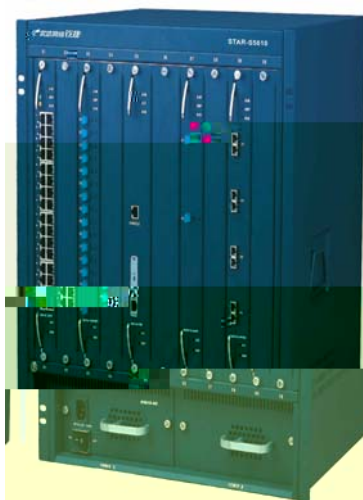
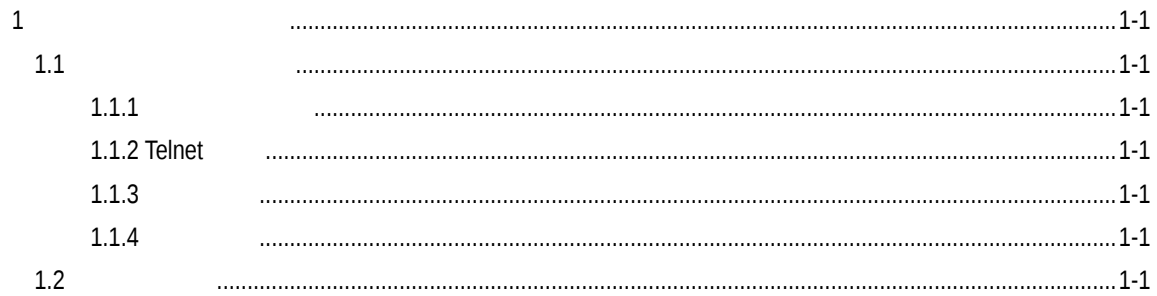


STAR-S5610

V2.0



[illegible][illegible][illegible]

Qx̃

[illegible]

.....1-1

2.5.2 snmp-server access-list	2-19
2.5.3 snmp-server view	2-20
2.5.4 [no]snmp-server enable traps	2-21
2.5.5 snmp-server host	2-22
2.5.6 snmp-server contact	2-23
2.5.7 snmp-server location	2-24
2.5.8 show snmp-server statistics	2-25
2.5.9 show snmp-server system	2-26
2.5.10 show snmp-server community	2-26
2.5.11 show snmp-server view	2-27
2.5.12 show snmp-server host	2-28
2.5.13 show snmp-server access-list	2-29
2.5.14 [no]debug snmp-server packet	2-30
2.6	2-31
2.6.1 show memory	2-31
2.6.2 memory edit	2-32
2.6.3 show processes	2-33
2.6.4 show stacks	2-35
2.6.5 trace processes	2-36
3	3-1
3.1	3-1
3.1.1 negotiate	3-1
3.1.2 speed	3-2
3.1.3 duplex	3-3
3.1.4 flowcontrol	3-4
3.1.5 shutdown	3-4
3.1.6 priority	3-5
3.1.7 broadcast suppression	3-6
3.1.8 no broadcast suppression	3-7
3.1.9 lock	3-7
3.1.10 block	3-8
3.1.11 show interface	3-9
3.2 MAC	3-10
3.2.1 clear mac-address-table dynamic	3-10
3.2.2 mac-address-table aging-time	3-11
3.2.3 no mac-address-table aging-time	3-12
3.2.4 mac-address-table static	3-13
3.2.5 no mac-address-table static	3-14
3.2.6 show mac-address-table aging-time	3-15
3.2.7 show mac-address-table address	3-16
3.2.8 show mac-address-table count	3-17
3.2.9 show mac-address-table dynamic	3-18
3.2.10 show mac-address-table static	3-19
3.2.11 show mac-address-table interface	3-19
3.2.12 show mac-address-table vlan	3-20
3.2.13 show mac-address-table multicast	3-21

3.2.14 show mac-address-table all	3-22
3.3 VLAN	3-23
3.3.1 VLAN	3-23
3.3.2 vlan default	3-25
3.3.3 vlan allowed	3-26
3.3.4 vlan tagged	3-26
3.3.5 no vlan default	3-27
3.3.6 no vlan allowed	3-28
3.3.7 no vlan tagged	3-29
3.3.8 vlan	3-30
3.3.9 no vlan	3-30
3.3.10 show	3-31
3.4	3-32
3.4.1 trap igmp	3-32
3.4.2 trap arp	3-33
3.4.3 trap bpdu	3-33
3.4.4 trap dhcp	3-34
3.4.5 trap addr	3-35
3.5	3-36
3.5.1 spanning-tree enable	3-36
3.5.2 spanning-tree port-priority	3-37
3.5.3 spanning-tree cost	3-38
3.5.4 spanning-tree priority	3-39
3.5.5 spanning-tree hello-time	3-39
3.5.6 spanning-tree forward-time	3-40
3.5.7 spanning-tree max-age	3-41
3.5.8 show spanning-tree	3-42
3.5.9 spanning-tree root	3-43
3.5.10 default spanning-tree	3-44
4	4-1
4.1 IP	4-1
4.1.1 ip address	4-1
4.1.2 hostname	4-2
4.1.3 show hostname	4-2
4.1.4 show ip interface	4-3
4.2 ARP	4-4
4.2.1 ip arp	4-4
4.2.2 ip arp arpa	4-5
4.2.3 clear arp-cache	4-6
4.2.4 show ip arp	4-6
4.3 ARP	4-7
4.3.1 ip proxy-arp	4-7
4.4	4-8

4.5	NAT	4-9
4.5.1	nat enable	4-9
4.6	VLAN	4-10
4.6.1	Super-vlan	4-10
4.6.2	allow vlan	4-11
4.6.3	show super-vlan	4-12
4.7	IP	4-13
4.7.1	[no] ip tos-field	4-13
4.7.2	show ip tos-field	4-16
4.7.3	show ip netbuf-pool	4-17
4.7.4	show ip statistics	4-25
5		5-1
5.1		

5.4.11	ip ospf dead-interval	5-28
5.4.12	ip ospf priority	5-29
5.4.13	ip ospf retransmit-interval	5-30
5.4.14	ip ospf transmit-delay	5-31
5.4.15	ip ospf authentication-key	5-32
5.4.16	ip ospf message-digest-key.....	5-32
5.4.17	ip ospf mtu-enable.....	5-33
5.4.18	show ip ospf	5-34
5.4.19	show ip ospf cumulative	5-35
5.4.20	show ip ospf database	5-35
5.4.21	show ip ospf error.....	5-36
5.4.22	show ip ospf interface.....	5-37
5.4.23	show ip ospf neighbor	5-38
5.4.24	show ip ospf border-routers.....	5-39
5.4.25	show ip ospf request-list.....	5-39
5.4.26	show ip ospf retransmission-list	5-40
5.4.27	show ip ospf virtual-link	5-41
5.4.28	show ip ospf routing	5-42
5.5	ACL	5-43
5.5.1	access-list	5-43
5.5.2	access-list	5-44
5.5.3	access-list	5-47
5.5.4	show access-list	5-48
5.5.5	access-list default.....	5-49
5.5.6	show access-list default	5-50
5.5.7	no access-list	5-51
5.5.8	access-list insert.....	5-51
5.5.9	access-list insert.....	5-53
5.5.10	no access-list insert.....	5-55
5.5.11	access-group	5-56
5.5.12	no access-group.....	5-57
5.5.13	show access-group	5-58
5.5.14	access-list enable.....	5-59
5.5.15	no access-list enable.....	5-60
6		6-1
6.1		6-1
6.1.1	flow aging-time	6-1
6.1.2	ip-session-threshold	6-2
6.1.3	monitor-time	6-2
6.1.4	flow monitor	6-3
6.1.5	no flow monitor	6-4
6.1.6	Show monitor-log	6-5
6.2	DHCP	6-6
6.2.1	debug dhcpr	6-6
6.2.2	dhcp relay enable	6-7

6.2.3 dhcp relay hops	6-8
6.2.4 dhcp relay size.....	6-9
6.2.5 dhcp server.....	6-10
6.2.6 attach dhcp server	6-11
6.2.7 show dhcp server	6-13
6.2.8 show dhcp relay config.....	6-15

1

1.1

1.1.1

STAR-S5610

山

山

1.1.2 Telnet

Telnet

山

1.1.3

° Telnet

山

°

山

山

1.1.4

Telnet

Telnet

10

山

山

山

1.2

1.2.1

EXEC

User EXEC Mode

┆

┆

> 山

山

山

1.2.2 EXEC Privileged EXEC Mode

```

enable
#
disable

```

1.2.3 Global Configuration Mode

```

config
config
<Ctrl-z> exit

```

1.2.4 (Subconfiguration Modes)

```

1
VLAN
1-1

```

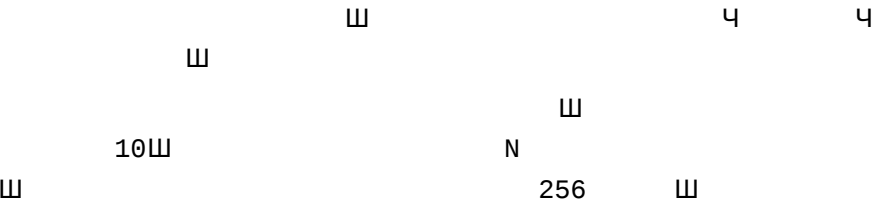
5	gigabitethernet	interface gigabitethernet x 4 gigabitethernet 11	switch(config-if-g iga 1/2)#
6	VLAN	vlan database 4 vlan super-vlan11	switch(vlan)# r A
7	QoS	QoS 4 QoS 11	switch(config-qos) #
8	Route map	route- map x 4 route map 11	switch(config-rout e-map)#
9	OSPF	route-map 11 4 ospf 11	target(config-ospf)#

VLAN

£

1.3

(1)



(2)



(3) Tab

卜 乚
卜 乚

山

(5)

1	<Ctrl-B> <LEFT>	
2	<RIGHT>	
3	<Esc>	
4	<Esc><F>	
5	<Ctrl-A>	
6	<Ctrl-E>	
7	<Ctrl-P> <UP>	
8	<Ctrl-N> <DOWN>	
9	<BACKSPACE> <Ctrl-H>	
10	<Ctrl-D> <Delete>	
11	<Ctrl-w>	
12	<Esc><D>	
13	<Ctrl-U> <Ctrl-X>	
14	<Ctrl-K>	
15	<Ctrl-Y>	
16	<Esc><Y>	
17	<Ctrl-R> <Ctrl-L>	
18	<Ctrl-T>	
19	<Esc><U>	
20	<Esc><L>	
21	<Esc><C>	
22	<Ctrl-Z>	
23	!!	
24	!	卜 乚

山 10

山

1.4

	INTEGER<min-max>	min max	mtu INTEGER<0~1500>	
	XX.XX.XX.XX.XX.XX	MAC	mac-address XX.XX.XX.XX.XX.XX	
HEX	HEX	, 0x 9	0xB4	
	WORD<min~max>	min max 256 1	hostname WORD<1~16>	
LINE	LINE0		enable password LINE0	
	LINE1		interface LINE1	
IP (Version4)	A.B.C.D	IP IPv4	ip_address A.B.C.D	IPV4
40	OID	ulong *	OID 11.2.*.8.458	
	SLOT/PORT	SLOT: 1~10 PORT 1~32	interface SLOT/PORT	

2

2.1

2.1.1 user add

user add *username password level*

EXEC

<i>username</i>	WORD	1~15	
<i>password</i>	WORD	1~15	
<i>level</i>	INTEGER	0~15	

user delete STAR-S5610

10 Ⅲ

user delete

: manager zy01 15
switch# **user add** manager zy01 15

2.1.2 user delete

user delete *username*

EXEC

<i>username</i>	WORD	1~15	

user add

山

user add

š manager
switch# **user delete** manager

2.1.3 user password

user password

EXEC


```
§      admin      1  £
switch#user privilege admin 1
User admin default access level changed OK!
```

2.1.5 configure

configure

EXEC

```
configure      山
15            山
```

```
§
switch#configure
switch(config)#
```

2.1.6 enable

enable [level]

no enable

EXEC

<i>level</i>	INTEGER	0~15	

15
 15
 0 15
 level password 15 no enable

user privilege

user add

level password

```

$ 10 £
switch>enable 10
Password:*****
switch#

```

2.1.7 exectime-out

exectime-out [*time*]

no exectime-out

EXEC

<i>time</i>	INTEGER	1~65535	∟()

	Console		
Telnet		10 ∟	no
exec-timeout		∟	
∟			

show exec-timeout

2.1.8 level password

level password *level password*

<i>level</i>	INTEGER	0~15	
<i>password</i>	WORD	1~15	

```

$                               £
switch>show client
admin          Console
user           192.168.0.124

```

2.1.10 show exec-timeout

show exec~timeout

⏏

exectime-out

```

§                               £
switch> show exec-timeout
telnet client timeout value is 10 minutes

```

2.1.11 show manager

show manager

EXEC

山

user add

user delete

```

§                               £
switch#show manager
Name          Level
admin         15
user          0

```

2.2

2.2.1 clock set

STAR-S5610

山

clock set *hour:minute:second year-month-day*

EXEC

<i>hour</i>	INTEGER	0~24	
<i>minut</i>	INTEGER	0~60	
<i>second</i>	INTEGER	0~60	
<i>year</i>	INTEGER	2000~2099	
<i>month</i>	INTEGER	1~12	
<i>day</i>	INTEGER	1~31	

EXEC

山

show clock

š

山

山

§ STAR-S5610 £
switch#reboot
Confirm to reboot(y/n)y
rebooting

2.2.4 show version

山

show version

4

山
4 BootRom

山

§

£

```
switch#show version
```

```
STAR-S5610 Software Version : V1.0R01.06.0101
```

```
STAR-S5610 CM Hardware Version: 1
```

```
SoftWare Version : V1.0R01.06.0101
```

```
Compiled Jan 7 2003, 17:04:33
```

```
BootRom Version : SRTBtromR01.1202
```

```
STAR-S5610 04SX Hardware Version: 1
```

```
STAR-S5610 16fmts Hardware Version : 1
```

```
STAR-S5610 32T Hardware Version : 1
```

```
switch#
```

2.2.5 show system uptime

```
dd hh mm ss
```

```
show system uptime
```

```
dd:hh:mm:ss
```

```
§      STAR-S5610      £
switch#show system uptime
0:0:13:20
switch#
```

2.3

2.3.1 erase startup-config

erase startup-config

EXEC

write running-config

write running-config

```
§
switch# erase startup-config
Delete config file <Y/N>Y
Delete config file OK!
switch#
```

2.3.2 write running-config

```
write running-config
```

```
EXEC
```

```
show running-config
```

```
山
```

```
show running-config
```

```
erase startup-config
```

```
§                               £  
switch# write running-config  
Build config file <Y/N>Y  
Build config file OK!  
switch#
```

2.3.3 show startup-config

```
show startup-config
```

write running-config

switch# show startup-config

2.4

2.4.1 ping address

ping address [number] [size bytes] [timeout seconds]

address	A.B.C.D	IP	IP
number	INTEGER	1~10000	ping 1 10000 4
size	KEYWORD	size	ping 56
bytes	INTEGER	40~2000	ping 40 2000 56
timeout	KEYWORD	timeout	ping AOS

--	--	--	--

2.5 SNMP

2.5.1 snmp-server community

⌘

snmp-server community *string* [**view** *view-name*] [**ro** | **rw**] [*number*]

no snmp-server community *string*

<i>string</i>	WORD	1~31	1~31
view	KEYWORD	view	
<i>view-name</i>	WORD	1~31	1~31
ro	KEYWORD	ro	
rw	KEYWORD	rw	
<i>number</i>	INTEGER	1~32	1~32

⌘

4

4

⌘

internet⌘

0

show snmp-server community

snmp-server access-list

snmp-server view

```
1$ public public £
switch#snmp-server community public view public ro
```

```
2$ private private £
switch#snmp-server community private view private rw
```

2.5.2 snmp-server access-list

```
4 32 IP
```

snmp-server access-list *number* *manager-address*

no snmp-server access-list *number* [*manager-address*]

<i>number</i>	INTEGER	1~32	
<i>Manager -address</i>	A.B.C.D	IP	ip

```
IP 32 IP
W
```

IP W

Set up the manager-address to permit access to the specified access list. The **no** form of this command removes the specified manager-address.

show snmp-server access-list

```

1 š          ip    192.168.0.224          1 £
switch(config)# snmp-server access-list 1 192.168.0.224
2 š          4          ip          £
switch(config)#no snmp-server access-list 4
3 š          ip    192.168.0.224          4 £
switch(config)#no snmp-server access-list 4 o snmp-server access-list 4
192.168.0.224

```

2.5.3 snmp-server view

snmp-server view *view-name oid-tree {included | excluded}*

no snmp-server view *view-name*

<i>view-name</i>	WORD	1~31	
<i>oid-tree</i>	OID	1 40	oid 1.3.6.2.4 oid 1.3.6.2.4
included	KEYWORDS	included	oid
excluded	KEYWORDS	excluded	oid

show snmp-server view

```

1$ 1.3.4 public £
switch(config)# snmp-server view public 1.3.4 included
2$ public £
switch(config)# no snmp-server view public
3$ mib1 1.3.6.7 1.3.6 £
switch(config)# snmp-server view mib1 1.3.6 included
switch(config)# snmp-server view mib1 1.3.6.7 excluded

```

2.5.4 [no]snmp-server enable traps

traps

[no] snmp-server enable traps [snmp|entity|stp|radius]

snmp	KEYWORDS	snmp	snmp
entity	KEYWORDS	entity	entiry
stp	KEYWORDS	stp	
radius	KEYWORDS	radius	radius

trap no trap trap trap
 trap 山 trap 山

<i>host-address</i>	A.B.C.D	IP	IP
snmpv1 snmpv2	KEYWORDS	Snmpv1 snmpv2	snmp
<i>community-string</i>	WORD	1~31	trap
<i>udp-port</i>	INTEGER	1~65535	trap UDP 32
snmp	KEYWORDS	snmp	snmp
entity	KEYWORDS	entity	entiry
stp	KEYWORDS	stp	
radius	KEYWORDS	radius	radius

trap 32 32 ip
trap snmp udp

<i>String1</i>	WORD	1~31	
<i>String2</i>	WORD>	1~31	
...	KEYWORD	...	...
<i>String15</i>	WORD	1~31	

15 31 山

š sysAdmin
switch(config)# snmp-server contact sysAdmin

2.5.7 snmp-server location

snmp-server location *str1* [*str2*][*str3*][*str4*][*str5*]...[*str15*]

no snmp-server location

<i>str1</i>	WORD<1-31>	1-31	
<i>str2</i>	WORD<1-31>	1-31	
...	KEYWORD	...	
<i>str15</i>	WORD<1-31>	1-31	

15 31 山

```

§          location fuzhou,fujian£
switch(config)# snmp-server location fuzhou,fujian

```

2.5.8 show snmp-server statistics

snmp

show snmp-server statistics

EXEC 4 EXEC 4

```
switch# show snmp-server statistics
```

2.5.9 show snmp-server system

```
snmp
```

```
show snmp-server system
```

```
EXEC 4 EXEC 4
```

```
switch# show snmp-server system
```

2.5.10 show snmp-server community

```
snmp
```

show snmp-server community [*string*]

EXEC 4 EXEC 4

<i>string</i>	WORD	1~31	

山

snmp-server community

§ £
switch(config)# show snmp-server community

2.5.11 show snmp-server view

snmp

show snmp-server view [*view-name*]

EXEC 4 EXEC 4

<i>host-address</i>	A.B.C.D IP	0.0.0.0-255 .255.255.25 5	ip

snmp trap snmp server 山 ip
山

snmp-server host

§ 192.168.2.60 trap £
switch(config)# show snmp-server host 192.168.2.60

2.5.13 show snmp-server access-list

show snmp-server access-list [*number*]

EXEC 4 EXEC 4

<i>number</i>	INTEGER	1~32	

snmp

```
snmp-server access-list
```

```
§          1          £  
switch(config)# show snmp-server access-list 1
```

2.5.14 [no]debug snmp-server packet

```
snmp
```

```
[no]debug snmp-server packet
```

```
EXEC
```

```
snmp
```

```
§          snmp          £  
switch# debug snmp-server packet  
switch# no debug snmp-server packet
```

2.6

2.6.1 show memory

山

show memory [free]

EXEC

free	KEYWORD	free	

o

山

o

山

show process memory

```
§           £
show memory free
FREE LIST:
  num      addr      size
  ---      -
  1  0x3fee18        16
  2  0x3b1434        20
  3  0x4d188    2909400
SUMMARY:
status  bytes  blocks  avg block  max block
```

```

-----
current
  free  2909436      3   969812  2909400
  alloc  969060   16102     60      -
cumulative
  alloc 1143340   16365     69      -

```

2.6.2 memory edit

山

memory edit mem-address

EXEC

mem-address			

```
02000030 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
02000040 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
02000050 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
02000060 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
02000070 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....

-e 0x02000000 11 22 33 44 55 66 77 88 99 aa bb cc dd
-w
Save change<y/n>?
y
-d 0x02000000
02000000 11 22 33 44 55 66 77 88 99 AA BB CC DD 00 00 00 . "3DUfw.....
02000010 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
02000020 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
02000030 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
02000040 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
02000050 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
02000060 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
02000070 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....

-q
switch#
```

2.6.3 show processes

山

```
show processes [ slot-number [ [ process-name [ detailed ] ] | [ cpu [ 5
| 60 | 300 ] ] ] ]
```

EXEC

slot-number	INTEGER	1~10	()
process-name	WORD	1~32	()
Detailed	KEYWORD	Detailed	()
cpu	KEYWORD	cpu	() cpu .

5	KEYWORD	5	()	5	cpu
60	KEYWORD	60	()	1	cpu
300	KEYWORD	300	()	5	cpu

cpu

山

山

show processes memory

```

1 $                               £
switch#show processes
NAME      ENTRY  TID      PRI STATUS   PC      SP      ERRNO  DELAY
tExcTask  excTask  3bff0b8  0  PEND   30d318  3bfefc8  0  0
value = 0 = 0x0

2 $      tExcTask                £
switch#show processes 1 tExcTask
NAME      ENTRY  TID      PRI STATUS   PC      SP      ERRNO  DELAY
tExcTask  excTask  3bff0b8  0    PEND  30d318  3bfefc8  0  0
value = 0 = 0x0

3 $      tExcTask                £
switch#show processes 1 tExcTask detailed
NAME      ENTRY  TID      PRI STATUS   PC      SP      ERRNO  DELAY
----- tExcTask
excTask  3bff0b8  0  PEND   30d318  3bfefc8  0  0
stack: base 0x3bff0b8 end 0x3bfd178 size 7984 high 304 margin 7680
options: 0x7
VX_SUPERVISOR_MODE VX_UNBREAKABLE VX_DEALLOC_STACK

```

```

r0      =      0   r1/sp = 3bfefc8   r2      =      0   r3      =      0
r4      =      0   r5      =      0   r6      =      0   r7      =      0
r8      =      0   r9      =      0   r10     =      0   r11     =      0
value = 0 = 0x0

```

```

4 $      5      cpu

```

```
-----
a          1          1      1000  234  900  100
```

2.6.5 trace processes

▮

trace processes [*slot-number* [**cpu** [*frequency*]]]

EXEC

<i>slot-number</i>	INTEGER	1~10	()
cpu	KEYWORD	cpu	cpu .
<i>frequency</i>	INTEGER	1~300	() cpu

frequency:

▮

▮

1 300 ▮

3

▮

show processes

```
1 $          3          £
switch trace processes
```

```
2 $    5          3          £
switch trace processes 5
```

```
3 $    5          5          £
```

switch trace processes 5 cpu 5

3

3.1

3.1.1 negotiate

```

                                speed 4 duplex    flowcontrol
FastEthernet ( M5610-32T  M5610-16FMT/-S      )
    11

```

negotiate {*speed* | *duplex* | *flowcontrol*}

[no] negotiate {*speed* | *duplex* | *flowcontrol*}

8x Ê P ~ G

speed {10 | 100}
duplex {full | half}
[no] flowcontrol

§ STAR-S5610 8 2 £
switch(config-if-fast 8/2)# negotiate speed

3.1.2 speed

山

speed {10 | 100}

10	KEYWORD	10	10Mbps
100	KEYWORD	100	100Mbps

100Mbit/s 山 10Mbit/s 4
山 NAT94 241.2203 Tm0.04140c15.d5d40W536b

§ STAR-S5610 8 2 100Mbps £
switch(config-if-fast 8/2)# speed 100

3.1.3 duplex

山

04

no shutdown

山

§ STAR-S5610 8 2 £
switch(config-if-fast 8/2)# shutdown

3.1.6 priority

no

山

priority {priority-value}

value	INTEGER	0~3	

■

■

§ STAR-S5610 8 2 2£
switch(config-if-fast 8/2)# priority 2

3.1.7 broadcast suppression

■

broadcast suppression {*threshold*}

<i>threshold</i>	INTEGER	1~100	1488 ■

■

■ no ■

[no] broadcast suppression

§ STAR-S5610 8 2 50 ó 1488 £
 switch(config-if-fast 8/2)# broadcast suppression 50

3.1.8 no broadcast suppression

Ш

no broadcast suppression

Ш

broadcast suppression *threshold*

§ STAR-S5610 8 2 £
 switch(config-if-fast 8/2)# no broadcast suppression

3.1.9 lock

/ Ш

[no] lock

山

no

山

[no] lock

Š STAR-S5610 8 m 28 #

FastEthernet	KEYWORD	FastEthernet	10/100Mbps
GigabitEthernet	KEYWORD	GigabitEthernet	1000Mbps
<i>slot</i>	Slot/ port	1~4 7~10	
<i>port</i>	Slot/ port	1~32	

山

mac-address-table aging-time seconds

§ STAR-S5610 MAC £
switch(config)# no mac-address-table aging-time

3.2.4 mac-address-table static

MAC 山

mac-address-table static mac_addr vlan_id1 [- vlan_id2] slot/port
tagged | untagged

mac_addr	XX.XX.XX.XX. XX.XX	00:00:00:00:00:00 ~ FF:FF:FF:FF:FF:FF	MAC 00:09:a0:cd:01:dd
vlan_id1	INTEGER	1~4094	VLAN , VALN VLAN
vlan_id2	INTEGER	1~4094	VALN VLAN
Slot	Slot/ Port	1~4 7~10	
Port	Slot/ Port	1~32	

tagged	KEYWORD	tagged	802.1q tag
untagged	KEYWORD	untagged	802.1q tag

⏏

mac address table ⏏ MAC
VLAN ⏏

no mac-address-table static *mac_addr* *vlan_id*

```

: STAR-S5610          MAC          MAC      00:06:bf:8d:64:00
  3          4      VLAN  258£
switch(config)# mac-address-table static 00:06:bf:8d:64:00 258 3/4 tagged

```

3.2.5 no mac-address-table static

MAC ⏏

no mac-address-table static *mac_addr* *vlan_id*

<i>mac_addr</i>	XX.XX.XX.XX .XX.XX	00:00:00:00:00:00 ~ FF:FF:FF:FF:FF:FF	MAC
<i>vlan_id</i>	INTEGER	1~4094	VLAN

山

mac-address-table MAC 山

mac-address-table static

§ STAR-S5610 MAC 00:06:bf:8d:64:00 MAC £
switch(config)# no mac-address-table static 00:06:bf:8d:64:00 25

3.2.6 show mac-address-table aging-time

MAC 山

show mac-address-table aging-time

EXEC

EXEC 山

mac-address-table aging-time

```

$      STAR-S5610MAC      £
switch# show mac-address-table aging-time

```

3.2.7 show mac-address-table address

MAC MAC

```

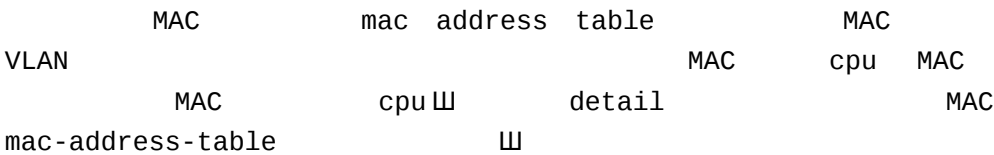
show mac-address-table address mac_addr [detail]

```

EXEC

mac_addr	XX.XX.XX.XX .XX.XX	00:00:00:00:00:00 ~ FF:FF:FF:FF:FF:FF	MAC
Detail	KEYWORD	Ditail	

EXEC W



§ STAR-S5610 MAC 00-06-bf-8d-64-00 MAC £
switch# show mac-address-table address 00-06-bf-8d-64-00 detail

3.2.8 show mac-address-table count

MAC 山

show mac-address-table count [{vlan vlan_id} | {interface
FastEthernet | GigabitEthernet slot/port}]

EXEC

vlan <i>vlan_id</i>	INTEGER	1~4095	MAC VLAN MAC 山vlan_id 1-4094山
FastEthernet	KEYWORD	FastEthernet	10/100Mbps 1000Mbps
GigabitEthernet	KEYWORD	GigabitEthernet	10/100Mbps 1000Mbps
<i>Slot</i>	INTEGER	1~4 7~10	
<i>Port</i>	INTEGER	1~32	

EXEC
山

MAC

MAC VLAN MAC MAC
山

```
§      STAR-S5610  vlan 100  MAC      £
switch# show mac-address-table count vlan 100
```

3.2.9 show mac-address-table dynamic

MAC 卩

show mac-address-table dynamic [detail]

EXEC

Detail	KEYWORD	Datial	

EXEC 卩

mac 2 MAC aging time MAC

MAC MAC MAC 卩

MAC MAC 卩 detail

MAC 卩

show mac-address-table count

```
§      STAR-S5610MAC      £
switch# show mac-address-table dynamic
```

3.2.10 show mac-address-table static

MAC

show mac-address-table static [detail]

EXEC

Detail	KEYWORD	Detail	

EXEC

⏏

MAC

MAC

⏏

detail

MAC

⏏

show mac-address-table dynamic

§ STAR-S5610 MAC

£

switch# show mac-address-table static

3.2.11 show mac-address-table interface

MAC

⏏

**show mac-address-table interface FastEthernet | GigabitEthernet
slot/port [detail]**

EXEC

FastEthernet	KEYWORD	FastEthernet	10/100MbpsstEthernet
--------------	---------	--------------	----------------------

mac-group addresses	XX.XX.XX .XX.XX.X X	01:00:5e:00:00:00 ~ 01:00:5e:FF:FF:FF	MAC xx:xx:xx:xx:xx:xx 3 01-00-5eШ

Detail

Detail

É

2

EXEC W

MAC MAC MAC W

```

    Š      STAR-S5610    MAC      £
switch# show mac-address-table all

```

3.3 VLAN

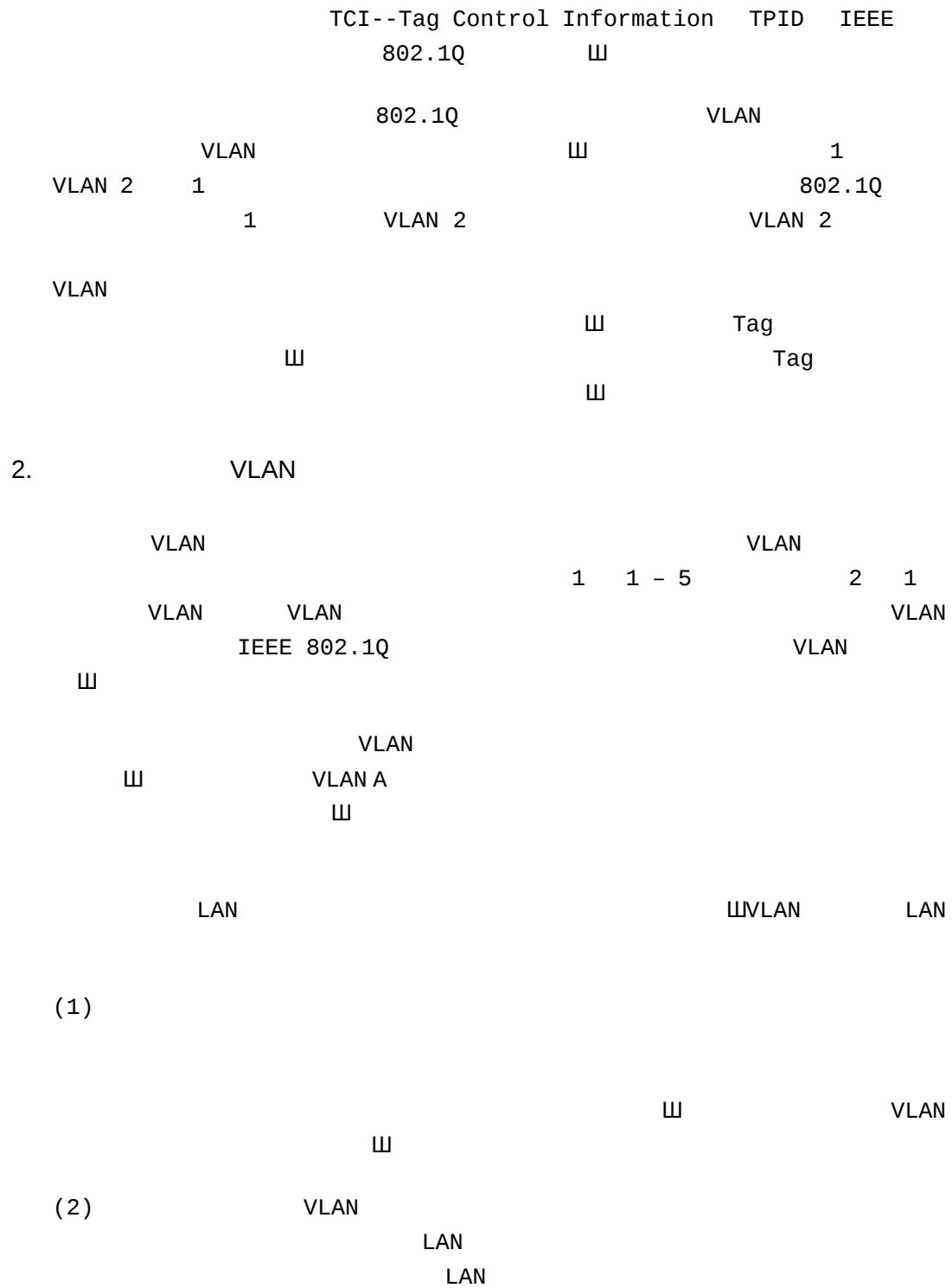
3.3.1 VLAN

VLAN Virtual Local Area Network

VLAN LAN LAN VLAN
VLAN LAN
W VLAN
VLAN LAN W VLAN
U U

```
VLAN
    VLAN      VLAN ID
        III
            III   VLAN          III
STAR-S5610 AMS      IEEE 802.1q     VLAN           VLAN:
```

1.	IEEE 802.1q	VLAN	
	IEEE 1999	802.1Q	Virtual Bridged Local Area Network
	VLAN		VLAN
	802.1Q		



3.3.3 vlan allowed

vlan $\square$

vlan allowed *vlan_id1* [- *vlan_id1*]

<i>vlan_id1</i>	INTEGER	VLAN id 1~4094	VLAN ,	VLAN
-----------------	---------	----------------	--------	------

vlan allowed *vlan-id-range*

```

§   STAR-S5610   VLAN 100       4       3       £
switch(config-if-fast 4/3)# no vlan allowed 100

```

3.3.7 no vlan tagged

802.1q Tag 山

no vlan tagged *vlan_id*

<i>vlan_id</i>	INTEGER	1~4094	VLAN

山

no vlan tagged

vlan_id Tag山

```

§   STAR-S5610   4       3           802.1q   Tag   £
switch(config-if-fast 4/3)# no vlan tagged

```

3.3.8 vlan

VLAN

```
vlan vlan-id1 [- vlan-id2 ]
```

VLAN

--	--	--	--

VLAN

<i>vlan-id1</i>	INTEGER	1~4094	Vlan id VLAN vlan id
<i>vlan-id2</i>	INTEGER	1~4094	VLAN VLAN ID
All	KEYWORD	All	VLAN

VLAN

山

vlan

```

$ STAR-S5610      vlan 128 £
switch(vlan)# no vlan 128
                vlan                tag      vlan id    £

```

3.3.10 show

VLAN

山

show vlan-id

EXEC

<i>vlan-id</i>	INTEGER	1~4094	Vlan

EXEC 山

VLAN Tagged UnTagged 山

§ STAR-S5610 vlan 36 £

switch(vlan)# show vlan 36

3.4

3.4.1 trap igmp

IGMP [] cpu山

[no] trap igmp slot/port

slot	INTEGER	1~4 7~10	
port	INTEGER	1~32	

山

IGMP cpu cpu 山

```

$ STAR-S5610 1 8 igmp CPU £
switch(config)# trap igmp 1/8

```

3.4.2 trap arp

```

ARP [ ] cpuШ

```

[no] trap arp

Ш

```

ARP      cpu      cpu      Ш

```

```

$ STAR-S5610 1 8 ARP CPU £
switch(config-if-fast 1/8)# trap arp

```

3.4.3 trap bpdu

```

BPDU [ ] cpuШ

```

[no] trap bpd *slot/port*

h r

143

<i>mac_addr</i>	XX.XX.XX.XX .XX.XX	00:00:00:00:00:00 ~ FF:FF:FF:FF:FF:FF	MAC :00:6d:88:12:e3:09
<i>vlan-id</i>	INTEGER	1~4094	VLAN

山

MAC VLAN ID cpu cpu 山

```

$ STAR-S5610 MAC 00:06:bf:8d:64:00 VLAN 28 CPU
switch(config)# trap addr 00:06:bf:8d:64:00 28

```

3.5

3.5.1 spanning-tree enable

[no] spanning-tree enable

no 山

山

1 § £
switch(config)#spanning-tree enable

2 §



```

1 $      2/3      100 £
switch$ config-if-fast 2/3 $ spanning-tree port-priority 100

2 $      2/3      £
switch$ config-if-fast 2/3 $ no spanning-tree port-priority
    
```

3.5.3 spanning-tree cost

spanning-tree cost

```

2 §      2/3      £
switch(config-if-fast 2/3)#no spanning-tree cost

```

3.5.4 spanning-tree priority

```

spanning-tree priority bridge_priority
no spanning-tree priority

```

<i>bridge_priority</i>	INTEGER	1-65535	32768

no 32768

```

1 §      8000 £
switch(config)#spanning-tree priority 8000

2 §      £
switch(config)#no spanning-tree priority

```

3.5.5 spanning-tree hello-time

```

spanning-tree hello-time hello_time

```

no spanning-tree hello-time

<i>hello_time</i>	INTEGER	1~10	2

hello no hello 2 hello

```
1 $ hello 7 £
switch(config)# spanning-tree hello-time 7

2 $ hello £
switch(config)# no spanning-tree hello-time
```

3.5.6 spanning-tree forward-time

spanning-tree forward-time *forward_time*

no spanning-tree forward-time

--	--	--	--

<i>forward_time</i>	INTEGER	4~30	山	15
---------------------	---------	------	---	----

forward delay 山no 15 山
forward delay forward delay 山

1\$ STAR-S5610 forward delay 20 £
switch(config)#spanning-tree forward-time 20

2: STAR-S5610 forward delay £
switch(config)#no spanning-tree forward-time

3.5.7 spanning-tree max-age

spanning-tree max-age *max_age*

no spanning-tree max-age

③ detail
 ③

1 § 2/3 £
 switch(config)# show spanning-tree 2/3

2 § 2/3 £
 switch(config)# show spanning-tree 2/3 detail

3 § £
 switch(config)# show spanning-tree

3.5.9 spanning-tree root

spanning-tree root [**hello-time** *seconds*] [**secondary**]

no spanning-tree root

hello-time <i>seconds</i>	INTEGER	1~10	
secondary	KEYWORD	secondary	STAR-S5610

```

STAR-S5610
secondary
STAR-S5610
32768
hello
no

```

```

1 $ STAR-S5610 £
switch(config)# spanning-tree root

2 $ STAR-S5610 hello 3 £
switch(config)# spanning-tree root hello-time 3 secondary

3 $ STAR-S5610 £
switch(config)# no spanning-tree root

```

3.5.10 default spanning-tree

default spanning-tree

```

STAR-S5610
max age forward delay
hello

```

§ £
switch(config)# default spanning-tree

4

4.1 IP

4.1.1 ip address

ip address *ip_address* [*netmask* | *netmask-length*] [**secondary**]

no ip address *ip_address*

<i>ip_address</i>	A.B.C.D	IP	IP 山
<i>Netmask:</i>	A.B.C.D		山
<i>netmask-length</i>	INTEGER	0~32	山
Secondary:	KEYWORD	Secondary	山

IP

山

```

§      vlan 3          192.168.0.12      255.255.255.0
switch(config-if-vlan 3)#ip addr 192.168.0.12 255.255.255.0

```

4.1.2 hostname

hostname *hostname*

hostname	WORD	1~16	山

山

show hostname

š STAR£
switch(config)#hostname STAR
STAR (config)#

4.1.3 show hostname

show hostname

EXEC

hostname

```

Flags: (0x8863) UP BROADCAST MULTICAST ARP RUNNING
Type: NewUnkownType
Internet address: 192.168.3.1
Broadcast address: 192.168.3.255
Netmask 0xffffffff Subnetmask 0xffffffff00
Net 0xc0a80300 Subnet 0xc0a80300
ARP Proxy On
ARP Open
Ethernet address is 00:06:bf:00:00:31
Metric is 0
Maximum Transfer Unit size is 1500
It's a SW(inbands) interface, and MibII2233 info is:
6151588 octets received
1137306 octets sent
8927 packets received
42949680095 packets sent
1144 broadcast packets received
91 broadcast packets sent
24 multicast packets received
0 multicast packets sent
0 input discards
0 input unknown protocols
0 input errors
0 output errors

```

4.2 ARP

4.2.1 ip arp

ip arp *internet-address hardware-address*

no ip arp *internet-address [hardware-address]*

internet-address	A.B.C.D	IP	ARP IP 山

hardware- address	xx:xx:xx:x x:xx	MAC	ARP	MAC	山
----------------------	--------------------	-----	-----	-----	---

ARP 山

show ip arp

clear arp-cache

```

š      IP      192.168.0.106£
switch(config)# ip arp 192.168.0.106 00:d0:f3:44:23:05
OK to add this ARP entry!

```

4.2.2 ip arp arpa

[no] **ip arp arpa**

ARP

ARP

ARP 山

```

switch# vlan 3 ARP
switch(config-if-vlan 3)# ip arp arpa
VLAN 3 enable ARP OK

```

4.2.3 clear arp-cache

clear arp-cache [*host-address*]

EXEC

host-address	A.B.C.D	IP	ARP IP 山

ARP

ARP

ARP 山

ip arp

show ip arp

```

switch# clear arp-cache
Dynamic arp table entrie(s) deleted!

```

4.2.4 show ip arp

show ip arp [*address*]

EXEC

address	A.B.C.D	IP	IP 山

ARP

山

ip arp
clear arp-cache

§ ARP £
switch#clear arp-cache

4.3 ARP

4.3.1 ip proxy-arp

[no] **ip proxy-arp**

interface vlan interface super-vlan

sub-vlan ARP Super-vlan ARP
vlan ARP

switch(config-if-super-vlan)#ip proxy-arp

4.4

4.4.1 [no] ip localhost

[no] ip localhost {hostname ip-address}

hostname	WORD	1~31	
ip-address	A.B.C.D	IP	IP

IP

show ip localhosts

```

§      IP      192.168.0.1      ZY01£
switch(config)#ip localhost ZY01 192.168.0.1

```

4.4.2 show ip localhosts

show ip localhosts [*hostname*]

EXEC

<i>hostname</i>	WORD	1~31	∟
<i>ip-address</i>	A.B.C.D	IP	IP ∟

IP

∟

ip localhost

```

§      IP      £
switch#show ip localhosts

```

4.5 NAT

4.5.1 nat enable

[no] nat enable

(interface vlan)

VLAN NAT 山

š vlan 3 NAT £
switch(config-vlan 3)# nat enable

4.6 VLAN

4.6.1 Super-vlan

[no] super-vlan sup-vid1 [- supvid2]

vlan

sup-vid1	INTEGER	1~32	() super-vlan山
-	KEYWORD	-	super-vlan 山
sup-vid2	INTEGER	1~32	sup-vid1 super-vlan 山

`super-vlan`

`show super-vlan`

```
switch(vlan)# super-vlan 1 2 3
switch(vlan)# super-vlan 1 - 3
```

4.6.2 allow vlan

`allow vlan vid1 [ - vid2]`

`no allow vlan {{vid1 [ - vid2]}} | all`

<i>vid1</i>	INTEGER	1~4094	()
-------------	---------	--------	---------

Super-VLAN		Super-VLAN	Sup-VID1
Super-VLAN	sup-VID1	sup-VID2	Super-VLAN
山			

super-vlan

allow vlan

š Super-VLAN £
switch#show super-vlan

4.7 IP

4.7.1 [no] ip tos-field

ip tos-field [max-reliability | max-throughput | min-delay | min-cost
| normal]

no ip tos-field


```
Set TOS of TCP socket-- tos:normal, (PCB:0x7a77478 , so-fd:16).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a774fc , so-fd:17).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a773f4 , so-fd:15).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a77370 , so-fd:14).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a772ec , so-fd:13).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a77268 , so-fd:12).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a771e4 , so-fd:11).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a4cce0 , so-fd:9).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a4cc5c , so-fd:8).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a4cbd8 , so-fd:7).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a4cb54 , so-fd:6).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a4cad0 , so-fd:5).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a4c9c8 , so-fd:4).
switch(config)#
```

4.7.2 show ip tos-field

show ip tos-field

山

ToS 山

socket raw ip socket 4TCP socket 4UDP
socket山

[no] ip tos-field

š ToS £ raw ip £ tcp £ udp £
switch(config)# show ip tos-field

```

No RAW type socket!
Get TOS of TCP socket-- tos:normal, (PCB:0x7a77580 , so-fd:18).
Get TOS of TCP socket-- tos:normal, (PCB:0x7a77478 , so-fd:16).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a774fc , so-fd:17).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a773f4 , so-fd:15).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a77370 , so-fd:14).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a772ec , so-fd:13).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a77268 , so-fd:12).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a771e4 , so-fd:11).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a4cce0 , so-fd:9).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a4cc5c , so-fd:8).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a4cbd8 , so-fd:7).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a4cb54 , so-fd:6).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a4cad0 , so-fd:5).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a4c9c8 , so-fd:4).
switch(config)#

```

4.7.3 show ip netbuf-pool

```

show ip netbuf-pool [ data_trasfer| sys_structure| mbuf| driver_mblk
6.5308.5308.5308 0 20

```

山

4 mbuf 4 mblk 4
4 mbuf

```

IFADDR :      0
CONTROL :      0
OOBDATA :      0
IPMOPTS :      0
IPMADDR :      0
IFMADDR :      0
MRTABLE :      0
TOTAL   :    400
number of mbufs: 400
number of times failed to find space: 0
number of times waited for space: 0
number of times drained protocols for space: 0

```

CLUSTER POOL TABLE

size	clusters	free	usage
64	4741	3427	45249
128	100	100	194097
256	40	39	1697
512	40	40	256
1024	25	25	103
2048	25	25	1735

NETWORK STACK SYSTEM POOL(mBlk&clusters Used Only For Sys Struct) STATISTICS:

type	number
FREE	8297
DATA	0
HEADER	0
SOCKET	14
PCB	16
RTABLE	140
HTABLE	0
ATABLE	0
SONAME	0
ZOMBIE	0
S0OPTS	0
FTABLE	0
RIGHTS	0
IFADDR	1321
CONTROL	0
OOBDATA	0
IPMOPTS	0

number of times waited for space: 0
 number of times drained protocols for space: 0

CLUSTER POOL TABLE

size	clusters	free	usage

64	4741	3427	45249
128	100	100	194110
256	40	39	1697
512	40	40	256
1024	25	25	103
2048	25	25	1735

3: £
 switch(config)# show ip netbuf-pool data-transfer

NETWORK STACK DATA POOL(mBlk&clusters Used Only For Data Trasfer) STATISTICS:

type	number

FREE :	399
DATA :	1
HEADER :	0
SOCKET :	0
PCB :	0
RTABLE :	0
HTABLE :	0
ATABLE :	0
SONAME :	0
ZOMBIE :	0
SOOPTS :	0
FTABLE :	0
RIGHTS :	0
IFADDR :	0
CONTROL :	0
OOBDATA :	0
IPMOPTS :	0
IPMADDR :	0
IFMADDR :	0
MRTABLE :	0
TOTAL :	400

number of mbufs: 400
 number of times failed to find space: 0
 number of times waited for space: 0
 number of times drained protocols for space: 0

CLUSTER POOL TABLE

size	clusters	free	usage

64	4741	3427	45249
128	100	100	194086
256	40	39	1697
512	40	40	256
1024	25	25	103
2048	25	25	1735

4 § £
show ip net buf-pool sys

NETWORK STACK SYSTEM POOL (mBlk&clusters Used Only For Sys Struct) STATISTICS:

```

type          number
-----
FREE   :    8297
DATA   :         0
HEADER :         0
SOCKET :        14
PCB    :        16
RTABLE :       140
HTABLE :         0
ATABLE :         0
SONAME :         0
ZOMBIE :         0
SOOPTS :         0
FTABLE :         0
RIGHTS  :         0
IFADDR  :      1321
CONTROL :         0
OOBDATA :         0
IPMOPTS :         0
IPMADDR :         6
IFMADDR :         0
MRTABLE :         0
TOTAL   :      9794

```

```

number of mbufs: 9794
number of times failed to find space: 0
number of times waited for space: 0
number of times drained protocols for space: 0

```

CLUSTER POOL TABLE

size	clusters	free	usage
64	64	0	644
128	4705	3334	2872
256	64	20	1105
512	64	46	1430

```

5:          mbuf          £
switch(config)# show ip netbuf-pool mbuf

```

NETWORK STACK DATA POOL(Distribution of mbuf) STATISTICS:

type	number
------	--------

FREE	: 399
DATA	: 1
HEADER	: 0
SOCKET	: 0
PCB	: 0
RTABLE	: 0
HTABLE	: 0
ATABLE	: 0
SONAME	: 0
ZOMBIE	: 0
SOOPTS	: 0
FTABLE	: 0
RIGHTS	: 0
IFADDR	: 0
CONTROL	: 0
OOBDATA	: 0
IPMOPTS	: 0
IPMADDR	: 0
IFMADDR	: 0
MRTABLE	: 0
TOTAL	: 400

number of mbufs: 400

number of times failed to find space: 0

number of times waited for space: 0

number of times drained protocols for space: 0

CLUSTER POOL TABLE

size	clusters	free	usage
64	4741	3427	45249
128	100	100	194002

256	40	39	1697
512	40	40	256
1024	25	25	103
2048	25	25	1735

```

6:          250      mblk          £
switch(config)# show ip netbuf-pool driver-mblk 250
DRIVER MBLK POOL( Distribution of mbuf) STATISTICS:

```

```

-----
type      number
-----
FREE      :      20
DATA      :       0
HEADER    :       0
SOCKET    :       0
PCB       :       0
RTABLE    :       0
HTABLE    :       0
ATABLE    :       0
SONAME    :       0
ZOMBIE    :       0
SOOPTS    :       0
FTABLE    :       0
RIGHTS    :       0
IFADDR    :       0
CONTROL   :       0
OOBDATA   :       0
IPMOPTS   :       0
IPMADDR   :       0
IFMADDR   :       0
MRTABLE   :       0
TOTAL     :      20

```

```

number of mbufs: 20
number of times failed to find space: 0
number of times waited for space: 0
number of times drained protocols for space: 0

```

CLUSTER POOL TABLE

size	clusters	free	usage
0PM0P53h	-----	-1.1	0

4.7.4 show ip statistics

```
show ip statistics { ip | tcp | icmp | igmp | udp | socket | route }
```

ip	KEYWORD	ip	IP 山
tcp	KEYWORD	tcp	TCP 山
icmp	KEYWORD	icmp	ICMP 山
igmp	KEYWORD	igmp	IGMP 山
udp	KEYWORD	udp	UDP 山
socket	KEYWORD	socket	SOCKET 山
route	KEYWORD	route	ROUTE 山

IP/ICMP/IGMP/UDP/TCP/SOCKET/ROUTE

山

山

```
1:          £
switch(config)# show ip statistics ?
ip          - ip statistics
tcp         - tcp statistics
icmp        - icmp statistics
igmp        - igmp statistics
udp         - udp statistics
socket      - socket statistics
route       - route statistics
```

```
2: IP £
switch(config)# show ip statistics ip
IP STATISTICS:
```

```
    total 47944
    badsum 0
    tooshort 0
    toosmall 0
    badhlen 0
    badlen 0
    infragments 0
    fragdropped 0
    fragtimeout 0
    forward 3339
    cantforward 0
    redirectsent 0
    unknownprotocol 267
    nobuffers 0
    reassembled 0
    outfragments 0
    noroute 0
```

```
3 § ICMP £
switch(config)# show ip statistics icmp
ICMP STATISTICS:
```

```
1809 calls to icmp_error
0 error not generated because old message was icmp
Output histogram:
    echo reply: 17902
    destination unreachable: 1809
0 message with bad code fields
0 message < minimum length
0 message with bad length
Input histogram:
    echo reply: 15
    destination unreachable: 265
    echo: 17902
    address mask request: 2
17902 message responses generated
```

```
4 § IGMP £
switch(config)# show ip statistics igmp
IGMP STATISTICS:
0 invalid queries received
0 invalid reports received
0 bad checksums received
0 reports for local groups received
0 membership queries received
```

```

0 membership reports received
0 short packets received
0 total messages received
0 membership reports sent

```

```

5$      UDP      £

```

```
switch(config)# show ip statistics udp
```

```
UDP STATISTICS:
```

```

96068 total packets
15370 input packets
80698 output packets
0 incomplete header
0 bad data length field
0 bad checksum
0 broadcasts received with no ports
0 full socket
15361 pcb cache lookups failed
1809 pcb hash lookups failed

```

```

6$      TCP      £

```

```
switch(config)# show ip statistics tcp
```

```
TCP STATISTICS:
```

```

14432 packets sent
  10521 data packets (3282963 bytes)
    683 data packets (30498 bytes) retransmitted
  2984 ack-only packets (37 delayed)
    0 URG only packet
    0 window probe packet
  185 window update packets
    59 control packets
11057 packets received
  5760 acks (for 2330694 bytes)
    88 duplicate acks
    0 ack for unsent data
  2807 packets (328144 bytes) received in-sequence
    25 completely duplicate packets (470 bytes)
    0 packet with some dup. data (0 byte duped)
    66 out-of-order packets (0 byte)
    0 packet (0 byte) of data after window
    0 window probe
    16 window update packets
    0 packet received after close
    0 discarded for bad checksum
    0 discarded for bad header offset field
    0 discarded because packet too short
    0 connection request
947 connection accepts

```

```

939 connections established (including accepts)
947 connections closed (including 861 drops)
  0 embryonic connection dropped
4349 segments updated rtt (of 4891 attempts)
 87 retransmit timeouts
    2 connections dropped by rexmit timeout
  0 persist timeout
  0 keepalive timeout
    0 keepalive probe sent
    0 connection dropped by keepalive
  0 pcb cache lookup failed

```

7 \$ SOCKET £

```

switch(config)# show ip statistics sock
ACTIVE INTERNET CONNECTIONS (including servers)

```

PCB	Proto	Recv-Q	Send-Q	Local Address	Foreign Address	(state)

7a77580	TCP	0	0	0.0.0.0.23	0.0.0.0.0	
7a77478	TCP	0	0	0.0.0.0.80	0.0.0.0.0	
7a774fc	UDP	0	0	0.0.0.0.7000	0.0.0.0.0	
7a773f4	UDP	0	0	0.0.0.0.1025	0.0.0.0.0	
7a77370	UDP	0	0	0.0.0.0.0	0.0.0.0.0	
7a772ec	UDP	0	0	0.0.0.0.1813	0.0.0.0.0	
7a77268	UDP	0	0	0.0.0.0.1812	0.0.0.0.0	
7a771e4	UDP	0	0	192.168.9.5.2000	0.0.0.0.0	
7a4cce0	UDP	0	0	192.168.9.5.3000	0.0.0.0.0	
7a4cc5c	UDP	0	0	192.168.9.5.3005	0.0.0.0.0	
7a4cbd8	UDP	0	0	127.0.0.1.1024	127.0.0.1.17185	
7a4cb54	UDP	0	0	0.0.0.0.17185	0.0.0.0.0	
7a4cad0	UDP	0	0	0.0.0.0.161	0.0.0.0.0	
7a4c9c8	UDP	0	0	0.0.0.0.69	0.0.0.0.0	

8: ROUTE £

```

switch(config)# show ip statistics route
ROUTING STATISTICS:
0    bad routing redirect
0    dynamically created route
0    new gateway due to redirects
4    destinations found unreachable
0    use of a wildcard route

```

5

5.1

5.1.1 [no] ip route

ip route *ip-address* { *mask* | *mask-length* } { *interface-type* *interface-number* | *gateway-address* } [**cost** *value*] [**reject** | **blackhole**]

no ip route *ip-address* { *mask* | *mask-length* } [*interface-type* *interface-number* | *gateway-address*] [**cost** *value*]

<i>ip-address</i>	A.B.C.D	IP	IP 山
<i>mask</i>	A.B.C.D		山
<i>mask-length</i>	INTEGER	0~32	山
<i>interface-type</i>	WORD	1~8	山
<i>interface-number</i>	INTEGER	1~4094	山
<i>gateway-address</i>	A.B.C.D	IP	山
cost	KEYWORD	cost	() 山
<i>value</i>	INTEGER	0~15	() 山
Reject	KEYWORD	Reject	() RTF_REJECT山
blackhole	KEYWORD	blackhole	() RTF_BLACKHOLE山

山

show ip route

```
1 š          192.168.1.1          32          192.168.0.57          £
switch(config)#ip route 192.168.1.1 32 192.168.0.57
```


5.2.2 [no] hw route

```
hw route slot/port dest-ip-address dest-mac-address vlan-id
[dest-tag| [ srcmac src-mac-address] | [ mask net-mask] | static
| [dev src-dev-num ]| [ cmd cmd-num ] ]
```

```
no hw route dest-ip-address [ mask net-mask] [dev src-dev-num ]
```

<i>slot</i>	SLOT/PORT	1~10	
<i>port</i>	SLOT/PORT	1~32	
<i>dest-ip-address</i>	A.B.C.D	IP	IP 山
<i>Dest-mac-address</i>	XX:XX:XX:XX:XX:XX	MAC	MAC 山
<i>vlan-id</i>	INTEGER	1~4094	Vlan 山
<i>dest-tag</i>	INTEGER	0~1	() tag tag山
srcmac	KEYWORD	srcmac	() MAC 山
<i>src-mac-address</i>	XX:XX:XX:XX:XX:XX	MAC	() MAC MAC 山
mask	KEYWORD	mask	() 山
<i>net-mask</i>	A.B.C.D	MAC	() 山
static	KEYWORD	static	() 山
dev	KEYWORD	dev	() 山
<i>src-dev-num</i>	INTEGER	0~31	() 山
cmd	KEYWORD	cmd	() 山

cmd-num	INTEGER	0~7	()0- 1- 2- 3- 4- 5- CPU 6, 7 0
---------	---------	-----	--

NO

山

show hw route

```

1 š          192.168.0.5      MAC  00:00:00:00:00:01      8/1  VID
4          £
switch (config)#hw route 8/1 192.168.0.5 00:00:00:00:00:01 4

2 š          192.168.0.0      MAC  00:00:00:00:00:01      8/1  VID
4          255.255.255.0.0    £
switch (config)#hw route 8/1 192.168.0.0 00:00:00:00:00:01 4 mask
255.255.0.0

3 š          192.168.0.5      MAC  00:00:00:00:00:01      8/1  VID
4          CPU          £
switch (config)#hw route 8/1 192.168.0.0 00:00:00:00:00:01 4 cmd 5

4 š          192.168.0.5      MAC  00:00:00:00:00:01      8/1  VID
4          £
switch (config)#hw route 8/1 192.168.0.0 00:00:00:00:00:01 4 static

5 š          192.168.0.5      MAC  00:00:00:00:00:01      8/1  VID
4          20          £
switch (config)#hw route 8/1 192.168.0.0 00:00:00:00:00:01 dev 20

6 š

```

5.2.3 show hw route

show hw route [[**host** *dest-ip-address*]]| [**network** *dest-ip-address*]
[*net-mask*]]

host	KEYWORD	host	() 山
<i>dest-ip-address</i>	A.B.C.D	IP	() IP 山
network	KEYWORD	network	() 山
<i>net-mask</i>	A.B.C.D		() 山

山

hw route

1 山 山
switch# show hw route

2 山 山
switch# show hw route host

3 山 192.168.1.1 山
switch# show hw route host 192.168.1.1

4 山 山
switch# show hw route network


```

$          natpool1  natpool2  NAT          natpool1          £
172.16.10.1 172.16.10.2 natpool2          172.16.20.1 172.16.20.3
          24 £
switch(config)# ip nat pool aaa 172.16.10.1 172.16.10.2 255.255.255.0
switch(config)# ip nat pool ccc 172.16.20.1 172.16.20.3 24

```

5.3.2 [no] ip nat static

[no] ip nat static *local-ip global-ip*

<i>local-ip</i>	A.B.C.D	IP	NAT
<i>global-ip</i>	A.B.C.D	IP	NAT

```

NAT          /          NAT          STAR-S5610          128
          山

```

show ip nat static

```

$          192.168.0.2          202.112.1.10          £
switch(config)# ip nat static 192.168.0.2 202.112.1.10

```

5.3.3 ip nat translation

ip nat translation {udp-timout|tcp-timout|icmp-timout} seconds

seconds	INTEGER	1~0xffffffff	NAT

```

STAR-S5610 NAT          TCP 4 UDP  ICMP 3
NAT
NAT          3

```

show ip nat statistics

```

1 $    UDP    NAT          300  £
switch(config)# ip nat translation udp-timout 300
2 $    ICMP    NAT          30  £
switch(config)# ip nat translation icmp-timout 30

```

5.3.4 [no] original-list

**original-list orig-list-number permit { local-pool
local-pool-name} | {range start-ip end-ip }**

no original-list orig-list-number

5.3.5 [no] ip nat original-list

[no] ip nat original-list *orig-list-number* **pool** *name*

<i>orig-list-number</i>	INTEGER	1~65535	IP ID
<i>name</i>	WORD	1~15	NAT

NAT IP NAT NAT NAT

original-list

show ip nat pool

```

switch(config)#ip nat original-list 1 pool natpool1

```

5.3.6 [no] ip nat free-to

ip nat free-to *ip-address*

<i>ip-address</i>	A.B.C.D	IP	NAT IP

8 NAT IP NAT STAR-S5610
192.168.0.59

show ip nat free-to

š 192.168.0.59 IP NAT£
switch(config)#ip nat free-to 192.168.0.59

5.3.7 [no] ip nat bind

[no] ip nat bind *ip-address mac-addr vlan-id*

<i>ip-address</i>	A.B.C.D	IP	NAT IP
<i>mac-addr</i>	xx xx xx xx xx xx	MAC	NAT MAC
<i>vlan-id</i>	INTEGER	1~4095	NAT VLAN ID

NAT	STAR-S5610	IP MAC	VLAN ID,
-----	------------	-----------	----------

slot	SLOT/PORT	1~10	NAT

NAT NAT
NAT W

NAT NAT NAT NAT

ip nat pool

```

$ NAT £
switch#show ip nat pool
Total NAT IP pools number is :2.

NAT pool 0's name is :taigu-nat.
NAT pool 0's size is :1.
NAT pool 0's startip is :61.152.154.34.
Dynamic ip 61.152.154.34 is allocated to STAR-NAT on slot: 2.

NAT pool 1's name is :natpool.
NAT pool 1's size is :5.
NAT pool 1's startip is :61.152.154.1.
Dynamic ip 61.152.154.1 is NOT allocated.
Dynamic ip 61.152.154.2 is NOT allocated.
Dynamic ip 61.152.154.3 is NOT allocated.
Dynamic ip 61.152.154.4 is NOT allocated.
Dynamic ip 61.152.154.5 is NOT allocated.

```

5.3.10 show ip nat static

show ip nat static

山

NAT

山

[no] ip nat static

```

    5
    NAT    5
switch#show ip nat static
NAT static pairs number:1.
static pair 0's global ip address:202.112.1.1.
static pair 0's private ip address:192.168.0.1.
this static pair is allocated to STAR-NAT on slot: 2.

```

5.3.11 show ip nat statistics

show ip nat statistics

NAT

山

ip nat translation

5

NAT

5

5.3.13 show ip nat free-to

```
show ip nat free-to
```

NAT

```
[no] ip nat free-to
```

```

switch#show ip nat free-to
Ip nat free-to address : 192.168.8.8 .

```

5.4 OSPF

5.4.1 [no] router ospf enable

1.

```
[no] router ospf enable
```

山

OSPF no OSPF 山

2.

show ip ospf

3.

1 š OSPF £
switch (config)# router ospf enable

5.4.2 [no] network area

1.

[no] network area area-id ip-address wildcard-mask

OSPF

<i>area-id</i>	A.B.C.D INTEGER	IP 0-65535	ID山
<i>ip-address</i>	A.B.C.D	IP	OSPF IP 山
<i>wildcard-mask</i>	A.B.C.D		<i>ip-address</i> 山

OSPF
no

OSPF
OSPF 山

2.

show ip ospf interface

3.

```
1$          OSPF £
switch (config-ospf)# network area 0.0.0.0 192.168.0.1 0.0.255.255
```

5.4.3 router-id

1.

router-id ip-address

no router-id

OSPF

<i>ip-address</i>	A.B.C.D	IP	ID

ID STAR-S5610 OSPF
- ID no ID

2.

show ip ospf

3.

```
1$          ID 1.1.1.1£
switch (config-ospf)# router-id 1.1.1.1
2$          ID£
switch (config-ospf)# no router-id
```

5.4.4 area stub

1.

area stub *area-id* [**no-summary**]**no area stub** *area-id*

OSPF

<i>area-id</i>	A.B.C.D INTEGER	IP 0~65535	stub ID Ⅲ
no-summary	keyword	no-summary	ABR summary LSAs Ⅲ

stub

stub Ⅲ

stub

no

2.

3.

```

1 ③      0.0.0.1      £
switch (config-ospf)# area stub 0.0.0.1
2 ③      10          £
switch (config-ospf)# area stub 10 no-summary
3 ③      10          £
switch (config-ospf)# no area stub 10

```

5.4.5 area virtual-link

1.

```
area virtual-link area-id router-id [hello-interval seconds]
[retransmit-interval seconds] [transmit-delay seconds]
[dead-interval seconds] [[authentication-key password]|
[message-digest-key keyid md5 key]]

no area virtual-link area-id router-id
```

OSPF

	INTEGER	0-65535	
router-id	A.B.C.D	IP	IP

2.

show ip ospf virtual-link

3.

```

1 $          0.0.0.1 Router ID 10.1.1.1          £
switch (config-ospf)# area virtual-link 0.0.0.1 10.1.1.1
2 $          Hello Interval  Dead Interval£
switch (config-ospf)# area virtual-link 0.0.0.1 10.1.1.1 hello-interval
10 dead-interval 40
3 $          £
switch (config-ospf)# area virtual-link 0.0.0.1 10.1.1.1
authentication-key hello
4 $          £
switch (config-ospf)# area virtual-link 0.0.0.1 10.1.1.1
message-digest-key 2 md5 welcome
5 $          £
switch (config-ospf)# no area virtual-link 0.0.0.1 10.1.1.1

```

5.4.6 area default-cost

1.

area default-cost area-id cost

no area default-cost area-id

OSPF

<i>area-id</i>	A.B.C.D INTEGER	IP 0~65535	ID Ⅲ
cost	INTEGER	1~4294967295	Ⅲ

stub

OSPF

stub

no

stub

Ⅲ

2.

3.

```

1$          11          10£
switch (config-ospf)# area default-cost 11 10
2$          0.0.1.1          £
switch (config-ospf)# no area default-cost 0.0.1.1

```

5.4.7 area range

1.

area range *area-id ip-address mask [advertise|nonadvertise]*

no area range *area-id ip-address mask*

OSPF

<i>area-id</i>	A.B.C.D INTEGER	IP 0~65535	ID Ⅲ
<i>ip-address</i>	A.B.C.D	IP	IP Ⅲ
<i>mask</i>	A.B.C.D		
advertise	keyword	advertise	
nonadvertise	keyword	nonadvertise	

no

Ⅲ

2.

show ip ospf routing

3.

```

1 > 100 192.168.0.0/24 & 192.168.1.0/24 & 192.168.2.0/24 &
192.168.3.0/24 1 >
switch (config-ospf)# area range 100 192.168.0.0 22
2 > 173.6.1.1 >
switch (config-ospf)# no area range 173.6.1.1 192.168.0.0 22

```

5.4.8 area authentication

1.

area authentication *area-id* [**message-digest**]

no area authentication *area-id*

OSPF

<i>area-id</i>	A.B.C.D INTEGER	IP 0~65535	ID 山
message-digest	keyword	message-digest	

OSPF

no

山

2.

show ip ospf

3.

```

1 > 10.0.0.0 >
switch (config-ospf)# area authentication 10.0.0.0
2 > 100.0.0.0 >
switch (config-ospf)# area authentication 100.0.0.0 message-digest
3 > 100 >

```

```
switch (config-ospf)# no area authentication 100
```

5.4.9 ip ospf cost

1.

```
ip ospf cost cost
```

```
no ip ospf cost
```

<i>cost</i>	INTEGER	1~65535	山

```
no
1000000000/ 山
```

2.

```
show ip ospf interface
```

3.

```
1$ 100£
switch (config-if-vlan 1)# ip ospf cost 100
```

5.4.10 ip ospf hello-interval

1.

```
ip ospf hello-interval seconds
```

```
no ip ospf hello-interval
```

seconds	INTEGER	1~65535	hello 卐

hello hello
no 卐

2.

show ip ospf interface

3.

1 š hello 100 £
switch (config-if-vlan 1)# ip ospf hello-interval 100

5.4.11 ip ospf dead-interval

1.

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

seconds	INTEGER	1~65535	hello hello 卐

```
hello no

```

2.

```
show ip ospf interface
```

3.

```

dead-interval 400
switch (config-if-vlan 1)# ip ospf dead-interval 400
```

5.4.12 ip ospf priority

1.

```
ip ospf priority number
```

```
no ip ospf priority
```


MTU

MTU

山

2.

3.

1\$ MTU £
switch (config-if-vlan 1)# ip ospf mtu-enable

2: MTU £
switch (config-if-vlan 1)# no ip ospf mtu-enable

5.4.18 show ip ospf

1.

show ip ospf

EXEC

OSPF

OSPF

山

2.

3.

```

§      OSPF      £
switch# show ip ospf

```

5.4.19 show ip ospf cumulative

1.

```
show ip ospf cumulative
```

EXEC

OSPF

OSPF

山

2.

3.

```

§      OSPF      £
switch# show ip ospf cumulative

```

5.4.20 show ip ospf database

1.

```

show ip ospf database [ [ [ external | network | router | summary |
asbr-summary ] [link-state-id] ] ] [database-summary]

```

EXEC

external	KEYWORD	external	external-LSA
network	KEYWORD	network	network-LSA
router	KEYWORD	router	router-LSA
summary	KEYWORD	summary	summary-LSA
asbr-summary	KEYWORD	asbr-summary	asbr-summary-LSA
<i>link-state-id</i>	A.B.C.D	IP	link-state-id LSA
database -summary	KEYWORD	database -summary	

LSA 山

2.

3.

1 \$ network-LSA£
switch# show ip ospf database network

2 \$ link-state-id 192.168.1.1 router-LSA£
switch# show ip ospf database router 192.168.1.1

3 \$ £
switch# show ip ospf database database-summary

5.4.21 show ip ospf error

1.

show ip ospf error

2.

3.

```
1 $ STAR-S5610 OSPF £
switch# show ip ospf interface
```

```
2 $ VLAN2 OSPF £
switch# show ip ospf interface vlan 2
```

5.4.23 show ip ospf neighbor

1.

```
show ip ospf neighbor [vlan|super-vlan number][neighbor-id]
[detail]
```

EXEC

vlan	KEYWORD	vlan	VLAN 山
number			

3.

```
1 š STAR-S5610 OSPF £
switch# show ip ospf neighbor
```

```
2 š VLAN2 OSPF £
switch# show ip ospf neighbor vlan 2
```

5.4.24 show ip ospf border-routers

1.

```
show ip ospf border-routers
```

EXEC

OSPF 山

2.

3.

```
š OSPF £
```

```
switch# show ip ospf border-routers
```

EXEC

vlan	KEYWORD	vlan	VLAN
------	---------	------	------

vlan	KEYWORD	vlan	VLAN 山
number	INTEGER	1~4094	VLAN 山
supper-vlan	KEYWORD	supper-vlan	Supper-VLAN 山
number	INTEGER	1~32	Supper-VLAN
nbr-id	A.B.C.D	IP	router-ID

OSPF

山

2.

3.

```
1$ STAR-S5610 OSPF £
switch# show ip ospf retransmission-list
```

```
2$ 10.0.0.1 £
switch# show ip ospf retransmission-list 10.0.0.1
```

5.4.27 show ip ospf virtual-link

1.

show ip ospf virtual-link

EXEC

OSPF 山

2.

3.

```
switch# show ip ospf virtual-link
```

5.4.28 show ip ospf routing

1.

```
show ip ospf routing
```

EXEC

OSPF 山

2.

3.

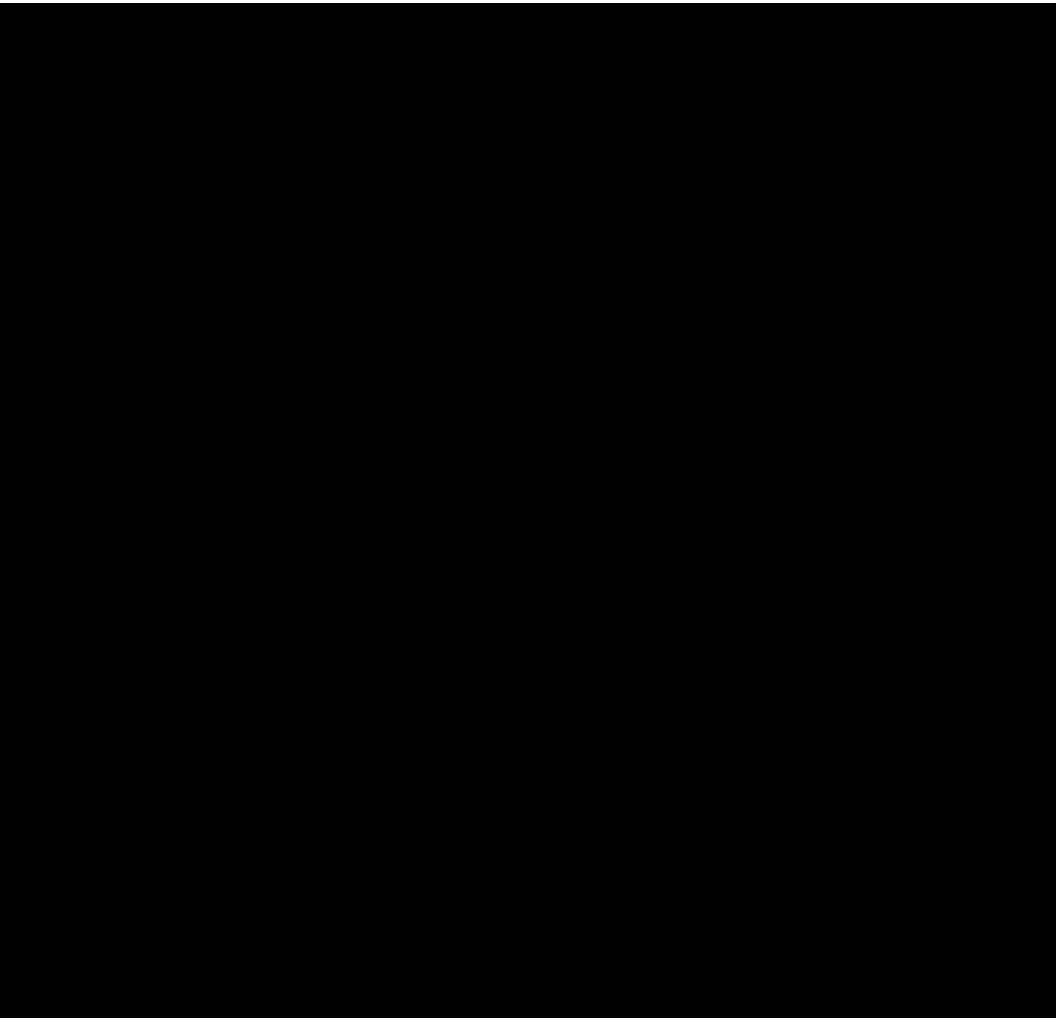
```
switch# show ip ospf routing
```

5.5 ACL

5.5.1 access-list

， 山

access-list *listnumber* {**permit|deny**} [**external**][{*source-address wildcard-mask*} | {**host** *source-address*} | **any**} [**log**] [**time-range** *time-range-name*]



1~99
t

mal

source-address , wildcard-mask IP
 listnumber 1~99
 0 1
 198.78.46.0/24
 IP

listnumber	INTEGER	100-200	100 200
permit	KEYWORD	permit	KEYWORDpermit
deny	KEYWORD	deny	KEYWORDdeny
protocol	WORD	1~4	WORD
protocol-key	INTEGER	0~255	
external	KEYWORD	external	KEYWORDexternal
source-address	A.B.C.D	IP	
wildcard-mask	A.B.C.D		, 0 1 1 0 1 1

show access-list

```

    101          SMTP          TCP
      198.78.46.8 202.192.19.* IP
      198.78.46.3 www http    80 smtp
    25
switch (config)# access-list 101 permit tcp any host 198.78.46.8 port smtp
switch (config)# access-list 101 permit ip 202.192.19.0 0.0.0.255 host
198.78.46.3 port www
  
```

5.5.3 access-list

ACL

access-list *listnumber* **remark** [*remark_string*]

listnumber	INTEGER	1~200	
remark	KEYWORD	remark	
remark_string	WORD	1~256	WORD

remark

remark **permit** **deny**

remark

60

60

show access-list

```

switch (config)# access-list 101 remark allow traffic to 198.78.46.8 by
smtp
switch (config)# access-list 101 permit tcp any host 198.78.46.8 port smtp
switch (config)# access-list 101 remark allow traffic to 198.78.46.3 by
www
switch (config)# access-list 101 permit tcp any host 198.78.46.3 port www
switch (config)# access-list 101 remark allow traffic to 198.78.46.9 by
pop3
switch (config)# access-list 101 permit tcp any host 198.78.46.9 port 110

```

5.5.4 show access-list

list number

show access-list [*listnumber*]

EXEC , XAK, X

```

1 §                               £
switch > show access-list
    1
    101
    105
2 §                               £
switch > show access-list 101
switch > access-list 101 remark allow traffic to 198.78.46.8 by smtp
switch > access-list 101 permit tcp any host 198.78.46.8 port smtp
switch > access-list 101 remark allow traffic to 198.78.46.3 by www
switch > access-list 101 permit tcp any host 198.78.46.3 port www
switch> access-list 101 remark allow traffic to 198.78.46.9 by pop3
switch > access-list 101 permit tcp any host 198.78.46.9 port 110

```

5.5.5 access-list default

ACL Ⅲ

access-list default {permit|deny}

SIP

QoS 山

show access-list default

§ ACL £
switch(config)# access-list default permit

5.5.6 show access-list default

ACL 山

show access-list default

EXEC

ACL 山

access-list default

§ ACL £
switch> show access-list default
permit

5.5.7 no access-list

山

no access-list *listnumber*

no access-list insert

```

š
ŏ1ŏ      show      1
switch(config)# show access-list 1
  1  permit host 198.78.46.20
  2  permit host 198.78.46.21
ŏ2ŏ
switch(config)# access-list insert 1 permit host 198.78.46.10 2
ŏ3ŏ      show      1
switch(config)# show access-list 1
  1  permit host 198.78.46.20
  2  permit permit host 198.78.46.10
  3  permit host 198.78.46.21

```

protocol	WORD	1~4	WORD
protocol-keyWORD	INTEGER	0~255	
external	KEYWORD	external	KEYWORDexternal
source-address	A.B.C.D	IP	
wildcard-mask	A.B.C.D		, 0 1 1
host	KEYWORD	host	host 0.0.0.0
any	KEYWORD	any	KEYWORDany IP 0.0.0.0 255.255.255.255
port	KEYWORD	port	KEYWORDport
source-port_string	WORD	1~8	WORD
source-port	INTEGER	0~65535	
destination-address	A.B.C.D	IP	
wildcard-mask	A.B.C.D		, 0 1 1

INSERT

山

山

no access-list insert

ACL

山

listnumber

100~200

山

no access-list insert

§

ŏ1Ŏ

show

101

switch(config)# show access-list 101

1 permit tcp any host 198.78.46.20 port smtp

2 permit tcp any host 198.78.46.20 port www

ŏ2Ŏ

switch(config)# access-list insert 101 permit tcp any host 198.78.46.10

2

ŏ3Ŏ

show

101

switch(config)# show access-list 101

1 permit tcp any host 198.78.46.20 port smtp

2 permit tcp any host 198.78.46.20 port www

3 permit tcp any host 198.78.46.10

5.5.10 no access-list insert

山

no access-list

listnumber	INTEGER	1~200	
exiting-subitem	INTEGER	1~55	

INSERT

山

山 access-list

insert ACL 山

listnumber

1~200 山

山

access-list insert

§

```

ö1ö show 101
switch(config)# show access-list 101
1 permit tcp any host 198.78.46.20 port smtp
2 permit tcp any host 198.78.46.20 port www

```

```

ö2ö
switch(config)# no access-list 101 2

```

```

ö3ö show 101
switch(config)# show access-list 101
1 permit tcp any host 198.78.46.20 port smtp

```

5.5.11 access-group

ACL VLAN山

access-group *acl-id*

<i>acl-id</i>	INTEGER	100~200	

STAR-S5610 VLAN Super-VLAN
 100 ACL
 100 ACL

no access-group

§ ACL 1 VLAN 2
 6610(config-if-vlan 2)# access-group 101

5.5.12 no access-group

VID ACL ID 100

no access-group

access-group

```

§          ACL
switch> show access-group vlan 5
101
switch> show access-group super-vlan 2
102

```

5.5.14 access-list enable

ACL 山

access-list enable

ACL 山 ACL
山

no access-list enable

```

§  ACL  £
switch  config  access-list enable

```

5.5.15 no access-list enable

ACL 山

no access-list enable

ACL
山

山

ACL

access-list enable

Š ACL £
switchŕconfigŕ no access-list enable

6.1.2 ip-session-threshold

山

ip-session-threshold *threshold*

QoS

threshold	INTEGER	1~65536	山

QoS

山

5

山

10

5

š

£

switch#qos

switch(config-qos)# ip-session-threshold 500

6.1.3 monitor-time

山

monitor-time *time*

QoS

time	INTEGER	1~3600	山 山

QoS

山

山

§ £
 switch#qos
 switch(config-qos)# monitor-time 300

6.1.4 flow monitor

山

flow monitor {**ip** *usernum* | **vlan** *vid1* [- *vid2*]} [**bulk-num** *bulk-num*]

QoS

username	INTEGER	1~100	W
Vid1	INTEGER	1~4095	VLAN VLAN ID W
Vid2	INTEGER	1~4095	VLAN VLAN ID VLAN ID2 >= VLAN ID1 W
bulk-num	INTEGER	1~10	W

QoS W IP
W VLAN () W
100 W

no flow monitor

show monitor-log

1 \$ 20 5 £
switch(config-qos)# flow monitor ip 20 bulk-num 5

2 \$ vlan 2 - 5 5 £
switch(config-qos)# flow monitor vlan 2 - 5 bulk-num 5

6.1.5 no flow monitor

W

no Flow monitor

QoS

QoS

山

山

flow monitor

show monitor-log

flow monitor

no flow monitor

```
§           £
switch#qos
switch(config-qos)# show monitor-log
```

6.2 DHCP

6.2.1 debug dhcpr

DHCP debug

[no] debug dhcpr

EXEC

DHCP .

dhcp debug

```
1$ DHCP
switch# debug dhcp
```

```
2$ DHCP
switch# no debug dhcp
```

6.2.2 dhcp relay enable

DHCP relay agent

[no] dhcp relay enable

VLAN/SUPER VLAN

```
DHCP relay agent
DHCP relay agent
no trap dhcp
DHCP
: no dhcp relay enable
```

```
VLAN /super VLAN
DHCP relay agent
trap dhcp
```

trap dhcp

```
1$ VLAN 2 DHCP
target(config-if-vlan 2)# dhcp relay enable
Enable DHCP relay agent in vlan 2!
```

```
2 §      super VLAN 3   DHCP
target(config-if-super-vlan 3)# dhcp relay enable
Enable DHCP relay agent in super vlan 3!
```

```
3 § VLAN 3      DHCP relay agent
target(config-if-super-vlan 2)# no dhcp relay enable
Disable DHCP relay agent in super vlan 2!
```

6.2.3 dhcp relay hops

DHCP relay agent

dhcp relay hops { hops | default }

<i>hops</i>	INTEGER	1~16	DHCP relay relay
Default	KEYWORD	Default	DHCP relay

DHCP DHCP relay agent HOPS

DHCP relay agent HOPS

dhcp relay hops default

```
1 §      DHCP relay hops      6
switch (config)# dhcp relay hops 6
```

Set DHCP hops to 6

```
25 DHCP relay hops
switch (config)# dhcp relay hops default
Set DHCP hops to 4
```

6.2.4 dhcp relay size

DHCP

dhcp relay size {address address number | default}

VLAN/Super VLAN

<i>address number</i>	INTEGER	0~255	DHCP relay
default	KEYWORD	default	DHCP

VLAN/Super VLAN DHCP
 VLAN/Super VLAN DHCP
 VLAN/super VLAN DHCP
 VLAN DHCP
 DHCP server
 VLAN/Super VLAN DHCP server
 DHCP server
 VLAN/Super VLAN 100

dhcp relay enable

attach dhcp server

```
1$ VLAN 3 20
switch (config-if-vlan 3)# dhcp relay size address 20
Set relay-size to 20 in vlan 3!

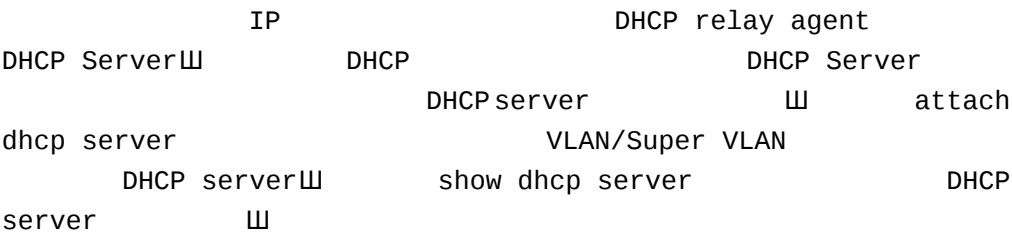
2$ VLAN 3
switch (config-if-vlan 3)# dhcp relay size default
Set relay-size to 100 in vlan 3!
```

6.2.5 dhcp server

DHCP

dhcp server {ip address}

ip address	A.B.C.D	IP	DHCP server ip
index	INTEGER	1-65535	DHCP server
all	KEYWORD	all	DHCP server



DHCP Server

dhcp relay enable

attach dhcp server

show dhcp server

```
1$ IP 20.12.192.133 DHCP Server
switch (config)# dhcp server 20.12.192.133
Assign the server[20.12.192.133] for DHCP successful!
```

```
2$ IP 20.12.192.133 DHCP server
switch (config)# no dhcp server 20.12.192.133
The specified server[20.12.192.133] has been removed!
```

```
3$ DHCP Server
switch (config)# no dhcp server 1
DHCP servers[200.2.12.13] have been removed!
```

6.2.6 attach dhcp server

VLAN/super VLAN DHCP Server

[no] attach dhcp server {*ip address* | *index*}

VLAN/SUPER VLAN

<i>ip address</i>	A.B.C.D	IP	DHCP server IP



dhcp server

show dhcp server

```

1$ IP 100.1.2.3 DHCP server
switch (config)# dhcp temp server 100.3.3.3
Assigning the server[100.3.3.3] for DHCP successful!

```

```

2$ IP 100.3.3.3 DHCP server
switch (config)# no dhcp temp server 100.3.3.3
The specified server[100.3.3.3] has been removed!

```

6.2.7 show dhcp server

DHCP server

show dhcp server {*ip address* | *index* [- *index*]}

<i>ip address</i>	A.B.C.D	IP	DHCP server ip
<i>index</i>	INTEGER	1~ 255	DHCP server

DHCP server IP server (

 server) server VLAN/Super VLAN

 山

 山

dhcp server

dhcp temp server

attach dhcp server

```

1$ DHCP server 100.1.2.3
switch (config)# show dhcp server 100.1.2.3
DHCP Server: 100.1.2.3
Temporary server: No
Attaching gateway : NONE
  
```

```

Send Packets:
.....offer      : 0
.....ack         : 0
.....nak         : 0
.....forcerenew: 0
Receive Packets:
.....discovery   : 0
.....request     : 0
.....decline     : 0
  
```

```
.....inform    : 0
.....release    : 0
Configure ip addresses : 0
```

25

DHCP		DHCP	VLAN/Super	VLAN
VLAN/Super	VLAN	DHCP relay agent		
	DHCP server	Client	Server	UDP
HOPS		DHCP	山	
山				

dhcp relay hops

trap dhcp

```

    3 DHCP relay agent
switch (config)# show dhcp relay config
trap dhcp 3 Yes
enable relaying in super vlans : none
enable relaying in vlans(1):
    2(0/100);
assigned DHCP serveres(2) :
1 100.1.2.3
2 200.2.2.2
server port      : 67
client port      : 68
hops             : 4

```

7 QoS

7.1 Cos

7.1.1 queue-alg sp

▮

▮

queue-alg sp

1, 2, 3, 4

4

▮ STAR-S5610

4

1 ▮

(1)

▮

(2)

▮

queue-alg wrr

queue-alg hybrid

weight-unit

show queue-alg

switch(config)# queue-alg sp

7.1.2 queue-alg wrr

queue-alg wrr weight1 weight2 weight3 weight4

weight1	INTEGER	10~50	1 Weght Unit packet byte W
weight2	INTEGER	10~50	2
weight3	INTEGER	10~50	3
weight4	INTEGER	10~50	4

WRR WRR

queue-alg sp
queue-alg hybrid
weight-unit
show queue-alg

§ 4 10 10 20 50£
switch(config)# queue-alg wrp 10 10 20 50
§ 1 § 1 § 2 § 5 £

7.1.3 queue-alg hybrid

) 卩 (WRR 卩

queue-alg hybrid weight1 weight2 [weight3]

weight1	INTEGER	10~50	1 WeightUnit , packet , byte
weight2	INTEGER	10~50	2
weight3	INTEGER	10~50	3

卩 weight1 weight2

1 weight1 2 weight2 3 4

queue-alg sp

queue-alg wrr

weight-unit

show queue-alg

```

1 3 4 sp 1/2/3 wrr 3 £
switch (config)# queue-alg hybrird 10 20 30
4 1 2 3 1 2 3 £

2 3/4 sp 1/2 wrr 2 .
switch (config)# queue-alg hybrid 30 40
3 4 1 2 3 4 £

```

7.1.4 weight-unit

WRR hybrid

weight-unit {packet|byte}

packet	KEYWORD	packet	
byte	KEYWORD	byte	byte

WRR hybrid

W

queue-alg sp

queue-alg wrr

queue-alg hybrid

show queue-alg

\$

£

switch (config)# weight-unit packet

7.1.5 show queue-alg

W

show queue-alg

W

queue-alg sp
 queue-alg wrr
 queue-alg hybrid
 weight-unit

§ £
 switch (config)# show queue-alg

```
*****
WRR
1: 50  packets
2: 100 packets
3: 150 packets
4: 200 packets
*****
```

7.1.6 queue-hol configure

▮ hard
 soft

▮

queue	INTEGER	1~4	4 4 1
holvalue	INTEGER	HOL Threshold : 0-4080	

山

[no] queue-hol enable

show queue-hol

```

1$ 1 256 £
switch (config)# queue-hol configure hard 1 256

```

```

2$ 2 256 £
switch (config# queue-hol configure soft 2 512

```

7.1.7 [no] queue-hol enable

/ HOL 山

[no] queue-hol enable

山

queue-hol configure

show queue-hol

§ HOL £
switch (config)# queue-hol enable

7.1.8 show queue-hol

HOL 山

show queue-hol

山

queue-hol configure

[no] queue-hol enable

```

§          HOL          £
switch (config)# show queue-hol
*****          HOL          *****

      HOL
      1:
      Hard HOL : 200  packets
      Soft HOL : 100  packets
      2:
      Hard HOL : 200  packets
      Soft HOL : 100  packets
      3:
      Hard HOL : 200  packets
      Soft HOL : 100  packets
      4:
      Hard HOL : 200  packets
      Soft  HOL:  100  packets
*****

```

7.1.9 vpt-to-prio configure

```

VLAN    vlan priority tag          (1/2/3/4)      ,

```

⏏

```

        vlan priority tag
            vpt 0 1 queue 1 vpt 2 3 queue 2 vpt 4 5 queue 3 vpt
6 7 queue 4⏏

```

no vpt-to-prio configure

show vpt-to-prio

```

1$ vlan priority 0 1£
switch (config)# vpt-to-prio configure 0 1

```

```

2$ vlan priority 7 3£
switch (config)# vpt-to-prio configure 7 3

```

7.1.10 no vpt-to-prio configure

```

        VLAN  vlan priority tag          (1/2/3/4)
        ⏏          vpt 0 1 queue 1 vpt 2 3 queue 2 vpt 4
5 queue 3 vpt 6 7 queue 4⏏

```

no vpt-to-prio configure

⏏

vpt-to-prio configure

show vpt-to-prio

```

§      VLAN  vlan priority tag      (1/2/3/4)
£
switch(config)# no vpt-to-prio configure

```

7.1.11 show vpt-to-prio

```

      vlan priority tag      (1/2/3/4)      山

```

show vpt-to-prio

山

vpt-to-prio configure

no vpt-to-prio configure

```

§      vlan priority tag      (1/2/3/4)      £
switch(config)# show vpt-to-prio
*****vpt      priority      *****

```

```
vpt    priority
vpt : 0    priority queue: 1
vpt : 1    priority queue: 1
vpt : 2    priority queue: 2
vpt : 3    priority queue: 2
vpt : 4    priority queue: 3
vpt : 5    priority queue: 3
vpt : 6    priority queue: 4
vpt : 7    priority queue: 4
*****
```

7.1.12 prio-to-vpt configure

```
(1/2/3/4) valn  vlan priority tag      ,
vlanpriority tag      vlan
```

show prio-to-vpt

```

1$          1          vlan priority tag 0£
switch (config)# prio-to-vpt configure 1 0

```

```

2$          3          vlan priority tag 7£
switch (config)# prio-to-vpt configure 3 7

```

7.1.13 no prio-to-vpt configure

```

          (1/2/3/4) VLAN  vlan priority tag
          ▮          queue 1 – vpt 0,1; queue 2– vpt 2,3; queue 2 – vpt 4,5;
queue 4 – vpt 6,7 ▮

```

no prio-to-vpt configure

▮

prio-to-vpt configure**show prio-to-vpt**

```

$          (1/2/3/4) VLAN  vlan priority tag          £
switch (config)# no prio-to-vpt configure

```

7.1.14 show prio-to-vpt

VLAN VPT

show prio-to-vpt

山

prio-to-vpt configure

no prio-to-vpt configure

```

§                vlan  vpt                £
switch (config-if)# show prio-to-vpt
*****priority queue    vpt            *****
    vpt    priority
priority queue: 1--- vpt : 0
priority queue: 1--- vpt : 1
priority queue: 2--- vpt : 2
priority queue: 2--- vpt : 3
priority queue: 3--- vpt : 4
priority queue: 3--- vpt : 5
priority queue: 4--- vpt : 6
priority queue: 4--- vpt : 7
*****

```

7.1.15 tos-to-cos configure

IP ToS CoS

tos-to-cos configure tos cos

tos	INTEGER	0~255	ip tos
cos	INTEGER	0~7	cos vlan priority tag 7 0 Cos 0-7 0 4 1 1 hard vlan priority tag cos 2 4 3 2 hard vlan priority tag cos 4 4 5 3 soft vlan priority tag cos 6 4 7 4 soft vlan priority tag cos

IP ToS CoS ToS 0-31

CoS0 ToS 32-63 CoS1 ToS 224-255 CoS 7山

no

0

tos-to-cos configure

show tos-to-cos

§ ToS CoS £
switch (config)# no tos-to-cos configure

7.1.17 show tos-to-cos

QoS

enable flow Wno enable flow $\sqcup$

```

    Š          £
switch (config-qos)# enable flow

```

7.2.3 default

QoS III

default *[slot/port]*

QoS

slot	SLOT/PORT	1~10	
port	SLOT/PORT	1~32	

QoS, QoS, 山

SLOT/PORT W

mode

QoS

QoS , QoS 山

```

$      qos
switch (config-qos)# mode
Current flow state is $Enable.

```

7.2.7 service-policy user

山

service-policy user *slot/port1 [- port2]*

QoS

--	--	--	--

slot	SLOT/ PORT	1~10	
port1	SLOT/ PORT	1~32	port1
port2	SLOT/PORT	1-32	port2 port2> port1

3 (), ()

QoS , W

4

W

service-policy net

show service-policy

§ 1 M5610-16FMT 8 £
switch (config-qos)# service-policy user 1/1 - 8

7.2.8 service-policy net

W

service-policy net slot/port1 [- port2]

QoS

slot	SLOT/ PORT	1~10	
port1	SLOT/ PORT	1~32	1
port2	SLOT/ PORT	1~32	port2 port2> port1

3 (), ()

QoS ,

4

W

service-policy user

show service-policy

š 1 M5610-16FMT 9 £
switch (config-qos)# service-policy net 1/9

7.2.9 priority

W

priority { user *userid* | vlan *vlan1* [- *vlan2*] | interface *slot/port* [- *port2*] | protocol *protocolname* | ip-protocol *protocolno* | tcpport *tcpportno* | udpport *udpport* } [{ low | normal | middle | high }]

QoS

user	KEYWORD	user	DHCP
userid	INTEGER	0~999	DHCP , id
vlan	KEYWORD	vlan	vlan
vlan1	INTEGER	1~4094	vlan vlan id
vlan2	INTEGER	1~4094	vlan vlan2 vlan2 >= vlan1
interface	KEYWORD	interface	
slot	INTEGER	1~10	
port	INTEGER	1~32	
port2	INTEGER	1~32	port2 port2> port1
low normal middle high	KEYWORD	low normal middle high	4 4

QoS , VLAN

7.2.10 no priority

QoS

山

```
no priority { user userid | vlan vlan1 [ - vlan2 ] | interface slot/port
[ - port2 ] | protocol protocolname | ip-protocol protocolno | tcpport
tcpportno | udpport udpport }
```

QoS

user	KEYWORD	user	
userid	INTEGER	0~1999	ID
vlan	KEYWORD	vlan	VLAN
vlan1	INTEGER	1~4094	VLAN VLAN ID
vlan2	INTEGER	1~4094	VLAN vlan2 vlan2 >= vlan1
interface	KEYWORD	interface	
slot	SLOT/PORT	1~10	
port	SLOT/PORT	1~32	
port2	SLOT/PORT	1~32	port2 port2> port1

QoS ,

QoS

山

apply

山

priority

apply

```
1$      3      £
switch (config-qos)# priority user 3 high
```

```
2
```

		W	
burst-max	INTEGER	1k byte - 128 M byte	W : 2M, 2K, 2G , : 200. K byte
drop	KEYWORD	drop	
late-drop	KEYWORD	late-drop	

QoS , W
apply
W

apply

1 š 2 2 ◇


```
switch (config-qos)#police interface 2/1 100K 2M drop
```

```
7 $      2/1      £
switch (config-qos)#no police interface 2/1
```

```
8 $      2/1      £
switch (config-qos)#police interface 2/1
```

7.2.13 Apply

山

```
apply {vlan [vlan1] |user [userid] |protocol
[protocolname ]|interface [slot/port] |ip-protocol [protocolno]
|tcpport [tcpport] |udpport [udpport ]} [force]
```

QoS

vlan	KEYWORD	vlan	VLAN
vlan1	INTEGER	1~4094	VLAN ID VLAN 山
user	KEYWORD	user	
userid	INTEGER	0~1999	, id
interface	KEYWORD	interface	
slot	SLOT/PORT	1~10	山
port	SLOT/PORT	1~32	山
force	KEYWORD	force	, QoS , QoS qos QoS

QoS , 山

police
priority

```
1$ user 6 £
switch (config-qos)# apply user 6 force

2$ VLAN 5 £
switch (config-qos)# apply vlan 5 force

3$ interface 6/2 £
switch (config-qos)# apply interface 6/2 force
```

7.2.14 show qos

QoS 山

show qos {user-dhcp [userid] |interface [slot/port]| vlan [vlanid]| protocol }

QoS

user-dhcp	KEYWORD	user-dhcp	山
userid	INTEGER	0~1999	QoS

slot	SLOT/PORT	1~10	
port	SLOT/PORT	1~32	
vlan	KEYWORD	vlan	vlan
vlanid	INTEGER	1~4094	

QoS ,

QoS

police

priority