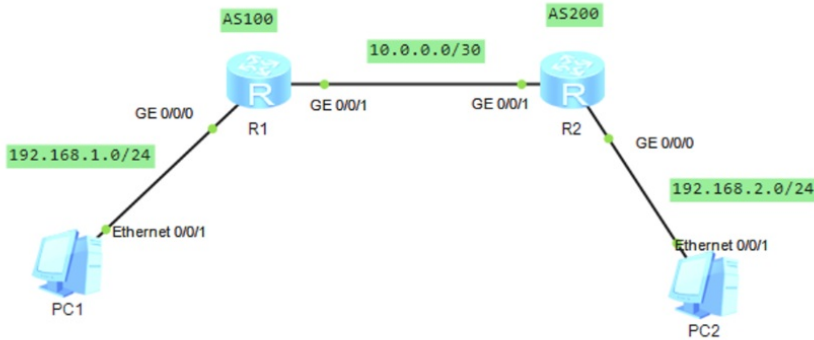


【MVS】华为路由器EBGP MD5认证典型组网配置案例

网络相关 韦家宁 2024-07-02 发表

组网及说明



组网说明:

本案例采用ENSF模拟器模拟EBGP组网环境，通过部署EBGP实现R1、R2建立EBGP邻居关系，PC之间得以互通。为了确保EBGP邻居建立的合法性，R1与R2需要配置MD5认证。

配置步骤

- 1、按照网络拓扑图配置IP地址。
- 2、分别配置R1、R2的BGP路由协议，通过建立EBGP邻居关系，实现PC之间互通。
- 3、分别配置R1、R2的BGP MD5认证，确保邻居建立的合法性。

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]bgp 100 //创建BGP进程，进程ID为100
[R1-bgp]router-id 10.0.0.1 //指定router-id
[R1-bgp]peer 10.0.0.2 as-number 200 //指定EBGP邻居
[R1-bgp]peer 10.0.0.2 password simple weijianing //配置认证密钥
[R1-bgp]network 192.168.1.0 24 //发布路由
```

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]bgp 200
```

```

[R2-bgp]router-id 10.0.0.2
[R2-bgp]peer 10.0.0.1 as-number 100
[R2-bgp]peer 10.0.0.1 password simple weijianing
[R2-bgp]network 192.168.2.0 24
[R2-bgp]quit

```

分别查看R1、R2路由器已建立EBGP邻居关系。

```

[R1]dis bgp peer

BGP local router ID : 10.0.0.1
Local AS number : 100
Total number of peers : 1          Peers in established state : 1

Peer          V          AS  MsgRcvd  MsgSent  OutQ  Up/Down      State Pre
fRcv
10.0.0.2     4          200    4         5       0 00:01:15  Established
1
[R1]

```

```

[R2]dis bgp peer

BGP local router ID : 10.0.0.2
Local AS number : 200
Total number of peers : 1          Peers in established state : 1

Peer          V          AS  MsgRcvd  MsgSent  OutQ  Up/Down      State Pre
fRcv
10.0.0.1     4          100    4         4       0 00:01:34  Established
1
[R2]

```

分别查看R1、R2路由器的路由表，发现已经通过BGP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   EBGP    255  0        D  10.0.0.2             GigabitEthernet
0/0/1
[R1]

```

```

[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   EBGP    255  0        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通对方。

PC1

基础配置 命令行 组播 UDP发包工具 串口

主机名:

MAC 地址:

IPv4 配置

静态 DHCP 自动获取 DNS 服务器地址

IP 地址: DNS1:

子网掩码: DNS2:

网关:

PC2

基础配置 命令行 组播 UDP发包工具 串口

主机名:

MAC 地址:

IPv4 配置

静态 DHCP 自动获取 DNS 服务器地址

IP 地址: DNS1:

子网掩码: DNS2:

网关:

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，EBGP MD5认证典型组网配置案例已完成！