gre协议--eogre.md 9/27/2020

EoGRE:Ethernet over GRE (Generic Routing Encapsulation) 。

报文格式

1. 原始报文

Eth	IP	Payload
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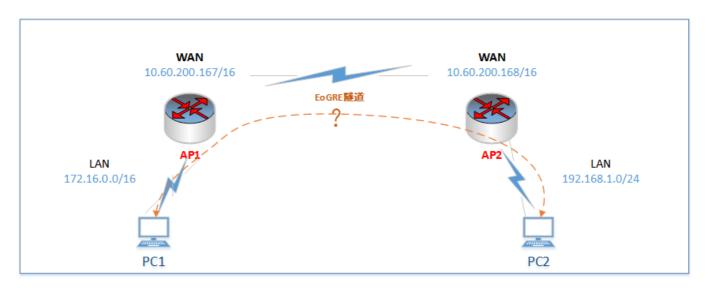
2. EoGRE报文

Outer Eth Outer IP	GRE	Eth	IP	Payload
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配置举例

示意图

如图所示:



- PC1 挂在 AP1的LAN侧, 地址 172.16.0.0/16
- PC2 挂在 AP2的LAN侧, 地址 192.168.1.0/24
- AP1和AP2的 WAN在同一网段内,地址是 10.60.0.0/16

如果PC1和PC2 通过EoGRE隧道通信,该如何实现?

配置

1. AP1上如下配置

- \sim # ip link add tunnel1 type gretap remote 10.60.200.168 local 10.60.200.167 dev eth0
- ~# ip link set tunnel1 up
- ~# ip addr add 172.16.1.67/16 dev tunnel1

增加一条路由, 使通过AP1发出的目的192.168.1.0/24的报文通过 tunnel1接口发送出去

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```
~# route add -net 192.168.1.0 netmask 255.255.255.0 dev tunnel1
~# route -n
Destination
                              Genmask
                                             Flags Metric Ref
                                                               Use Iface
               Gateway
0.0.0.0
               10.60.1.254
                              0.0.0.0
                                                  0
                                                                 0 eth0
                                             UG
                                                         0
10.60.0.0
               0.0.0.0
                              255.255.0.0
                                                                 0 eth0
                                            U
                                                  0
                                                         0
                              255.255.0.0
                                                                 0 br-lan
172.16.0.0
             0.0.0.0
                                           U
                                                  0
                                                         0
172.16.0.0
               0.0.0.0
                             255.255.0.0
                                                         0
                                                                 0 tunnel1
                                             U
                                                  0
192.168.1.0
               0.0.0.0
                              255.255.255.0 U
                                                  0
                                                         0
                                                                 0 tunnel1
```

关闭防火墙

~# /etc/init.d/firewall stop

2. AP2上如下配置

```
~# ip link add tunnel2 type gretap remote 10.60.200.167 local 10.60.200.168 dev
eth0
~# ip link set tunnel2 up
~# ip addr add 192.168.1.68/24 dev tunnel2
```

增加一条路由, 使通过AP2发出的目的172.16.0.0/16的报文通过 tunnel2接口发送出去

```
~# route add -net 172.16.0.0 netmask 255.255.0.0 dev tunnel2
~# route -n
                                                                 Use Iface
Destination
               Gateway
                               Genmask
                                              Flags Metric Ref
0.0.0.0
                                                    0
                                                                   0 eth0
               10.60.1.254
                               0.0.0.0
                                              UG
                                                           0
10.60.0.0
               0.0.0.0
                               255.255.0.0
                                              U
                                                           0
                                                                   0 eth0
172.16.0.0
               0.0.0.0
                               255.255.0.0
                                              U
                                                    0
                                                           0
                                                                   0 tunnel2
192.168.1.0
               0.0.0.0
                              255.255.255.0
                                                  0
                                                          0
                                                                   0 br-lan
                                              U
192.168.1.0
               0.0.0.0
                               255.255.255.0
                                                                   0 tunnel2
                                              U
                                                           0
```

关闭防火墙

~# /etc/init.d/firewall stop

测试

1. 在AP1上 ping AP2的 192.168.1.68

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```
~# ping 192.168.1.68
PING 192.168.1.68 (192.168.1.68): 56 data bytes
64 bytes from 192.168.1.68: seq=0 ttl=64 time=1.735 ms
64 bytes from 192.168.1.68: seq=1 ttl=64 time=1.517 ms
64 bytes from 192.168.1.68: seq=2 ttl=64 time=1.290 ms
```

2. 在AP2上 ping AP1的 172.16.1.67

```
~# ping 172.16.1.67
PING 172.16.1.67 (172.16.1.67): 56 data bytes
64 bytes from 172.16.1.67: seq=0 ttl=64 time=1.476 ms
64 bytes from 172.16.1.67: seq=1 ttl=64 time=1.944 ms
64 bytes from 172.16.1.67: seq=2 ttl=64 time=1.713 ms
64 bytes from 172.16.1.67: seq=3 ttl=64 time=1.492 ms
```