

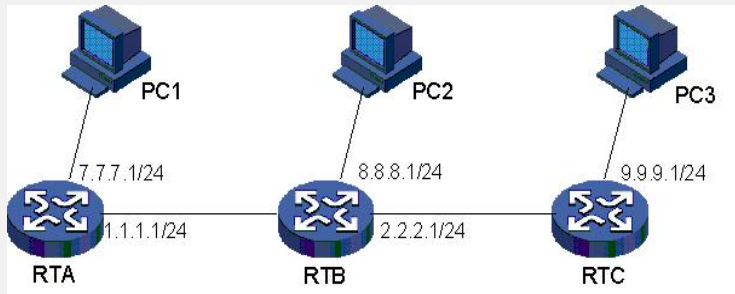
MSR路由器
PIM DM组播功能的配置

关键词: MSR;组播;PIM DM

一. 组网需求:

PC1作为组播源发送组播数据, PC2、PC3作为组播组成员能够收到组播数据。组播路由协议采用DM模式。

二. 组网图:



三. 配置步骤:

实验使用设备及版本: MSR20-20, Version 5.20, Beta 1106

```

RTA配置
#
sysname RTA
#
multicast routing-enable //启动IP组播路由
#
interface Ethernet0/0
port link-mode route
ip address 7.7.7.1 255.255.255.0
pim dm //启动PIM-DM
#
interface Serial1/0
link-protocol ppp
ip address 1.1.1.1 255.255.255.0
pim dm
#
ospf 1
area 0.0.0.0
network 1.1.1.0 0.0.0.255
network 7.7.7.0 0.0.0.255

RTB配置
#
sysname RTB
#
multicast routing-enable
#
interface Ethernet0/0
port link-mode route
ip address 2.2.2.1 255.255.255.0
pim dm
#
interface Ethernet0/1
port link-mode route
ip address 8.8.8.1 255.255.255.0
igmp enable //接口上使能IGMP
#
interface Serial1/0
link-protocol ppp
ip address 1.1.1.2 255.255.255.0
pim dm
#
ospf 1
area 0.0.0.0
network 1.1.1.0 0.0.0.255
network 2.2.2.0 0.0.0.255
network 8.8.8.0 0.0.0.255

RTC配置

```

```

#
sysname RTC
#
multicast routing-enable
#
interface Ethernet0/0
port link-mode route
ip address 2.2.2.2 255.255.255.0
pim dm
#
interface Ethernet0/1
port link-mode route
ip address 9.9.9.1 255.255.255.0
igmp enable
#
ospf 1
area 0.0.0.0
network 2.2.2.0 0.0.0.255
network 9.9.9.0 0.0.0.255

```

四. 配置关键点:

- 1、全局启动IP组播路由。
- 2、各接口启动PIM-DM。
- 3、与成员相连的接口上使能IGMP。
- 4、保证组播源和组播组成员之间路由可达。

五. 实验分析

PC2、PC3正确加入组播组以后，检查路由器中的多播路由表项（display pim routing-table），多播路由表中正确显示上下游关系：

```
[RTB]dis pim routing-table
```

```
Vpn-instance: public net
```

```
Total 2 (*, G) entries; 1 (S, G) entry
```

```
(*, 224.1.1.1)
```

```
Protocol: pim-dm, Flag: WC
```

```
UpTime: 00:08:04
```

```
Upstream interface: NULL
```

```
Upstream neighbor: NULL
```

```
RPF prime neighbor: NULL
```

```
Downstream interface(s) information:
```

```
Total number of downstreams: 1
```

```
1: Ethernet0/2
```

```
Protocol: igmp, UpTime: 00:08:04, Expires: never
```

```
(7.7.7.7, 224.1.1.1)
```

```
Protocol: pim-dm, Flag: ACT
```

```
UpTime: 00:01:10
```

```
Upstream interface: Ethernet0/1
```

```
Upstream neighbor: 1.1.1.1
```

```
RPF prime neighbor: 1.1.1.1
```

```
Downstream interface(s) information:
```

```
Total number of downstreams: 2
```

```
1: Ethernet0/2
```

```
Protocol: pim-dm, UpTime: 00:01:10, Expires: -
```

```
2: Ethernet0/0
```

```
Protocol: pim-dm, UpTime: 00:01:10, Expires: -
```

```
(*, 239.255.255.250)
```

```
Protocol: pim-dm, Flag: WC
```

```
UpTime: 00:13:22
```

```
Upstream interface: NULL
```

```
Upstream neighbor: NULL
```

```
RPF prime neighbor: NULL
```

```
Downstream interface(s) information:
```

```
Total number of downstreams: 1
```

```
1: Ethernet0/2
```

```
Protocol: igmp, UpTime: 00:13:22, Expires: never
```

```
[RTC]dis pim routing-table
```

```
Vpn-instance: public net
```

```
Total 2 (*, G) entries; 1 (S, G) entry
```

(* , 224.1.1.1)

Protocol: pim-dm, Flag: WC

UpTime: 00:08:03

Upstream interface: NULL

Upstream neighbor: NULL

RPF prime neighbor: NULL

Downstream interface(s) information:

Total number of downstreams: 1

1: Ethernet0/1

Protocol: igmp, UpTime: 00:08:03, Expires: never

(7.7.7.7, 224.1.1.1)

Protocol: pim-dm, Flag: ACT

UpTime: 00:01:50

Upstream interface: Ethernet0/0

Upstream neighbor: 2.2.2.1

RPF prime neighbor: 2.2.2.1

Downstream interface(s) information:

Total number of downstreams: 1

1: Ethernet0/1

Protocol: pim-dm, UpTime: 00:01:50, Expires: -

(* , 239.255.255.250)

Protocol: pim-dm, Flag: WC

UpTime: 00:14:12

Upstream interface: NULL

Upstream neighbor: NULL

RPF prime neighbor: NULL

Downstream interface(s) information:

Total number of downstreams: 1

1: Ethernet0/1

Protocol: igmp, UpTime: 00:14:12, Expires: never