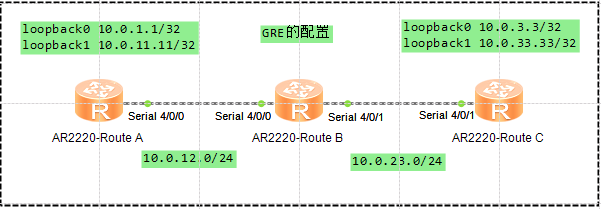
GRE（Generic Routing Encapsulation）通用路由封装协议，支持将一种协议的报文封装在另一种协议报文中，可以解决异种网络传输的问题。

GRE的配置



创建GRE隧道

[Route A]interface Tunnel 0/0/1

[Route A-Tunnel0/0/1]ip address 100.1.1.1 24

[Route A-Tunnel0/0/1]tunnel-protocol gre

[Route A-Tunnel0/0/1]source 10.0.12.1

[Route A-Tunnel0/0/1]description 10.0.23.2

[Route C]interface Tunnel 0/0/1

[Route C-Tunnel0/0/1]ip address 100.1.1.2 24

[Route C-Tunnel0/0/1]tunnel-protocol gre

[Route C-Tunnel0/0/1]source 10.0.23.2

[Route C-Tunnel0/0/1]description 10.0.12.1

配置OSPF进程2用于隧道路由

[Route A]ospf 1

[Route A-ospf-1]area 0

[Route A-ospf-1]network 100.1.1.0 0.0.0.255

[Route A]ospf 2 router-id 10.0.1.1

[Route A-ospf-2]area 0

[Route A-ospf-2]network 10.0.12.0 0.0.0.255

[Route C]ospf 1

[Route C-ospf-1]area 0

[Route C-ospf-1]network 100.1.1.0 0.0.0.255

[Route C]ospf 2 router-id 10.0.3.3

[Route C-ospf-2]area 0

[Route C-ospf-2]network 10.0.23.0 0.0.0.255

<Route A>display interface Tunnel 0/0/1

Tunnel0/0/1 current state : UP

Line protocol current state : UP

Last line protocol up time : 2017-10-24 10:22:28 UTC-08:00

Description:10.0.23.2

Route Port,The Maximum Transmit Unit is 1500

Internet Address is 100.1.1.1/24

Encapsulation is TUNNEL, loopback not set

Tunnel source 10.0.12.1 (Serial4/0/0), destination 10.0.23.2

Tunnel protocol/transport GRE/IP, key disabled

keepalive disabled

Checksumming of packets disabled

Current system time: 2017-10-24 10:28:54-08:00

300 seconds input rate 0 bits/sec, 0 packets/sec

300 seconds output rate 64 bits/sec, 0 packets/sec

0 seconds input rate 0 bits/sec, 0 packets/sec

0 seconds output rate 0 bits/sec, 0 packets/sec

0 packets input, 0 bytes

0 input error

38 packets output, 3344 bytes

0 output error

Input bandwidth utilization : --

Output bandwidth utilization : --

重新定义ACL

[Route A]acl number 3001

[Route A-acl-adv-3001]rule permit gre source 10.0.12.1 0 destination 10.0.23.2 0

[Route C]acl number 3001

[Route C-acl-adv-3001]rule permit gre source 10.0.23.2 0 destination 10.0.12.1 0

查看路由表

<Route A>display ip routing-table

Route Flags: R - relay, D - download to fib

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

Routing Tables: Public

Destinations : 17 Routes : 17

Destination/Mask Proto Pre Cost Flags NextHop Interface

10.0.1.1/32 Direct 0 0 D 127.0.0.1 LoopBack0

10.0.2.2/32 OSPF 10 48 D 10.0.12.2 Serial4/0/0

**10.0.3.3/32 OSPF 10 1562 D 100.1.1.2 Tunnel0/0/1**

10.0.11.11/32 Direct 0 0 D 127.0.0.1 LoopBack1

10.0.12.0/24 Direct 0 0 D 10.0.12.1 Serial4/0/0

10.0.12.1/32 Direct 0 0 D 127.0.0.1 Serial4/0/0

10.0.12.2/32 Direct 0 0 D 10.0.12.2 Serial4/0/0

10.0.12.255/32 Direct 0 0 D 127.0.0.1 Serial4/0/0

10.0.23.0/24 OSPF 10 96 D 10.0.12.2 Serial4/0/0

**10.0.33.33/32 OSPF 10 1562 D 100.1.1.2 Tunnel0/0/1**

100.1.1.0/24 Direct 0 0 D 100.1.1.1 Tunnel0/0/1

100.1.1.1/32 Direct 0 0 D 127.0.0.1 Tunnel0/0/1

100.1.1.255/32 Direct 0 0 D 127.0.0.1 Tunnel0/0/1

127.0.0.0/8 Direct 0 0 D 127.0.0.1 InLoopBack0

127.0.0.1/32 Direct 0 0 D 127.0.0.1 InLoopBack0

127.255.255.255/32 Direct 0 0 D 127.0.0.1 InLoopBack0

255.255.255.255/32 Direct 0 0 D 127.0.0.1 InLoopBack0

配置Keepalive

[Route A]interface Tunnel 0/0/1

[Route A-Tunnel0/0/1]keepalive period 3

[Route C]interface Tunnel 0/0/1

[Route C-Tunnel0/0/1]keepalive period 3

验证

<Route A>display interface Tunnel 0/0/1

Tunnel0/0/1 current state : UP

Line protocol current state : UP

Last line protocol up time : 2017-10-24 10:46:01 UTC-08:00

Description:10.0.23.2

Route Port,The Maximum Transmit Unit is 1500

Internet Address is 100.1.1.1/24

Encapsulation is TUNNEL, loopback not set

Tunnel source 10.0.12.1 (Serial4/0/0), destination 10.0.23.2

Tunnel protocol/transport GRE/IP, key disabled

**keepalive enable period 3 retry-times 3**

Checksumming of packets disabled

Current system time: 2017-10-24 10:46:37-08:00

300 seconds input rate 0 bits/sec, 0 packets/sec

300 seconds output rate 176 bits/sec, 0 packets/sec

0 seconds input rate 0 bits/sec, 0 packets/sec

0 seconds output rate 0 bits/sec, 0 packets/sec

0 packets input, 0 bytes

0 input error

222 packets output, 19124 bytes

0 output error

Input bandwidth utilization : --

Output bandwidth utilization : --