M9K系列防火墙常见冗余组网配置举例（上下路由器三层组网）

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组网及说明

1 配置需求及说明

1.1 适用的产品系列

本案例适用于如M9006、M9010、M9014等M9K系列的防火墙

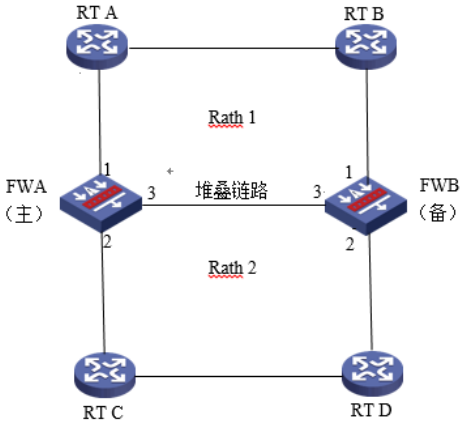
1.2 配置需求及实现的效果

防火墙A与防火墙B堆叠后上联路由器A下联路由器B，应用户业务需求：

1、 防火墙做主备运行

2、 正常情况下业务流量全部负载在FWA，FWA出现故障后流量全部切到FWB运行

2 组网图



配置步骤

3 配置步骤

3.1 路由器A配置

3.1.1 配置路由器A下联防火墙接口

system

[H3C]interface GigabitEthernet 1/0/1

[H3C-GigabitEthernet1/0/1] ip address 1.1.1.1 24

[H3C-GigabitEthernet1/0/1]quit

[H3C]ospf 1

[H3C-ospf-1]area 0

[H3C-ospf-1-area-0.0.0.0]network 1.1.1.1 0.0.0.0

路由器B、C、D配置相同不再赘述

3.2 防火墙配置

3.2.1 FWA与FWB建立堆叠

具体配置可参考防火墙虚拟化配置举例，本章不做介绍。

3.2.2 配置track联动上下行接口的物理状态

配置track检测上下行端口的物理状态

[H3C] track 1 interface gigabitethernet 1/0/1 physical

[H3C-track-1] quit

[H3C] track 2 interface gigabitethernet 1/0/2 physical

[H3C-track-2] quit

[H3C] track 3 interface gigabitethernet 2/0/1 physical

[H3C-track-3] quit

[H3C] track 4 interface gigabitethernet 2/0/2 physical

[H3C-track-4] quit

3.2.3 配置冗余组关联冗余接口

1. 创建节点1与防火墙A所有接口绑定

[H3C] redundancy group aaa

[H3C-redundancy-group-aaa] node 1

[H3C-redundancy-group-aaa-node1] bind slot 1

[H3C-redundancy-group-aaa-node1] priority 100

[H3C-redundancy-group-aaa-node1] node-member interface gigabitethernet 1/0/1

[H3C-redundancy-group-aaa-node1] node-member interface gigabitethernet 1/0/2

[H3C-redundancy-group-aaa-node1] track 1 interface gigabitethernet 1/0/1
[H3C-redundancy-group-aaa-node1] track 2 interface gigabitethernet 1/0/2
[H3C-redundancy-group-aaa-node1] quit

2. 创建节点2与防火墙B所有接口绑定

[H3C-redundancy-group-aaa] node 2
[H3C-redundancy-group-aaa-node2] bind slot 2
[H3C-redundancy-group-aaa-node2] priority 50
[H3C-redundancy-group-aaa-node2] node-member interface gigabitethernet 2/0/1
[H3C-redundancy-group-aaa-node2] node-member interface gigabitethernet 2/0/2
[H3C-redundancy-group-aaa-node2] track 3 interface gigabitethernet 2/0/1
[H3C-redundancy-group-aaa-node2] track 4 interface gigabitethernet 2/0/2
[H3C-redundancy-group-aaa-node2] quit

3.2.4 开启会话热备

[H3C] session synchronization enable

3.2.5 安全策略配置

1. 将接口加入安全域

将1/0/1与2/0/1加入Untrust区域
[H3C]security-zone name Untrust
[H3C-security-zone-Untrust]import interface GigabitEthernet 1/0/1
[H3C-security-zone-Untrust]import interface GigabitEthernet 2/0/1
将1/0/2与2/0/2加入trust区域
[H3C]security-zone name trust
[H3C-security-zone-trust]import interface GigabitEthernet 1/0/2
[H3C-security-zone-trust]import interface GigabitEthernet 2/0/2
[H3C-security-zone-trust]quit
防火墙目前版本存在两套安全策略，请在放通安全策略前确认设备运行那种类型的安全策略？以下配置任选其一。

2. 通过命令“display cu | in security-policy”如果查到命令行存在“security-policy disable”或者没有查到任何信息，则使用下面策略配置。

[H3C]display cu | in security-policy
 security-policy disable
#创建对象策略pass。
[H3C]object-policy ip pass
[H3C-object-policy-ip-pass] rule 0 pass
[H3C-object-policy-ip-pass]quit
#创建Trust到Untrust域的域间策略调用pass策略。
[H3C]zone-pair security source Trust destination local
[H3C-zone-pair-security-Trust- local]object-policy apply ip pass
[H3C-zone-pair-security-Trust- local]quit
[H3C]zone-pair security source local destination Trust
[H3C-zone-pair-security-local -trust]object-policy apply ip pass
[H3C-zone-pair-security-local -trust]quit
[H3C]zone-pair security source Untrust destination local
[H3C-zone-pair-security-Untrust- local]object-policy apply ip pass
[H3C-zone-pair-security-Untrust- local]quit
[H3C]zone-pair security source local destination Untrust
[H3C-zone-pair-security-local -Untrust]object-policy apply ip pass
[H3C-zone-pair-security-local -Untrust]quit
[H3C]zone-pair security source Trust destination Untrust
[H3C-zone-pair-security-Trust -Untrust]object-policy apply ip pass
[H3C-zone-pair-security-Trust -Untrust]quit

3. 通过命令“display cu | in security-policy”如果查到命令行存在“security-policy ip”并且没有查到“security-policy disable”，则使用下面策略配置。

[H3C]display cu | in security-policy
security-policy ip
创建安全策略并放通local到trust和trust到local的安全策略。
[H3C]security-policy ip
[H3C-security-policy-ip]rule 10 name test
[H3C-security-policy-ip-10-test]action pass
[H3C-security-policy-ip-10-test]source-zone local
[H3C-security-policy-ip-10-test]source-zone Trust
[H3C-security-policy-ip-10-test]source-zone Untrust
[H3C-security-policy-ip-10-test]destination-zone local
[H3C-security-policy-ip-10-test]destination-zone Trust

[H3C-security-policy-ip-10-test]destination-zone Untrust
[H3C-security-policy-ip-10-test]quit

4 检验配置结果

4.1.1 正常时查看冗余组状态

节点1为主用状态，节点二为备用状态。

[H3C-redundancy-group-aaa] display redundancy group aaa
Redundancy group aaa (ID 1):

Node ID	Slot	Priority	Status	Track weight
1	Slot1	100	Primary	255
2	Slot2	50	Secondary	255

Preempt delay time remained : 0 min
Preempt delay timer setting : 1 min
Remaining hold-down time : 0 sec
Hold-down timer setting : 1 sec
Manual switchover request : No

Member interfaces:

Node 1:

Node member	Physical status
GE1/0/1	UP
GE1/0/2	UP

Track info:

Track	Status	Reduced weight	Interface
1	Positive	255	GE1/0/1
2	Positive	255	GE1/0/2

Node 2:

Node member	Physical status
GE2/0/1	UP
GE2/0/2	UP

Track info:

Track	Status	Reduced weight	Interface
3	Positive	255	GE2/0/1
4	Positive	255	GE2/0/2

4.1.2 手动关闭1/0/2接口后时查看冗余组状态

查看到主备状态已经发生了变化，并且1/0/1与1/0/2的物理状态全部置为down。

[H3C] display redundancy group aaa
Redundancy group aaa (ID 1):

Node ID	Slot	Priority	Status	Track weight
1	Slot1	100	Secondary	-255
2	Slot2	50	Primary	255

Preempt delay time remained : 0 min
Preempt delay timer setting : 1 min
Remaining hold-down time : 0 sec
Hold-down timer setting : 1 sec
Manual switchover request : No

Member interfaces:

Node 1:

Node member	Physical status
GE1/0/1	DOWN(redundancy down)
GE1/0/2	DOWN

Track info:

Track	Status	Reduced weight	Interface
1	Negative	255	GE1/0/1
2	Negative	255	GE1/0/2 (Fault)

Node 2:

Node member	Physical status
GE2/0/1	UP
GE2/0/2	UP

Track info:

Track	Status	Reduced weight	Interface
3	Positive	255	GE2/0/1
4	Positive	255	GE2/0/2

配置关键点

4.1.3 注意事项

1、配置冗余组后需要加入冗余接口的物理口全部连接，否则会造成冗余组异常。