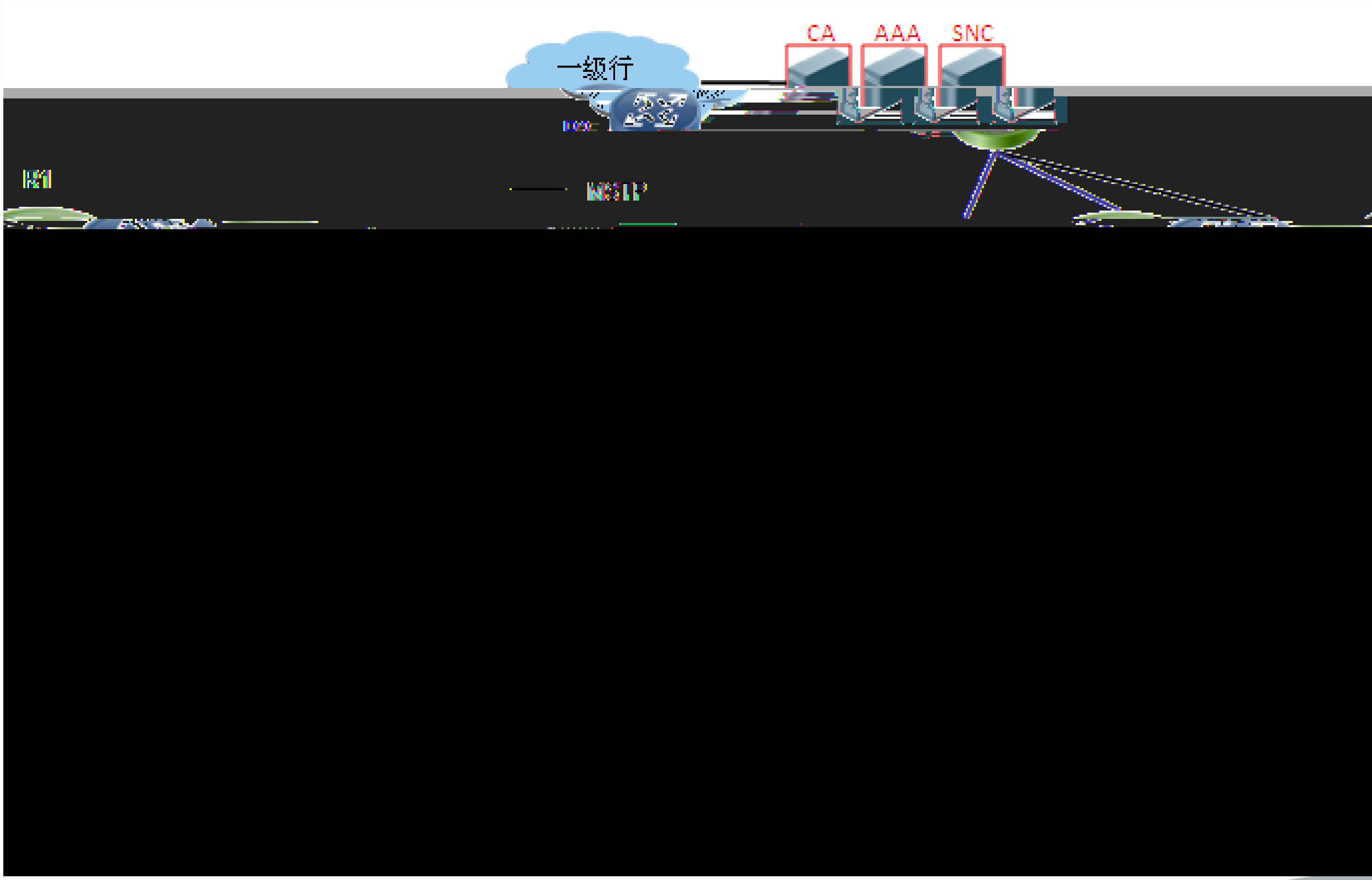
Ruijie
Networks

3G/4G LNS

NAT


一级行
CA
AAA
SNC

interface GigabitEthernet 0/0/8

ip address 20.1.1.1 255.255.255.0 ---- IP

duplex auto

speed auto

media-type basex auto ----

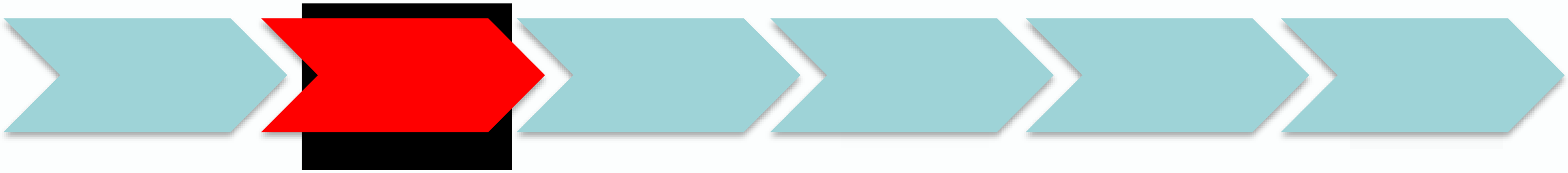
interface GigabitEthernet 0/0/1.1

encapsulation dot1Q 1 --- vlan

ip access-group 101 in --- acl

ip access-group 101 out

ip address 1.1.1.1 255.255.255.0 --- IP



- router ospf 1 ---- ospf
- bfd all-interfaces ---- bfd
- network 1.1.1.0 0.0.0.255 area 1 ----- 0 area
- network 1.1.2.0 0.0.0.255 area 1

- network 1.1.199.0 0.0.0.255 area 10 ----- 0 area
- network 1.1.200.0 0.0.0.255 area 10
- network 20.1.1.0 0.0.0.255 area 0 ----- area 0

```
interface GigabitEthernet 0/0/1.1
 encapsulation dot1Q 1
 ip access-group 101 in
 ip access-group 101 out
 ip address 1.1.1.1 255.255.255.0
bfd interval 50 min_rx 50 multiplier 3  ---              BFD
 no bfd echo   ---
```

1. IP

```
ip access-list extended q1
 10 permit ip 51.46.1.0 0.0.0.255 any
 20 permit ip 51.46.2.0 0.0.0.255 any
ip access-list extended q2
 10 permit ip 51.46.3.0 0.0.0.255 any
 20 permit ip 51.46.4.0 0.0.0.255 any
ip access-list extended q3
 10 permit ip 51.46.5.0 0.0.0.255 any
 20 permit ip 51.46.6.0 0.0.0.255 any
ip access-list extended q4
 10 permit ip 51.46.7.0 0.0.0.255 any
 20 permit ip 51.46.8.0 0.0.0.255 any
```

4. traffic behavior behavior

traffic behavior 1

user-queue 1 inbound

service-class af1 color green

traffic behavior 2

user-queue 1 inbound

service-class af2 color green

traffic behavior 3

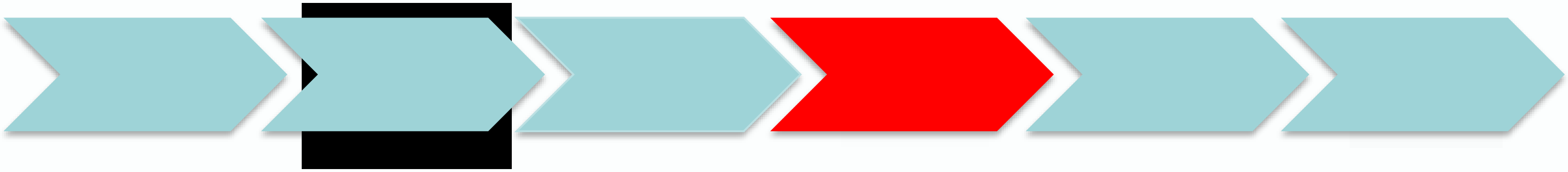
user-queue 1 inbound

service-class af3 color green

traffic behavior 4

user-queue 1 inbound

service-class cs6 color green



➢

5. traffic policy classifier behavior

```
traffic policy hqos
 classifier 1 behavior 1 precedence 1
 classifier 2 behavior 2 precedence 2
 classifier 3 behavior 3 precedence 3
 classifier 4 behavior 4 precedence 4
interface GigabitEthernet 0/0/8
 ip address 20.1.1.1 255.255.255.0
 traffic-policy hqos inbound
 duplex auto
 speed auto
 media-type basex auto
```

GR

GR

Restarter

Helper Restarter Restarter

OSPF-GR Restarter helper

helper

```
RSR7708(config)#router ospf 2
RSR7708(config-router)#graceful-restart
```

ping IP

show ip ospf neighber OSPF

show bfd neighber BFD

show ip ospf GR

sh user-queue statistics 1 inbound HQOS

1 user-queue inbound in

3G/4G LNS

NAT

3G/4G LNS

NAT

3G/4G LNS

VPDN IPSEC VPN

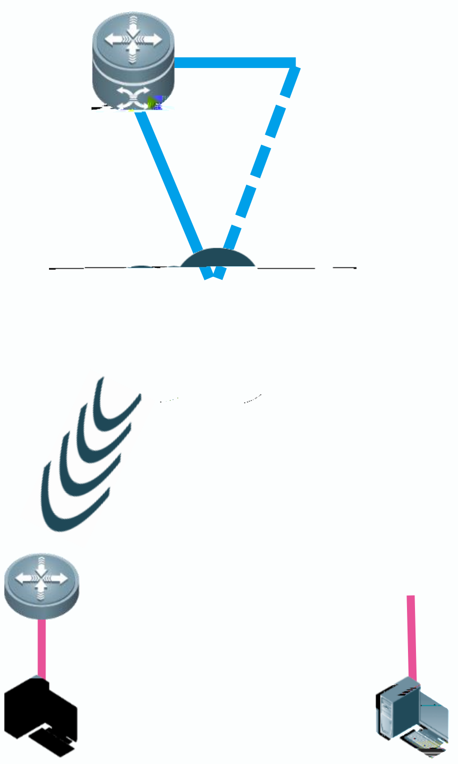
RSR30-X

SM1

3G AAA AAA

IP

IPSEC LNS 3G



AAA

VPDN

IPSEC

3G/4G LNS

- HNM-SEC SM1
  HNM-SEC

- aaa new-model // AAA

  aaa authentication ppp default group radius local // PPP Radius local Radius Radius

  radius-server host 30.160.14.16 auth-port 1645 acct-port 1646 key xxxx // Radius

  ip route x.x.x.x x.x.x.x x.x.x.x //

3G/4G LNS

➢

VPDN

```
vpdn enable                          //      vpdn
vpdn-group LNS                       //      vpdn              LNS
 accept-dialin                       //
  protocol l2tp                      //vpdn      l2tp
  virtual-template 1                 //
 l2tp tunnel authentication          //      L2TP
 l2tp tunnel password xxxx           //
```

loopback

```
interface Loopback 1
 ip address 30.160.230.1 255.255.255.0
```

VPDN

```
interface Virtual-Template 1         //
 ppp authentication chap             //      PPP
 ip unnumbered Loopback 1            //
```

3G/4G LNS

- crypto dynamic-map test 1
  reverse-route // RRI
  Route ospf 1
  Network x.x.x.x x.x.x.x area x
  redistribute static subnets // RRI

3G/4G LNS

➢

show vpdn 3G

ping 3G

show crypto ipsec sa IPSEC

show ip route

LNS ping 3G

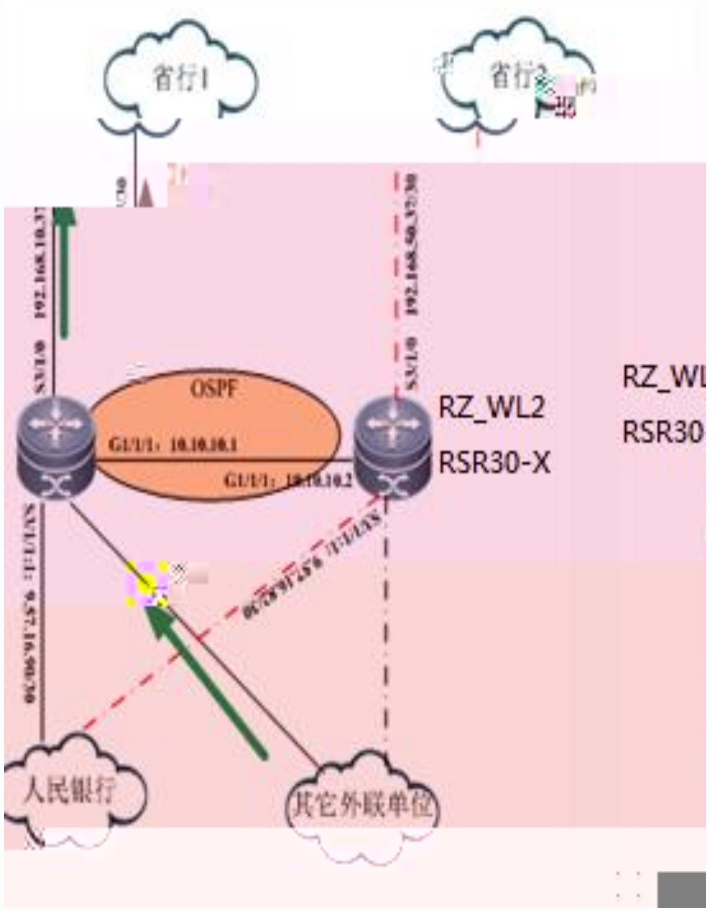
NAT

-
-

NAT

-

inside/outside

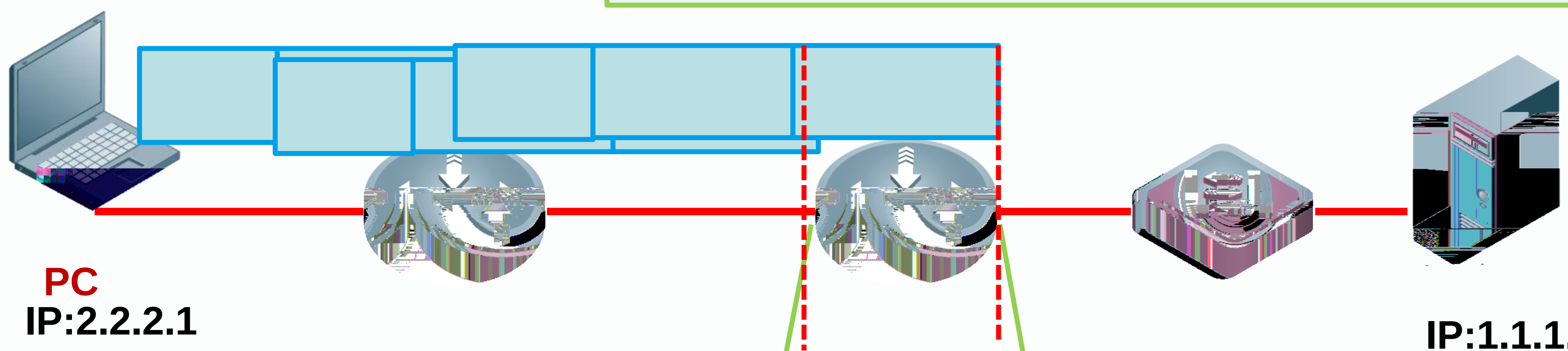


NAT

ip nat inside source static 1.1.1.1 10.1.1.1

ip route 1.1.1.0 255.255.255.0 100.0.0.2

ip nat outside source static 2.2.2.1 20.2.2.1



outside
interface GigabitEthernet 0/0/1
ip address 200.0.0.1 255.255.255.0
ip nat

inside
interface GigabitEthernet 0/0/2
ip address 100.0.0.1 255.255.255.0
ip nat

www.ruijie.com.cn

www.ruijie.com.cn/service.aspx

support.ruijie.com.cn

webchat.ruijie.com.cn

4008-111-000