

First Hop Redundancy

We will be using HSRP for this exercise. All the examples are presented from the point of view of R12 & R13.

1. Configure HSRP for the interfaces

```
interface GigabitEthernet0/1.64
R12(config-if)# standby version 2
R12(config-if)# standby 1 ip 10.10.64.1
R12(config-if)# standby 2 ipv6 FE80::1

interface GigabitEthernet0/1.64
R13(config-if)# standby version 2
R13(config-if)# standby 1 ip 10.10.64.1
R13(config-if)# standby 2 ipv6 FE80::1
```

Do the same for VLANs 65 and 255.

2. STOP – Checkpoint. Verify the active router

```
show standby GigabitEthernet0/1.64 : Shows HSRP status
```

- a. Which is the active router?
- b. Which is the standby router?
- c. What is the address for the virtual IP?
- d. What is the virtual MAC (Ethernet) address?
- e. Ping from the workstations out towards the border
- f. Traceroute from the workstations towards the border

3. Change the interface's HSRP priority for one of the routers serving subnet 10.X0.64.0/24

- a. If you did the Layer 2 exercises and used MSTP to load balance traffic for the different VLANs, make sure that you assign the HSRP priorities accordingly to achieve symmetric routing

```
interface GigabitEthernet0/1.64
standby 1 priority 110
```

4. STOP – Checkpoint. Verify the active router

```
show standby GigabitEthernet0/1.64 : Shows HSRP status
```

- a. Which is the active router?
- b. Which is the standby router?
- c. What is the address for the virtual IP?
- d. What is the virtual MAC (Ethernet) address?
- e. Ping from the workstations out towards the border

- f. Traceroute from the workstations towards the border

5. Modify other HSRP parameters

```
interface GigabitEthernet0/1.64
 standby 1 preempt delay minimum 0
 standby 1 timers 3 10
 standby 1 authentication md5 key-string NSRC
 standby 2 preempt delay minimum 0
 standby 2 timers 3 10
 standby 2 authentication md5 key-string NSRC
```

Do the same for VLANs 65 and 255.

6. Track the status of the uplink interface

```
interface GigabitEthernet0/1.64
 standby 1 track GigabitEthernet0/0 20
 standby 2 track GigabitEthernet0/0 20
```

Do the same for VLANs 65 and 255.

7. STOP – Checkpoint

```
show standby GigabitEthernet0/1.64 : Shows HSRP status
```

- a. Ping from the workstations out towards the border
- b. Traceroute from the workstations towards the border

Shut down the interface GigabitEthernet0/0 for the active router and answer the following questions

- c. Which is the active router?
- d. Which is the standby router?
- e. What happened to your ping?

8. Save the configuration and checkpoint.

```
R11# write memory
R11# show running-config
R11# show startup-config
```