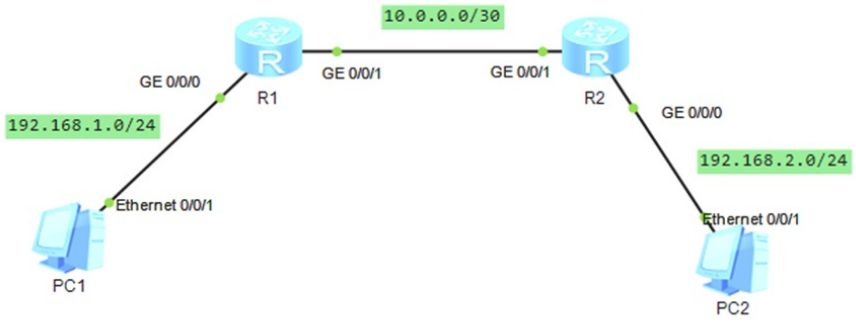
【MVS】华为路由器ISIS接口明文认证典型组网配置案例

网络相关 韦家宁 2024-07-02 发表

组网及说明



本案例采用ENSP模拟器来模拟ISIS接口明文认证，实现路由器之间ISIS路由协议的安全对接，保障网络的安全。

特别说明：明文认证安全性没有MD5认证高，推荐使用MD5认证。

配置步骤

1、按照网络拓扑图配置IP地址。
2、配置R1、R2路由器的ISIS及接口明文认证

配置关键点

R1：

```
<Huawei>u t m
Info: Current terminal monitor is off.
<Huawei>u t d
Info: Current terminal debugging is off.
<Huawei>sys
Enter system view, return user view with Ctrl+Z.
[Huawei]sysname R1
[R1]int gi 0/0/0
[R1-GigabitEthernet0/0/0]ip address 192.168.1.1 24
[R1-GigabitEthernet0/0/0]quit
[R1]int gi 0/0/1
[R1-GigabitEthernet0/0/1]ip address 10.0.0.1 30
[R1-GigabitEthernet0/0/1]quit
[R1]isis 1
[R1-isis-1]network-entity 10.0000.0000.0001.00
[R1-isis-1]quit
[R1]int gi 0/0/0
[R1-GigabitEthernet0/0/0]isis enable
[R1-GigabitEthernet0/0/0]quit
[R1]int gi 0/0/1
[R1-GigabitEthernet0/0/1]isis enable
[R1-GigabitEthernet0/0/1]isis authentication-mode simple weijianing //在接口启用ISIS明文认证，密钥为weijianing
[R1-GigabitEthernet0/0/1]quit
```

R2：

```
<Huawei>u t m
Info: Current terminal monitor is off.
<Huawei>u t d
Info: Current terminal debugging is off.
<Huawei>sys
Enter system view, return user view with Ctrl+Z.
[Huawei]sysname R2
[R2]int gi 0/0/0
[R2-GigabitEthernet0/0/0]ip address 192.168.2.1 24
[R2-GigabitEthernet0/0/0]quit
[R2]int gi 0/0/1
[R2-GigabitEthernet0/0/1]ip address 10.0.0.2 30
```

```
[R2-GigabitEthernet0/0/1]quit
[R2]isis 1
[R2-isis-1]netwo
[R2-isis-1]network-entity 10.0000.0000.0002.00
[R2-isis-1]quit
[R2]int gi 0/0/0
[R2-GigabitEthernet0/0/0]isis enable
[R2-GigabitEthernet0/0/0]quit
[R2]int gi 0/0/1
[R2-GigabitEthernet0/0/1]isis enable
[R2-GigabitEthernet0/0/1]isis authentication-mode simple weijianing
[R2-GigabitEthernet0/0/1]quit
```

分别查看R1、R2均已建立ISIS邻居关系：

```
[R1]dis isis peer

                        Peer information for ISIS(1)

  System Id     Interface          Circuit Id       State HoldTime Type     PRI
------------------------------------------------------------------------------
0000.0000.0002  GE0/0/1            0000.0000.0001.02 Up    28s      L1(L1L2) 64
0000.0000.0002  GE0/0/1            0000.0000.0001.02 Up    30s      L2(L1L2) 64

Total Peer(s): 2
[R1]
```

```
[R2]dis isis peer

                        Peer information for ISIS(1)

  System Id     Interface          Circuit Id       State HoldTime Type     PRI
------------------------------------------------------------------------------
0000.0000.0001  GE0/0/1            0000.0000.0001.02 Up    8s       L1(L1L2) 64
0000.0000.0001  GE0/0/1            0000.0000.0001.02 Up    8s       L2(L1L2) 64

Total Peer(s): 2
[R2]
```

查看R1、R2的路由表，均已通过ISIS学习到对端发布的路由：

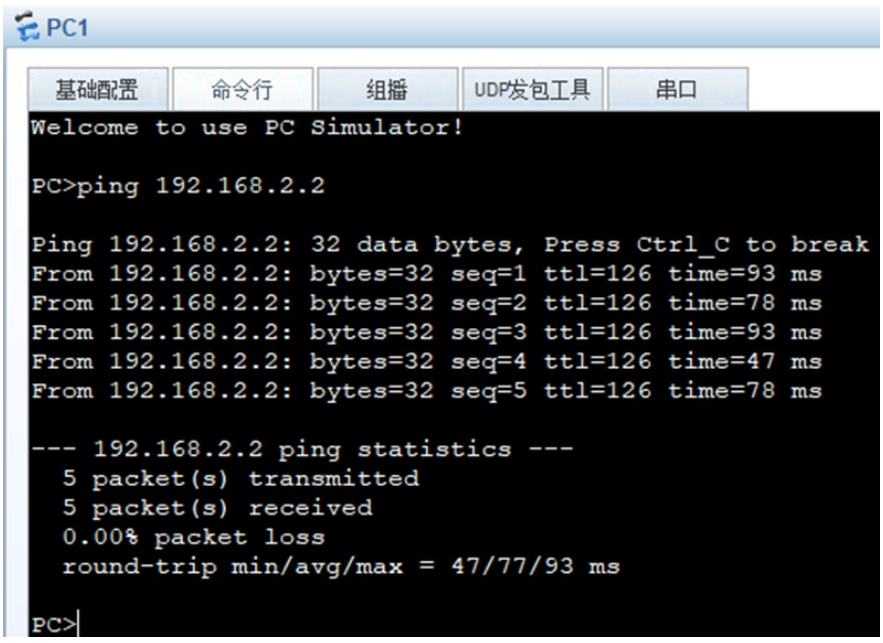
```
[R1]dis ip routing-table
Route Flags: R - relay, D - download to fib
------------------------------------------------------------------------------
Routing Tables: Public
         Destinations : 7        Routes : 7

Destination/Mask    Proto   Pre  Cost      Flags NextHop         Interface

       10.0.0.0/30  Direct  0    0           D   10.0.0.1        GigabitEthernet
0/0/1
       10.0.0.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/1
      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
    192.168.1.0/24  Direct  0    0           D   192.168.1.1     GigabitEthernet
0/0/0
    192.168.1.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/0
    192.168.2.0/24  ISIS-L1 15   20          D   10.0.0.2        GigabitEthernet
0/0/1

[R1]a
```

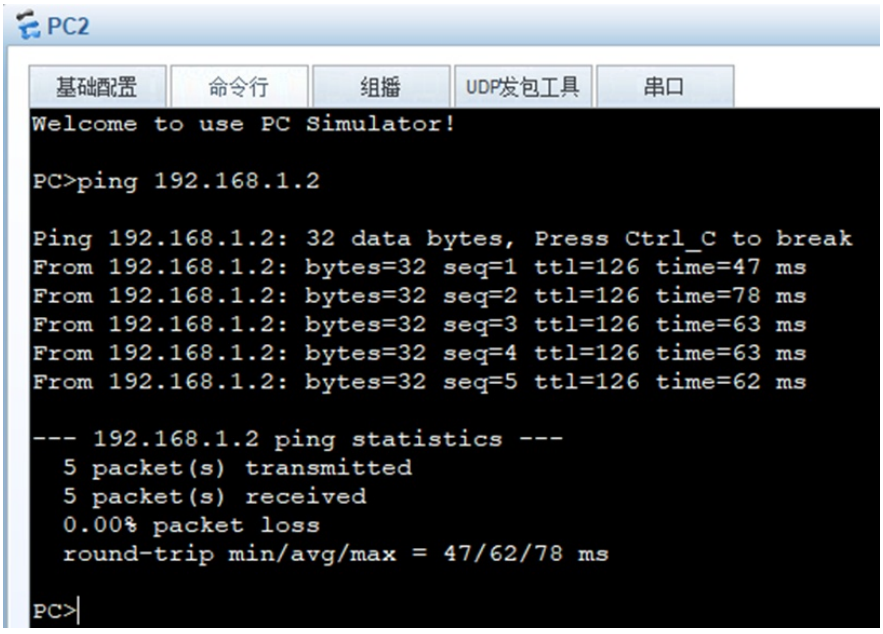
```
[R2]dis ip routing-table
Route Flags: R - relay, D - download to fib
------------------------------------------------------------------------------
Routing Tables: Public
         Destinations : 7        Routes : 7

Destination/Mask    Proto   Pre  Cost      Flags NextHop         Interface

       10.0.0.0/30  Direct  0    0           D   10.0.0.2        GigabitEthernet
0/0/1
       10.0.0.2/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/1
      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
    192.168.1.0/24  ISIS-L1 15   20          D   10.0.0.1        GigabitEthernet
0/0/1
    192.168.2.0/24  Direct  0    0           D   192.168.2.1     GigabitEthernet
0/0/0
    192.168.2.1/32  Direct  0    0           D   127.0.0.1       GigabitEthernet
0/0/0

[R2]
```

PC分别填写IP地址，且能相互PING通：


PC1
基础配置
命令行
组播
UDP发包工具
串口
主机名:
MAC 地址:
54-89-98-50-02-09
IPv4 配置
静态
DHCP
自动获取 DNS 服务器地址
IP 地址:
192 . 168 . 1 . 2
子网掩码:
255 . 255 . 255 . 0
网关:
192 . 168 . 1 . 1
DNS1:
0 . 0 . 0 . 0
DNS2:
0 . 0 . 0 . 0


PC2
基础配置
命令行
组播
UDP发包工具
串口
主机名:
MAC 地址:
54-89-98-F6-7E-01
IPv4 配置
静态
DHCP
自动获取 DNS 服务器地址
IP 地址:
192 . 168 . 2 . 2
子网掩码:
255 . 255 . 255 . 0
网关:
192 . 168 . 2 . 1
DNS1:
0 . 0 . 0 . 0
DNS2:
0 . 0 . 0 . 0


PC1
基础配置
命令行
组播
UDP发包工具
串口
Welcome to use PC Simulator!
PC>ping 192.168.2.2
Ping 192.168.2.2: 32 data bytes, Press Ctrl_C to break
From 192.168.2.2: bytes=32 seq=1 ttl=126 time=93 ms
From 192.168.2.2: bytes=32 seq=2 ttl=126 time=78 ms
From 192.168.2.2: bytes=32 seq=3 ttl=126 time=93 ms
From 192.168.2.2: bytes=32 seq=4 ttl=126 time=47 ms
From 192.168.2.2: bytes=32 seq=5 ttl=126 time=78 ms
--- 192.168.2.2 ping statistics ---
5 packet(s) transmitted
5 packet(s) received
0.00% packet loss
round-trip min/avg/max = 47/77/93 ms
PC>


PC2
基础配置
命令行
组播
UDP发包工具
串口
Welcome to use PC Simulator!
PC>ping 192.168.1.2
Ping 192.168.1.2: 32 data bytes, Press Ctrl_C to break
From 192.168.1.2: bytes=32 seq=1 ttl=126 time=47 ms
From 192.168.1.2: bytes=32 seq=2 ttl=126 time=78 ms
From 192.168.1.2: bytes=32 seq=3 ttl=126 time=63 ms
From 192.168.1.2: bytes=32 seq=4 ttl=126 time=63 ms
From 192.168.1.2: bytes=32 seq=5 ttl=126 time=62 ms
--- 192.168.1.2 ping statistics ---
5 packet(s) transmitted
5 packet(s) received
0.00% packet loss
round-trip min/avg/max = 47/62/78 ms
PC>

至此，华为路由器ISIS接口明文认证典型组网配置案例已完成！