.213 , pritority is 120
Master Advertisement interval is 3 sec
Master Down interval is 9 sec
GigabitEthernet 0/0 - Group 2
State is Master
Virtual IP address is 192.168.201.2 configured
```

```

Virtual MAC address is 0000.5e00.0102
Advertisement interval is 3 sec
Preemption is enabled
min delay is 0 sec
Priority is 120
Master Router is 192.168.201.217 (local), priority is
120
Master Advertisement interval is 3 sec
Master Down interval is 9 sec
Ruijie#

```

```

Ruijie# show vrrp brief
Interface          Grp Pri Time  Own Pre State  Master
addr      Group  addr
GigabitEthernet  0/0  1   100   -   -   P   Backup
192.168.201.213  192.168.201.1
GigabitEthernet  0/0  2   120   -   -   P   Master
192.168.201.217  192.168.201.2
Ruijie#

```

ipaddress	vrrp groupip secondary

52.3.2 show vrrp interface

```

show vrrp interface type number brief

```

type

number

brief

```

Ruijie# show vrrp interface GigabitEthernet 0
GigabitEthernet 0/0 - Group 1
State is Backup
Virtual IP address is 192.168.201.1 configured
Virtual MAC address is 0000.5e00.0101
Advertisement interval is 3 sec
Preemption is enabled
min delay is 0 sec
Priority is 100
Master Router is 192.168.201.213 , pritority is 120
Master Advertisement interval is 3 sec
Master Down interval is 9 sec
GigabitEthernet 0/0 - Group 2
State is Master
Virtual IP address is 192.168.201.2 configured
Virtual MAC address is 0000.5e00.0102
Advertisement interval is 3 sec
Preemption is enabled
min delay is 0 sec
Priority is 120
Master Router is 192.168.201.217 (local), priority is
120
Master Advertisement interval is 3 sec
Master Down interval is 9 sec

```

vrrp group ip	
ip address secondary	

no

multi-ldp icmp dest-ip1 next-hop **dns** dest-ip2 **tcp** dest-ip3

└───

└───

192.168.78.1

2010-12-23 09:31:03 50 1 0 8.8.8.8

220.181.112.76:80

show multi-ldp interface gigabitEthernet 0/3

Interface	State	Retry	UpCnt	ICMP	
Next-hop					
StartTime	Interval	Resume	DownCnt	DNS	TCP
=====					
=====					
GigabitEthernet 0/3	UP	5	1	192.168.198.1	
192.168.78.1					
2010-12-23 09:31:03	50	1	0	8.8.8.8	
220.181.112.76:80					



Interface

1 1F... ÚÖ Ũu)Ú

2009-12-18 04:37:10	61%
2009-12-18 04:42:10	61%
2009-12-18 04:47:10	61%
2009-12-18 04:52:10	61%
2009-12-18 04:57:10	61%
2009-12-18 05:02:10	61%
2009-12-18 05:07:10	61%
2009-12-18 05:12:10	61%
2009-12-18 05:17:10	61%
2009-12-18 05:22:10	61%
2009-12-18 05:27:10	61%
2009-12-18 13:32:10	61%
2009-12-18 13:37:10	61%
2009-12-18 13:42:10	64%
2009-12-18 13:47:10	64%
2009-12-18 14:02:29	61%
2009-12-18 14:07:29	61%
2009-12-18 14:18:45	61%
2009-12-18 14:23:45	61%
2009-12-18 14:28:45	61%
2009-12-18 14:33:45	61%
2009-12-18 14:38:45	61%
2009-12-18 14:43:45	61%
2009-12-18 14:48:45	61%
2009-12-18 14:53:45	61%
2009-12-18 14:58:45	61%

2 CPU

Ruijie#show dev-audit cpu from

0140

Date & Time	CPU
2010-01-14 12:03:16	0%
2010-01-14 12:08:16	0%
2010-01-14 12:13:16	0%
2010-01-14 12:18:16	0%
2010-01-14 12:23:16	0%
2010-01-14 12:28:16	0%
2010-01-14 12:33:16	0%
2010-01-14 12:38:16	0%
2010-01-14 12:43:16	0%

```

2010-01-14 12:48:16    0%
2010-01-14 12:53:16    0%
2010-01-14 12:58:16    0%
2010-01-14 13:03:16    0%
2010-01-14 13:08:16    0%
2010-01-14 13:13:16    0%
2010-01-14 13:18:16    0%
2010-01-14 13:23:16    0%
2010-01-14 13:28:16    0%
2010-01-14 13:33:16    0%
2010-01-14 13:38:16    0%
2010-01-14 13:43:16    0%
2010-01-14 13:48:16    0%
2010-01-14 13:53:16    0%
2010-01-14 13:58:16    0%
2010-01-14 14:03:16    0%
2010-01-14 14:08:16    0%
2010-01-14 14:13:16    8%

```

3

Ruijie#show dev-audit flash from

014

Date & Time	FLASH(KB)		SATA(MB)	
	Total	Available	Total	Available
2010-01-14 01:13:16	523776	470152	163746	163451
2010-01-14 02:13:16	523776	470152	163746	163449
2010-01-14 03:13:16	523776	470152	163746	163448
2010-01-14 04:13:16	523776	470152	163746	163447
2010-01-14 05:13:16	523776	470152	163746	163445
2010-01-14 06:13:16	523776	470152	163746	163444
2010-01-14 07:13:16	523776	470152	163746	163442
2010-01-14 08:13:16	523776	470152	163746	163441
2010-01-14 09:13:16	523776	470152	163746	163439
2010-01-14 10:13:16	523776	470152	163746	163436
2010-01-14 11:13:16	523776	470152	163746	163430
2010-01-14 12:13:16	523776	470152	163746	163421
2010-01-14 13:13:16	523776	470152	163746	163416
2010-01-14 14:13:16	523776	470112	163746	163409

55 CPU-LOG

55.1

55.1.1 show cpu

show cpu

show 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%	dlx_task
20	0%	0%	0%	secu_policy_task
21	0%	0%	0%	dhcpc_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%	vtty_connect
57	0%	0%	0%	aaa_task
58	0%	0%	0%	Tlogtrap
59	0%	0%	0%	dhcp6c
60	0%	0%	0%	sntp_rcv_task
61	0%	0%	0%	ntp_task
62	0%	0%	0%	sla_daemon
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_rcv
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_rcv_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

high_num

```
ruijie(config)# cpu-log log-limit 08
```

```
Oct 20 15:47:01 %SYSCHECK-5-CPU_USING_RATE: CPU utilization in  
one minute : 95% Using most cpu's task is ktimer : 94%
```

```
Oct 20 15:47:01 %SYSCHECK-5-CPU_USING_RATE: CPU  
utilization in one minute :68% Using most cpu's task  
is ktimer : 60%
```

```
Oct 20 15:47:01 %SYSCHECK-5-CPU_USING_RATE: The CPU  
using rate has down!
```

55.1.3 show environment

show environment

```
Ruijie# show environment
---environment information---
CPU Temperature is 30
fan works in high speed mode.

FAN 1 is OK!
FAN 2 is OK!
FAN 3 is OK!
FAN 4 is OK!

POWER 1 is present!
POWER 1 power on successfully!
POWER 2 is not present!
```



Ruijie# show threshold cpu M1

Ruijie# show threshold memory

57

57.1

57.1.1 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%
```

	memory-lack exit-policy
	OVERFLOW
	OVERFLOW

57.1.2 memory-lack exit-policy

memory-lack exit-policy bgp ospf pim-sm rip

no memory-lack exit-policy

LDP	20000000
Total	206000000

58 SATA

58.1

58.1.1 show sata

show sata


```
Fi ] ^] Y. g\ck' gUhU
JYbXcf. `GH & $ % 5G
.... 8] g_`DUfh] h] cbg `
.... W` #Xj #gUh#X] gV$#dUfh` !!2' #abh#gUh#W
.... gl nY. `(')*- *& $(6f %L
.... X` #Xj #gUh#X] gV$#dUfh* !!2' #abh#gUh#X
.... gl nY. `(')*- *& $(6f %L
.... Y. ` #Xj #gUh#X] gV$#dUfh+ !!2' #abh#gUh#Y
.... gl nY. `(')*- *& $(6f %L
.... Z ` #Xj #gUh#X] gV$#dUfh` !!2' #abh#gUh#Z
.... gl nY. `(')*- *& $(6f %L
.... [. ` #Xj #gUh#X] gV$#dUfh- !!2' #abh#gUh#
.... gl nY. `(')*- *& $(6f %L
.... \. ` #Xj #gUh#X] gV$#dUfh%$ !!2' #abh#gUh#
.... gl nY. `(')*- *& $(6f %L
.... ]. ` #Xj #gUh#X] gV$#dUfh%% !!2' #abh#gUh#
.... gl nY. `(')*- *& $(6f %L
.... ^. ` #Xj #gUh#X] gV$#dUfh%& !!2' #abh#gUh#
.... gl nY. `(-)(-)%, &(6f ;L
```

HchU` &(+&%(S*-+*` VhmYg` fl&%- (AGL` |b` h\]g` Xy|Wz` &)% , (+S` %& VhmYg` fl& &)) AGL` Uj U` UV Y'

1 F... ÚÖ%4°1u)Ú

59

59.1

59.1.1 logging on

logging on

no logging on

Ruijie(config)# no logging on

logging buffered	
logging	
logging file flash:	

logging console	
logging monitor	
logging trap	

59.1.2 terminal monitor

terminal monitor

terminal no monitor



```
Ruijie# terminal monitor  
Ruijie#
```

59.1.3 logging buffered

logging buffered buffer-size level

no logging buffered

buffer-size

level

show logging

1

Ruijie(config)# logging buffered 06

logging on	
show logging	
clear logging	

59.1.4 logging server

Syslog Sever

Syslog server

Syslog Server

logging server ip-address **vrf** vrf-name **ipv6** ipv6-address

no logging server ip-address **vrf** vrf-name **ipv6** ipv6-address

ip-address

vrf vrf-name

ipv6 ipv6-address

Ruijie(config)# logging server 0

Ruijie(config)#

Ruijie(config)# logging file flash:trace

logging on	
show logging	
more flash	

59.1.6 logging console

logging console level

no logging console

level

show logging

Ruijie(config)# logging console informational

logging on	
show logging	

59.1.7 logging monitor

logging monitor level

no logging monitor

level

terminal monitor
logging monitor

Logging monitor

Ruijie(config)# logging monitor informational



logging on	
logging	
show logging	

59.1.9 logging source interface

logging source interface interface-type interface-number

no logging source interface

interface-type

interface-number

```
Ruijie(config)# logging source interface loopback 0
```

logging	

59.1.10 logging source ip| ipv6

logging source ip ip-address **ipv6** ipv6-address

no logging source ip ipv6

ip-address

ipv6-address

Ruijie(config)# logging source ip **Ⓢ**

logging	

Ruijie(config)# logging facility kern

logging console	

59.1.12 logging count

logging count

no logging count

no logging count

Ruijie(config)# logging count

logging rate-limit number all number console number all number

show running-config	
---------------------	--

59.1.15 service sequence-numbers

service sequence-numbers

no service sequence-numbers

Ruijie(config)# service sequence-numbers

logging on	
service timestamps	

59.1.16 service timestamps

service timestamps message-type uptime datetime msec year

no service timestamps message-type

default service timestamps message-type

message-type

uptime

datetime

msec

year

logging on	
show logging	
logging buffered	

59.2

59.2.1 show logging

show logging

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
GigabitEthernet 0/0, changed state to up
00002 2004-11-17 10:20:59 Ruijie: %7:%LINE PROTOCOL CHANGE:
Interface GigabitEthernet 0/0, changed state to UP
```

00003 2004-11-17 10:57:18 Ruijie: %7:%LINK CHANGED: Interface
GigabitEthernet 0/1, changed state to administratively down
00004 2004-11-17 10:57:21 Ruijie: %7:%LINK CHANGED: Interface
GigabitEthernet 0/1, changed state to down
00005 2004-11-17 10:57:41 Ruijie: %7:%LINK CHANGED: Interface
GigabitEthernet 0/1, changed state to administratively down
00006 2004-11-17 10:57:43 Ruijie: %7:%LINK CHANGED: Interface
GigabitEthernet 0/1, changed state to down



60 RLOG

60.1

60.1.1 rlog export-rate

rlog export-rate number

no rlog export-rate

|

|

|

Ruijie(config)# rlog export-rate 0

|

|

-	

60.1.2 rlog filter

rlog filter number

no rlog filter

|

|

|

|

Ruijie(config)# rlog filter 0

|

|

60.1.3 rlog server

rlog server server-ip vrf vrf-name |oob port port-num

no rlog server server-ip

server-ip	
vrf-name	

	port-num	
	%	
	Ruijie(config)# rlog server	0 port 0
	!

60.1.4 rlog type

rlog type n server server-ip priority prio

no rlog type n server server-ip

	server-ip	

|

|

|

|

Ruijie(config)# rlog type 2server 8 priority 5

```
Ruijie(config)# nat-log enable
```


60.1.6 ip nat-log on

```
ip nat-log on
```

```
no ip nat-log on
```

```
-D ZIGXBT9ABSDA
```


~ 1

60.2

- _____
- _____
- _____
- _____

show rlog-type

Show rlog-type

|
 |
 |
 |

```

Ruijie#show rlog-type
XLOG_TYPE_FLOW          16
XLOG_TYPE_CPU_MEM       17
XLOG_TYPE_DISC          18
XLOG_TYPE_DEV_LOG       19
XLOG_TYPE_URL_AUDIT     20
XLOG_TYPE_SESSION       21
XLOG_TYPE_IP_APP        22
XLOG_TYPE_IP            23
XLOG_TYPE_CHANNEL       24
XLOG_TYPE_INTERFACE     25
XLOG_TYPE_IP_OFFLINE    26
  
```

```
XLOG_TYPE_MAIL_AUDIT      27
XLOG_TYPE_TELNET_AUDIT    28
XLOG_TYPE_WEB_SEARCH_AUDIT 29
XLOG_TYPE_WEB_BBS_AUDIT   30
XLOG_TYPE_IM_AUDIT        31
XLOG_TYPE_FTP_AUDIT       32
XLOG_TYPE_WEB_AUDIT       33
```

show rlog-status

Show rlog-status server server-ip

Server-ip	

```
Ruijie(config)#show rlog-s server 192.168.195.52
server:192.168.195.52
type                status  prio
XLOG_TYPE_FLOW     off
```

```

XLOG_TYPE_CPU_MEM      off
XLOG_TYPE_DISC         off
XLOG_TYPE_DEV_LOG      off
XLOG_TYPE_URL_AUDIT    off
XLOG_TYPE_SESSION      off
XLOG_TYPE_IP_APP       off
XLOG_TYPE_IP           off
XLOG_TYPE_CHANNEL      off
XLOG_TYPE_INTERFACE    off
XLOG_TYPE_IP_OFFLINE   off
XLOG_TYPE_MAIL_AUDIT   off
XLOG_TYPE_TELNET_AUDIT on      1
XLOG_TYPE_WEB_SEARCH_AUDIT off
XLOG_TYPE_WEB_BBS_AUDIT off
XLOG_TYPE_IM_AUDIT     off
XLOG_TYPE_FTP_AUDIT    off
XLOG_TYPE_WEB_AUDIT    off

```


show nat-log

Show nat-log [username user_name] [ip-protocol p-protocol] [source-ip source-ip] [dst-ip dst-ip] [src-port src-port] [dst-port dst-port] time-interval begin-year begin-mon begin-day begin-hour end-year end-mon end-day end-hour

--	--

user_name	
ip-protocol	
source-ip	
dst-ip	
src-port	
dst-port	
begin-year	
begin-mon	
begin-day	
begin-hour	
end-year	
end-mon	
end-day	
end-hour	

```
Ruijie#show nat-log time-interval 2010 10 6 3 t 2010 10 6 5
```

```
count:427
```

```
Pr   SrcAddr                               DstAddr
UserName
SrcPort   DstPort   Vrf       SendBytes  RecvBytes  time
17  192.168.122.62 (0.0.0.0)          192.168.122.255(0.0.0.0)
192.168.122.62
138 (0)   138 (0)   0         2028      0          2010-10-6
3:1
17  192.168.100.55 (0.0.0.0)          192.168.100.255(0.0.0.0)
192.168.100.55
138 (0)   138 (0)   0         732      0          2010-10-6
3:1
17  192.168.122.54 (0.0.0.0)          192.168.122.255(0.0.0.0)
```

192.168.122.54
 137 (0) 137 (0) 0 864 0 2010-10-6
 3:1
 17 192.168.195.55 192.168.195.255
 192.168.195.55
 138 138 0 705 0 2010-10-6 3:1
 6 192.168.7.92 (0.0.0.0) 113.105.146.82 (0.0.0.0)
 192.168.7.92
 35942(0) 80 (0) 0 192 0 2010-10-6
 3:2
 17 192.168.122.54 (0.0.0.0) 192.168.122.255(0.0.0.0)
 192.168.122.54
 137 (0) 137 (0) 0 1386 0 2010-10-6
 3:2
 17 192.168.7.92 (0.0.0.0) 202.104.241.3 (0.0.0.0)
 192.168.7.92
 13528(0) 8000 (0) 0 97 0 2010-10-6
 3:2
 17 192.168.195.202 192.168.195.255
 192.168.195.202
 138 138 0 774 0 2010-10-6 3:3
 17 192.168.7.97 (0.0.0.0) 192.168.7.255 (0.0.0.0)
 192.168.7.97
 138 (0) 138 (0) 0 732 0 2010-10-6
 3:3
 17 192.168.2.164 (0.0.0.0) 192.168.2.255 (0.0.0.0)
 192.168.2.164
 138 (0) 138 (0) 0 714 0 2010-10-6
 3:3

61 SNMP

61.1

61.1.1 no snmp-server

no snmp-server

no snmp-server

```
Ruijie(config)# no snmp-server
```

61.1.2 snmp-server chassis-id

snmp-server chassis-id

snmp-server chassis-id text

no snmp-server chassis-id

text

no snmp-server

```
Ruijie(config)# access-list 2 permit 0
Ruijie(config)# access-list 2 deny any
Ruijie(config)# snmp-server community public ro
```

61.1.5 snmp-server enable traps

snmp-server enable trap

snmp-server enable traps snmp

no snmp-server enable traps

snmp

snmp-server

Ruijie(config)# snmp-server enable traps snmp

Ruijie(config)# snmp-server host  public snmp

snmp-server host	

61.1.6 snmp-server host

snmp-server

host-addr

ipv6-addr

vrfname

version

auth noauth priv

community-string

port-num

notification-type

snmp-server location

snmp-server location text

no snmp-server location

İ5 ,Ø,X 5

text

Ruijie(config)# snmp-server packetsize 9

snmp-server queue-length	

61.1.9 snmp-server queue-length

snmp-server queue-length

snmp-server queue-length length

length

@=ôÓbÅ,đã_ Û nLKL #\ CKó ëNû ã ®

snmp-server

system-shutdown
snmp-server system-shutdown
no snmp-server system-shutdown

Ruijie(config)# snmp-server system-shutdown

61.1.11 snmp-server trap-source

snmp-server trap-source

snmp-server trap-source interface
no snmp-server trap-source

interface

Ruijie(config)# snmp-server trap-source GigabitEthernet

0



snmp-server enable traps

snmp-server user username groupname **v1 v2 v3 encrypted**
auth md5 sha auth-password **priv des56** priv-password
access num name

no snmp-server user username groupname **v1 v2c v3**

snmp-server group

snmp-server group groupname **v1 v2c v3** **auth noauth priv read**
readview **write** writeview **access** num name

no snmp-server group groupname **v1 v2c v3**

v1 v2c v3

auth

noauth

priv

readview

writeview

Ruijie(config)# snmp-server group **h** v3 priv read **h**

show snmp group	

61.1.15 snmp-server view

snmp-server view

snmp-server view view-name oid-tree **include exclude**

no snmp-server view view-name oid-tree

view-name

oid-tree

include

exclude

Ruijie(config)# snmp-server view ~~BB~~ include

show snmp view	

61.1.16 snmp-server if-index persist

snmp-server if-index persist

no

snmp-server if-index persist

no snmp-server if-index persist

Ruijie(config)# snmp-server if-index persist

show run	

61.2

61.2.1 show snmp

show snmp

show snmp mib user view group

show snmp

show snmp mib

show snmp user

show snmp view

show snmp group

```
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	