

AR系列路由器debugging PIM DM命令(二)

【举例】

例1: 打开PIM DM声明信息调试功能

```
<Quidway> debugging PIM DM alert
<Quidway> display debugging
PIM-DM alert debugging switch is on
*0.2350915882 3552G_management RM/7/RTDBG:PIMDM ALERT: SG PRUNE: (10.110.0.2, 225.0.0.1)
// PIM DM Alert信息,SG(10.110.0.2, 225.0.0.1)剪枝
*0.2350915893 3552G_management RM/7/RTDBG:PIMDM ALERT: SG PRUNE: (10.110.0.2, 225.0.0.1), but route not found in PIM-DM MRT!
// PIM DM Alert信息,SG(10.110.0.2, 225.0.0.1)剪枝,但是路由器没有发现PIM DM MRT
*0.2350917590 3552G_management RM/7/RTDBG:PIMDM ALERT: SG CREATION: (10.110.0.2, 225.0.0.1)
// PIM DM Alert信息,创建SG项
*0.243863 5232 RM/7/RTDBG:PIMDM ALERT: WRONGIF: (10.110.0.2, 225.0.0.1), Ethernet0/0(12.110.0.2), no downstream
// PIM DM Alert信息,组(10.110.0.2, 225.0.0.1)在接口e0/0上没有下游
```

例2: 打开PIM DM路由表调试信息功能

```
<Quidway> debugging PIM DM mrt
<Quidway> display debugging
PIM-DM MRT operation debugging switch is on
*0.2350914135 3552G_management RM/7/RTDBG:PIMDM MRT: Ready to make pruned downstream Vlan-interface101(1.1.1.1) of (10.110.0.2, 225.0.0.1) forwarding
//PIM DM MRT 报文,已经准备好使用被剪枝的下游vlan进行转发
*0.2350915863 3552G_management RM/7/RTDBG:PIMDM MRT: Ready to delete downstream Vlan-interface101(1.1.1.1) from (10.110.0.2, 225.0.0.1)
//PIM DM MRT 报文,已经准备好删除将下游vlan101从组(10.110.0.2, 225.0.0.1)中删除
*0.2350917610 3552G_management RM/7/RTDBG:PIMDM MRT: Set (10.110.0.2, 225.0.0.1)'s upstream to Vlan-interface104(10.110.0.1), neighbor NULL
//PIM MD MRT信息,设置(10.110.0.2, 225.0.0.1)的上游vlan为vlan104
*0.2350917620 3552G_management RM/7/RTDBG:PIMDM MRT: Upstream interface Vlan-interface104(10.110.0.1) added to (10.110.0.2/32, 225.0.0.1/32)
//PIM MD MRT信息,上游接口vlan104加入组(10.110.0.2, 225.0.0.1)
*0.2350917630 3552G_management RM/7/RTDBG:PIMDM MRT: Adding downstream interface Vlan-interface101(1.1.1.1) to (10.110.0.2, 225.0.0.1)
//PIM MD MRT信息,添加vlan101的下游接口
*0.2350917640 3552G_management RM/7/RTDBG:PIMDM MRT: Ready to create a downstream Vlan-interface101(1.1.1.1) in (10.110.0.2, 225.0.0.1)
//PIM MD MRT信息,已经准备好创建vlan104的下游接口
*0.2350917651 3552G_management RM/7/RTDBG:PIMDM MRT: Adding downstream interface Vlan-interface103(2.2.2.1) to (10.110.0.2, 225.0.0.1)
//PIM MD MRT信息,添加下游接口2.2.2.1到组(10.110.0.2, 225.0.0.1)
*0.2350917660 3552G_management RM/7/RTDBG:PIMDM MRT: Ready to create a downstream Vlan-interface103(2.2.2.1) in (10.110.0.2, 225.0.0.1)
//PIM MD MRT信息,已经准备好创建vlan103的下游接口
*0.2350922167 3552G_management RM/7/RTDBG:PIMDM MRT: Ready to prune a downstream Vlan-interface101(1.1.1.1) from (10.110.0.2, 225.0.0.1)
//PIM MD MRT信息,已经准备好剪除下游接口vlan101
```

例3: 打开PIM DM接收/发送报文调试功能

```
<Quidway> deb PIM DM packet
<Quidway> display debugging
PIM DM packet debugging switch is on
<Quidway> debugging PIM DM send all
<Quidway> display debugging
```

PIM-DM all packet send debugging switch is on

例3.1: 打开PIM DM接收/发送声明报文调试功能

<Quidway>debugging pim dm rcv assert

<Quidway>display debugging

PIM-DM assert packet rcv debugging switch is on

<Quidway>debugging pim dm send assert

<Quidway>display debugging

PIM-DM assert packet send debugging switch is on

*0.23368210 4640_2 RM/7/RTDBG:PIMDM RCVASSERT: Received an assert from 12.110.0.1 at interface Ethernet0/0/0(12.110.0.3) for (10.110.0.2, 225.0.0.1), pref 60, metric 0

//接收到一个来自12.110.0.1的声明消息

*0.23368420 4640_2 RM/7/RTDBG:PIMDM RCVASSERT: They are processing (10.110.0.2, 225.0.0.1) assert outside interface Ethernet0/0/0(12.110.0.3)...

//接收到一个声明消息,正在处理组(10.110.0.2, 225.0.0.1)到接口e0/0/0以外的声明

*0.23368600 4640_2 RM/7/RTDBG:PIMDM RCVASSERT: (10.110.0.2, 225.0.0.1) has no Assert states yet, neighbor 12.110.0.1 become the Assert winner

//组(10.110.0.2, 225.0.0.1)没有进入声明状态,邻居12.110.0.1赢得声明战争

*0.23369160 4640_2 RM/7/RTDBG:PIMDM RCVASSERT: And my current upstream nbr is 12.110.0.1, pref 60, metric 0

//接收到声明消息,我的上游nbr为12.110.0.1

*0.23369290 4640_2 RM/7/RTDBG:PIMDM RCVASSERT: Challenger neighbor 12.110.0.2 won in (10.110.0.2, 225.0.0.1) assert, and my current upstream neighbor 12.110.0.1

lost

//接收到声明消息,12.110.0.2赢得声明战争,我与当前上游邻居12.110.0.1失去联络

*0.23369490 4640_2 RM/7/RTDBG:PIMDM RCVASSERT: Updating (10.110.0.2, 225.0.0.1)'s upstream forwarder to 12.110.0.2

//接收到声明消息,更新12.110.0.2为上游转发者

*0.357492290 Quidway RM/7/RTDBG:PIMDM RCVASSERT: Received an assert from 12.110.0.2 at interface Ethernet0/0/0(12.110.0.1) for (10.110.0.2, 225.0.0.1), pref 60,metric 0

0

//接收到12.110.0.2发送的关于组的(10.110.0.2, 225.0.0.1)声明消息

*0.357492500 Quidway RM/7/RTDBG:PIMDM RCVASSERT: We lost in (10.110.0.2, 225.0.0.1) assert on interface Ethernet0/0/0(12.110.0.1), pruning...

//接收到声明消息:我们被组(10.110.0.2, 225.0.0.1)剪枝

*0.6536470 5232 RM/7/RTDBG:PIMDM RCVASSERT: We won in (10.110.0.2, 225.0.0.1) assert on interface Ethernet0/0(12.110.0.2)

//在接口e0/0我们赢得了声明战争

*0.6536620 5232 RM/7/RTDBG:PIMDM RCVASSERT: We won in (10.110.0.2, 225.0.0.1) assert, sending out an assert at Ethernet0/0(12.110.0.2) to let others know

//我们赢得了声明战争,我们要发送一个声明信息让其他路由器知道

*0.357492110 Quidway RM/7/RTDBG:PIMDM SENDASSERT: Sending an assert for (10.110.0.2, 225.0.0.1) at Ethernet0/0/0(12.110.0.1), pref 60, metric 0

//在接口e0/0/0上发送一个组(10.110.0.2, 225.0.0.1)的声明信息

例3.2: 打开PIM DM接收/发送嫁接报文调试功能

<Quidway>debugging pim dm rcv graft

<Quidway>display debugging

PIM-DM graft packet rcv debugging switch is on

<Quidway>debugging pim dm send graft

<Quidway>display debugging

PIM-DM graft packet send debugging switch is on

*0.2350914122 3552G_management RM/7/RTDBG:PIMDM RCVGRAFT: Received graft on interface Vlan-interface101(1.1.1.1), dest to 1.1.1.1, 1 groups, sent by 1.1.1.2

//接收到PIM DM嫁接信息,目的地址为1.1.1.1

*0.2350914126 3552G_management RM/7/RTDBG:PIMDM RCVGRAFT: Received (10.110.0.2, 225.0.0.1) graft on interface Vlan-interface101(1.1.1.1), making pruned downstream forwarding

//接收到组(10.110.0.2, 225.0.0.1)的嫁接信息,使被剪枝的下游开始转发

*0.357491950 Quidway RM/7/RTDBG:PIMDM SENDGRAFT: Ready to send a (10.110.0.2, 225.0.0.1) graft at Ethernet1/0/0(1.1.1.2) to 1.1.1.1

//发送嫁接信息,准备好将(10.110.0.2, 225.0.0.1)嫁接到e1/0/0

*0.2350917681 3552G_management RM/7/RTDBG:PIMDM SENDGRAFT: Cannot send (10.110.0.2, 225.0.0.1) graft upstream, for no upstream neighbor!
//发送PIM DM嫁接信息,不能发送组(10.110.0.2, 225.0.0.1)的信息流到嫁接分支上游,因为没有上游邻居

例3.3: 打开PIM DM接收/发送嫁接回应报文调试功能

```
<Quidway>debugging pim dm rcv graft-ack
<Quidway>display debugging
PIM-DM graft-ack packet rcv debugging switch is on
<Quidway>debugging pim dm send graft-ack
<Quidway>display debugging
PIM-DM graft-ack packet send debugging switch is on
*0.357703360 Quidway RM/7/RTDBG:PIMDM RCVGRAFTACK: Received graft-ack on interface Ethernet1/0/0(1.1.1.2)
//在接口e1/0/0上接收到嫁接回应
*0.357703490 Quidway RM/7/RTDBG:PIMDM RCVGRAFTACK: Received (10.110.0.2, 225.0.0.1) graft-ack, but we did not send a graft, skipping it
//接收到嫁接回应信息,但本机没有发送嫁接信息,丢弃该报文
*0.23395350 4640_2 RM/7/RTDBG:PIMDM RCVGRAFTACK: Received (10.110.0.2, 225.0.0.1) graft-ack on interface Ethernet0/0/0(12.110.0.3) acknowledged
//接收到来自组(10.110.0.2, 225.0.0.1)的嫁接回应
*0.2350914146 3552G_management RM/7/RTDBG:PIMDM SENDGRAFTACK: Sending graft-ack on interface Vlan-interface101(1.1.1.1)
//发送嫁接回应信息,将(10.110.0.2, 225.0.0.1)嫁接到e1/0/0
*0.519320 5232 RM/7/RTDBG:PIMDM SENDGRAFTACK: Sending graft-ack on interface Ethernet0/0(12.110.0.2)
//在e0/0上发送PIM DM嫁接回应信息
```

例3.4: 打开PIM DM接收/发送组加入报文调试功能

```
<Quidway>debugging pim dm rcv join
<Quidway>display debugging
PIM-DM join packet rcv debugging switch is on
<Quidway>debugging pim dm send join
<Quidway>display debugging
PIM-DM join packet send debugging switch is on

*0.35770来自2690 Quidway RM/7/RTDBG:PIMDM RCVJOINPRUNE: Received join/prune pkt dest to 12.110.0.2, 1 groups, sent by 12.110.0.3
//接收到12.110.0.3的join/prune报文
*0.357702840 Quidway RM/7/RTDBG:PIMDM RCVJOINPRUNE: Processing join/prune pkt, group 1: 225.0.0.1, 1 join, 0 prune
//接收到225.0.0.1的报文,将有一个成员加入该组
*0.170656840 4640_2 RM/7/RTDBG:PIMDM SEND_JOIN: Sending a join (10.110.0.2, 225.0.0.1) at Ethernet0/0/0(12.110.0.3), dest 224.0.0.13, to 12.110.0.1
//发送组加入报文到给所有PIM路由器, 要求加入到组(10.110.0.2, 225.0.0.1)
```

例3.5: 打开PIM DM接收/发送剪枝报文调试功能

```
<Quidway>debugging pim dm rcv prune
<Quidway>display debugging
PIM-DM prune packet rcv debugging switch is on
<Quidway>debugging pim dm send prune
<Quidway>display debugging
PIM-DM prune packet send debugging switch is on

*0.357487230 Quidway RM/7/RTDBG:PIMDM RCVJOINPRUNE: Received join/prune pkt dest to 12.110.0.1, 1 groups, sent by 12.110.0.3
//接收到来自12.110.0.3的join/prune信息,目的地址是12.110.0.1
*0.357487380 Quidway RM/7/RTDBG:PIMDM RCVJOINPRUNE: Processing join/prune pkt, group 1: 225.0.0.1, 0 join, 1 prune
//接收到处理组225.0.0.1的剪枝信息
*0.357487520 Quidway RM/7/RTDBG:PIMDM RCVPRUNE: Received (10.110.0.2, 225.0.0.1)prune at Ethernet0/0/0, flags=0x0, sent by 12.110.0.3
//接收到12.110.0.3的剪枝信息
*0.357487680 Quidway RM/7/RTDBG:PIMDM RCVPRUNE: Interface Ethernet0/0/0 has been pruned in (10.110.0.2, 225.0.0.1), reset the timeout time to 210 seconds
```

```
//接收到e0/0/0已经将组播源为10.110.0.2,组播组地址为225.0.0.1的组剪枝,重置超时时间为210s
*0.23363490 4640_2 RM/7/RTDBG:PIMDM SENDPRUNE: Sending a prune (10.110.0.2, 225.0.0.1)
at Ethernet0/0/0(12.110.0.3), dest 224.0.0.13, to 12.110.0.1, holdtime 210
seconds
//发送剪枝信息给所有PIM路由器
```

例4: 打开PIM DM报文计时器调试功能

```
<Quidway> debugging PIM DM timer
<Quidway>display debugging
PIM-DM timer debugging switch is on
*0.9722250 Quidway RM/7/RTDBG:PIMDM TIMER: It's time to clean up PIM-DM MRT
//MRT老化计时器超时, 开始清除组播路由表
*0.9734550 Quidway RM/7/RTDBG:PIMDM MRT_TIMER: It's time to update PIM-DM MRT
// PIM DM 路由表更新计时器超时, 开始更新组播路由表
*0.2006386680 4640_2 RM/7/RTDBG:PIMDM TIMER: Interface Ethernet0/0/0(12.110.0.3)'s neighbor
12.110.0.1 timeout
//PIM DM 邻居12.110.0.3超时, 邻居被删除
*0.2006394070 4640_2 RM/7/RTDBG:PIMDM TIMER: Arranging next PIM-DM MRT cleaning up after
15 seconds
//安排在15秒后下一次PIM DM MRT清除
*0.2350917569 3552G_management RM/7/RTDBG:PIM TIMER: Create PIM NBR timeout Timer on i
nterface Vlan-interface104(10.110.0.1)
//PIM TIMER信息,在vlan 104上创建PIM NBR超时计时器
*0.2350917580 3552G_management RM/7/RTDBG:PIM TIMER: Start pim hello packet send timer on
interface Vlan-interface104(10.110.0.1)
//在vlan104上的PIM hello报文的发送计时器开始计时
```

例5: 打开PIM DM警告调试信息功能

```
<Quidway> debugging PIM DM all
<Quidway>display debugging
PIM-DM warning debugging switch is on
*0.455700 5232 RM/7/RTDBG:PIMDM WARNING: Cannot send join/prune, no upstream router speci
fied!
//PIM DM警告信息,不能发送join/prune,没有上游路由器
```