

### H3C S3500-EA IPv4 OSPF基本功能典型配置

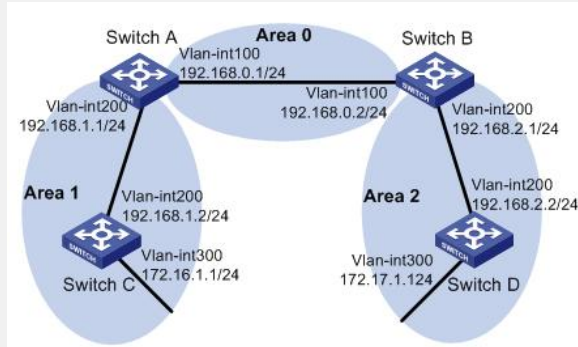
#### 一、组网需求:

所有的交换机都运行OSPF, 并将整个自治系统划分为3个区域。

其中Switch A和Switch B作为ABR来转发区域之间的路由。

配置完成后, 每台交换机都应学到AS内的到所有网段的路由。

#### 二、组网图:



#### 三、配置步骤:

(1) 配置各接口的IP地址(此处略)

(2) 配置OSPF基本配置

# 配置Switch A。

```
<SwitchA> system-view
[SwitchA] ospf
[SwitchA-ospf-1] area 0
[SwitchA-ospf-1-area-0.0.0.0] network 192.168.0.0 0.0.0.255
[SwitchA-ospf-1-area-0.0.0.0] quit
[SwitchA-ospf-1] area 1
[SwitchA-ospf-1-area-0.0.0.1] network 192.168.1.0 0.0.0.255
[SwitchA-ospf-1-area-0.0.0.1] quit
[SwitchA-ospf-1] quit
```

# 配置Switch B。

```
<SwitchB> system-view
[SwitchB] ospf
[SwitchB-ospf-1] area 0
[SwitchB-ospf-1-area-0.0.0.0] network 192.168.0.0 0.0.0.255
[SwitchB-ospf-1-area-0.0.0.0] quit
[SwitchB-ospf-1] area 2
[SwitchB-ospf-1-area-0.0.0.2] network 192.168.2.0 0.0.0.255
[SwitchB-ospf-1-area-0.0.0.2] quit
[SwitchB-ospf-1] quit
```

# 配置Switch C。

```
<SwitchC> system-view
[SwitchC] ospf
[SwitchC-ospf-1] area 1
[SwitchC-ospf-1-area-0.0.0.1] network 192.168.1.0 0.0.0.255
[SwitchC-ospf-1-area-0.0.0.1] network 172.16.1.0 0.0.0.255
[SwitchC-ospf-1-area-0.0.0.1] quit
[SwitchC-ospf-1] quit
```

# 配置Switch D。

```
<SwitchD> system-view
[SwitchD] ospf
[SwitchD-ospf-1] area 2
[SwitchD-ospf-1-area-0.0.0.2] network 192.168.2.0 0.0.0.255
[SwitchD-ospf-1-area-0.0.0.2] network 172.17.1.0 0.0.0.255
[SwitchD-ospf-1-area-0.0.0.2] quit
[SwitchD-ospf-1] quit
```

(3) 检查配置结果

```

# 查看Switch A的OSPF邻居。
[SwitchA] display ospf peer verbose
    OSPF Process 1 with Router ID 192.168.0.1
        Neighbors
Area 0.0.0.0 interface 192.168.0.1(Vlan-interface 100)'s neighbors
Router ID: 192.168.0.2  Address: 192.168.0.2  GR State: Normal
State: Full Mode:Nbr is Master Priority: 1
DR: 192.168.0.2  BDR: 192.168.0.1  MTU: 0
Dead timer due in 36 sec
Neighbor is up for 00:15:04
Authentication Sequence: [ 0 ]
Neighbor state change count: 3
    Neighbors
Area 0.0.0.1 interface 192.168.1.1(Vlan-interface 200)'s neighbors
Router ID: 172.16.1.1  Address: 192.168.1.2  GR State: Normal
State: Full Mode:Nbr is Slave Priority: 1
DR: 192.168.0.1  BDR: 172.16.1.1  MTU: 0
Dead timer due in 39 sec
Neighbor is up for 00:07:32
Authentication Sequence: [ 0 ]
Neighbor state change count: 2
# 显示Switch A的OSPF路由信息。
[SwitchA] display ospf routing
    OSPF Process 1 with Router ID 192.168.0.1
        Routing Tables
Routing for Network
Destination  Cost Type  NextHop  AdvRouter  Area
172.16.1.0/24  1563 Stub  192.168.1.2  172.16.1.1  0.0.0.1
172.17.1.0/24  3125 Inter-area 192.168.0.2 192.168.2.1 0.0.0.0
192.168.1.0/24  1562 Stub  192.168.1.1 192.168.0.1 0.0.0.1
192.168.2.0/24  3124 Inter-area 192.168.0.2 192.168.2.1 0.0.0.0
192.168.0.0/24  1562 Stub  192.168.0.1 192.168.0.1 0.0.0.0
Total Nets: 5
Intra Area: 3 Inter Area: 2 ASE: 0 NSSA: 0
# 显示Switch A的LSDB。
[SwitchA] display ospf lsdb
    OSPF Process 1 with Router ID 192.168.0.1
        Link State Data Base
        Area: 0.0.0.0
Type LinkState ID  AdvRouter  Age Len Sequence  Metric
Router 192.168.2.1  192.168.2.1 874 48 80000006 1562
Router 192.168.0.1  192.168.0.1 976 48 80000005 1562
Sum-Net 192.168.1.0  192.168.0.1 630 28 80000001 1562
Sum-Net 172.17.1.0  192.168.2.1 411 28 80000001 1563
Sum-Net 192.168.2.0  192.168.2.1 429 28 80000001 1562
Sum-Net 172.16.1.0  192.168.0.1 565 28 80000001 1563
        Area: 0.0.0.1
Type LinkState ID  AdvRouter  Age Len Sequence  Metric
Router 192.168.1.2  192.168.1.2 964 48 80000003 1562
Router 192.168.0.1  192.168.0.1 590 48 80000002 1562
Router 172.16.1.1  172.16.1.1 526 60 80000005 1562
Sum-Net 172.17.1.0  192.168.0.1 410 28 80000001 3125
Sum-Net 192.168.2.0  192.168.0.1 428 28 80000001 3124
Sum-Net 192.168.0.0  192.168.0.1 630 28 80000001 1562
# 查看Switch D的路由表。
[SwitchD] display ospf routing
    OSPF Process 1 with Router ID 192.168.2.2
        Routing Tables
Routing for Network
Destination  Cost Type  NextHop  AdvRouter  Area
172.16.1.0/24 4687 Inter-area 192.168.2.1 192.168.2.1 0.0.0.2
172.17.1.0/24 1 Stub  172.17.1.1 192.168.2.2 0.0.0.2
192.168.1.0/24 4686 Inter-area 192.168.2.1 192.168.2.1 0.0.0.2
192.168.2.0/24 1562 Stub  192.168.2.2 192.168.2.2 0.0.0.2

```

```
192.168.0.0/24 3124 Inter-area 192.168.2.1 192.168.2.1 0.0.0.2
```

```
Total Nets: 5
```

```
Intra Area: 2 Inter Area: 3 ASE: 0 NSSA: 0
```

```
# 使用Ping进行测试连通性。
```

```
[SwitchD] ping 172.16.1.1
```

```
PING 172.16.1.1: 56 data bytes, press CTRL_C to break
```

```
Reply from 172.16.1.1: bytes=56 Sequence=1 ttl=253 time=62 ms
```

```
Reply from 172.16.1.1: bytes=56 Sequence=2 ttl=253 time=16 ms
```

```
Reply from 172.16.1.1: bytes=56 Sequence=3 ttl=253 time=62 ms
```

```
Reply from 172.16.1.1: bytes=56 Sequence=4 ttl=253 time=94 ms
```

```
Reply from 172.16.1.1: bytes=56 Sequence=5 ttl=253 time=63 ms
```

```
--- 172.16.1.1 ping statistics ---
```

```
5 packet(s) transmitted
```

```
5 packet(s) received
```

```
0.00% packet loss
```

```
round-trip min/avg/max = 16/59/94 ms
```

```
四、配置关键点：
```

```
无。
```