H3C配置NAT实验

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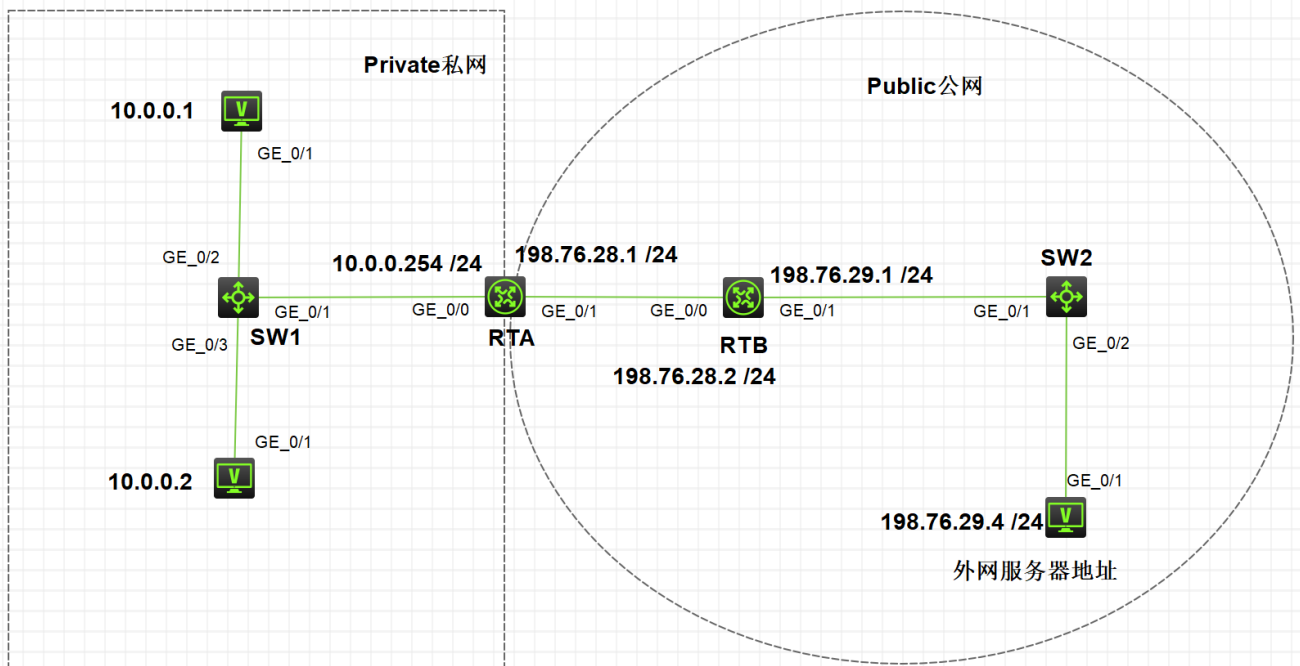
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订阅专栏
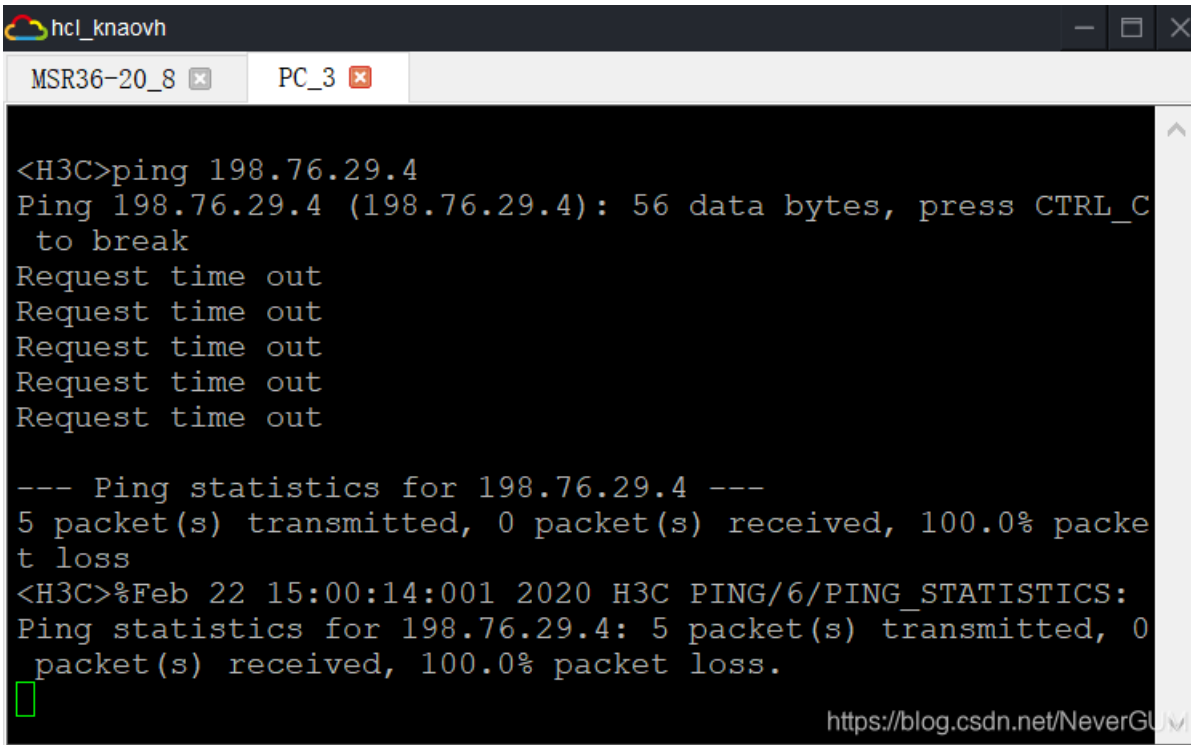
一：搭建实验环境，依照拓补图将所有接口配置如图所示的IP地址，并且在私网出口RTA路由器上配置一条静态路由，指向公网路由器RTB。

二：实验拓补

三：配置完毕后在PC上面ping外网服务器的地址198.76.29.4，并不通

四：配置BasicNAT的过程

RTA

```
<H3C>system-view
[H3C]undo  info-center en
Information center is disabled.
[H3C]sysname RTA

[RTA]interface GigabitEthernet 0/0 //配置IP地址
[RTA-GigabitEthernet0/0]ip ad 10.0.0.254 24
[RTA-GigabitEthernet0/0]quit

[RTA]interface GigabitEthernet 0/1//配置IP地址
[RTA-GigabitEthernet0/1]ip add 198.76.28.1 24
[RTA-GigabitEthernet0/1]quit

[RTA]ip route-static 0.0.0.0 0.0.0.0 198.76.28.2 //配置一条默认路由，所有没有路由条目的数据包都向下一跳198.76.28.2
[RTA]




[RTA]acl basic 2000 //创建基本ACL2000
[RTA-acl-ipv4-basic-2000]rule permit source 10.0.0.0 0.0.0.255//允许源，10.0.0.0 /24的网段
[RTA-acl-ipv4-basic-2000]q

[RTA]nat address-group 1 //配置NAT地址池，其中公网地址范围是198.76.28.11~20
[RTA-address-group-1]address 198.76.28.11 198.76.28.20
[RTA-address-group-1]quit

[RTA]interface GigabitEthernet 0/1 //将地址池与ACL 2000关联，方向是出方向
[RTA-GigabitEthernet0/1]nat outbound 2000 address-group 1 no-pat//no-pat是使用一对一的地址转换，只转换数据包的地
```
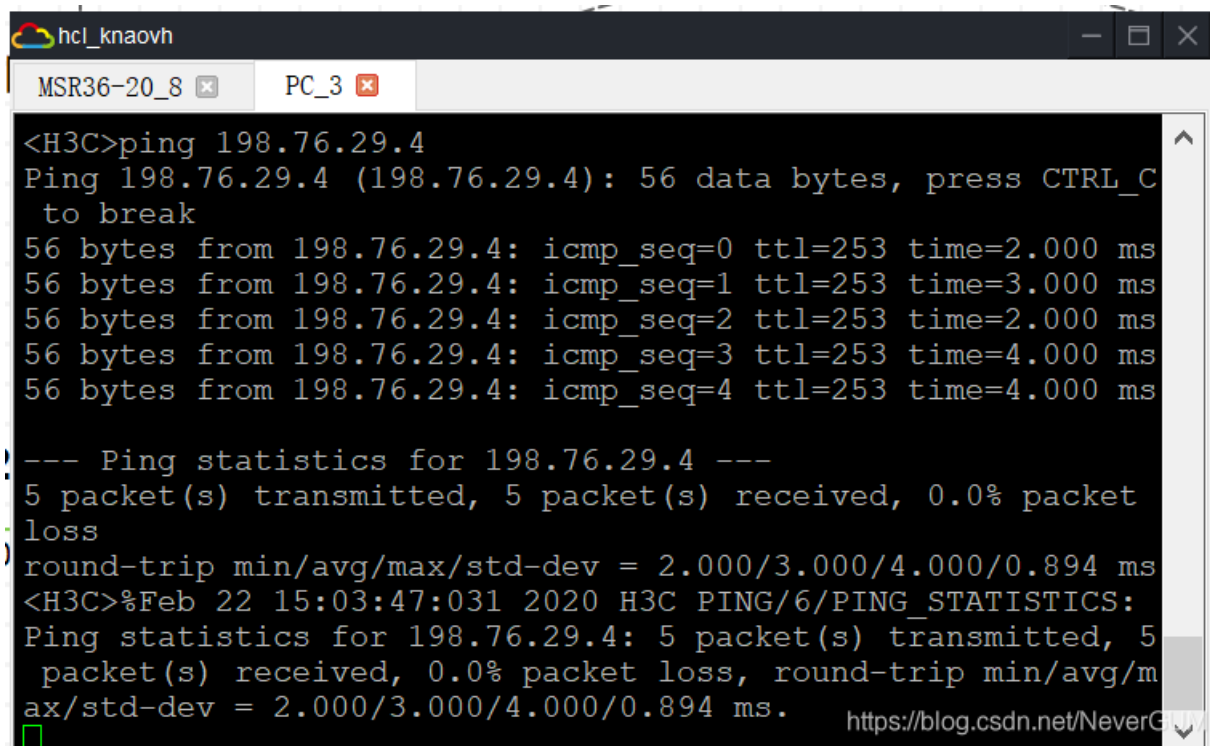
RTB

```
<H3C>sy
System View: return to User View with Ctrl+Z.

[H3C]undo  info-center enable
Information center is disabled.
[H3C]sysname RTB

[RTB]interface GigabitEthernet 0/0
[RTB-GigabitEthernet0/0]ip add 198.76.28.2 24
[RTB-GigabitEthernet0/0]quit

[RTB]interface GigabitEthernet 0/1
[RTB-GigabitEthernet0/1]ip add 198.76.29.1 24
//配置相对简单，只是配置规定的IP地址而已
```

五：再次检查是否可以ping通服务器地址

六：检查NAT表项

```
[RTA]display nat session
Slot 0:
Initiator:
  Source        IP/port: 10.0.0.2/208
  Destination IP/port: 198.76.29.4/2048
  DS-Lite tunnel peer: -
  VPN instance/VLAN ID/Inline ID: -/-/-
  Protocol: ICMP(1)
  Inbound interface: GigabitEthernet0/0
Initiator:
  Source        IP/port: 10.0.0.2/207
  Destination IP/port: 198.76.29.4/2048
  DS-Lite tunnel peer: -
  VPN instance/VLAN ID/Inline ID: -/-/-
  Protocol: ICMP(1)
  Inbound interface: GigabitEthernet0/0
Total sessions found: 2
[RTA]
```

试验任务二：配置NAPT

私网客户端需要访问外网服务器，但由于公网地址有限，在RTA上配置的公网地址池范围198.76.28.11-198.76.28.11，因此配置NAPT，动态为私网客户端分配公网地址和协议。

RTA

```
[RTA]undo nat address-group 1 //取消之前的配置

[RTA]interface GigabitEthernet 0/1//取消之前的配置
[RTA-GigabitEthernet0/1]undo nat outbound 2000
[RTA-GigabitEthernet0/1]qui
[RTA]

[RTA]acl basic 2000 //创建acl 2000
[RTA-acl-ipv4-basic-2000]display this //发现之前创建好的没有删除，故不作变动，退出
#
acl basic 2000
 rule 0 permit source 10.0.0.0 0.0.0.255
#
return
[RTA-acl-ipv4-basic-2000]qui

[RTA]nat address-group 1 //配置NAT地址池1，地址池中只放入一个地址198.76.28.11
[RTA-address-group-1]address 198.76.28.11 198.76.28.11
[RTA-address-group-1]quit

[RTA]interface GigabitEthernet 0/1 //acl绑定端口此时未携带no-pat字样，意味着NAT要对数据包进行端口的转换，
[RTA-GigabitEthernet0/1]nat outbound 2000 address-group 1
```

测试通断和检查NAT表项

```
[RTA]dis nat session verbose
Slot 0:
Initiator:
  Source      IP/port: 10.0.0.2/219
  Destination IP/port: 198.76.29.4/2048
  DS-Lite tunnel peer: -
  VPN instance/VLAN ID/Inline ID: -/-/-
  Protocol: ICMP(1)
  Inbound interface: GigabitEthernet0/0
Responder:
  Source      IP/port: 198.76.29.4/3
  Destination IP/port: 198.76.28.11/0
  DS-Lite tunnel peer: -
  VPN instance/VLAN ID/Inline ID: -/-/-
  Protocol: ICMP(1)
  Inbound interface: GigabitEthernet0/1
State: ICMP_REPLY
Application: OTHER
Role: -
Failover group ID: -
Start time: 2020-02-22 15:21:56    TTL: 29s
Initiator->Responder:           0 packets          0 bytes
Responder->Initiator:           0 packets          0 bytes
Total sessions found: 1
[RTA]
```

任务三：Easy IP

私网客户端需要访问外网服务器Server,使用公网接口IP地址动态为私网客户端分配公网地址和协议端口

RTA

```
[RTA]undo nat address-group 1//取消之前的配置


[RTA]interface GigabitEthernet 0/1
[RTA-GigabitEthernet0/1]undo nat outbound 2000
[RTA-GigabitEthernet0/1]quit


[RTA]acl basic 2000 //已经有策略，还是不改变，不做配置
[RTA-acl-ipv4-basic-2000]display this
#
acl basic 2000
 rule 0 permit source 10.0.0.0 0.0.0.255
#
return
[RTA-acl-ipv4-basic-2000]quit



[RTA]interface GigabitEthernet 0/1 //在接口视图下将ACL 2000与接口关联下发NAT
[RTA-GigabitEthernet0/1]nat outbound 2000
[RTA-GigabitEthernet0/1]quit


//？？？excuseme???这就完了，然后也通了？从开始往下学，这特么太方便了吧！
```

ping结果

完成了NAT配置以后，私网客户端可以ping通外网服务器，但是外网服务器却不能ping通私网客户端。

任务四：NATserver配置