Priority and Pre-emption

- You can choose which router will be the active by setting priority on the routers
- The router with the higher priority will be preferred (default is 100)
- In the event of a tie the highest IP address wins
- If pre-emption is also enabled, when a higher priority router comes back online after a failure it will transition back to active
- If pre-emption is not enabled (default), the lower priority router will remain active when the failed router comes back online
- This can be more stable if a higher priority router is flapping

HSRP Configuration - Priority and Pre-emption

```
R1(config)#interface g0/1
R1(config-if)#ip address 10.10.10.2 255.255.255.0
R1(config-if)#no shutdown
R1(config-if)#standby 1 ip 10.10.10.1
R1(config-if)#standby 1 priority 110
R1(config-if)#standby 1 preempt
```

```
R2(config)#interface g0/1
R2(config-if)#ip address 10.10.10.3 255.255.255.0
R2(config-if)#no shutdown
R2(config-if)#standby 1 ip 10.10.10.1
R2(config-if)#standby 1 priority 90
```

HSRP Version

- HSRP version 2 introduced a few minor improvements
- The default is version 1
- Both routers must be running the same version

HSRP Configuration - Version

```
R1(config)#interface g0/1
R1(config-if)#ip address 10.10.10.2 255.255.255.0
R1(config-if)#no shutdown
R1(config-if)#standby 1 ip 10.10.10.1
R1(config-if)#standby version 2
```

```
R2(config)#interface g0/1
R2(config-if)#ip address 10.10.10.3 255.255.255.0
R2(config-if)#no shutdown
R2(config-if)#standby 1 ip 10.10.10.1
R2(config-if)#standby version 2
```

Verification – show standby

```
R1#show standby
GigabitEthernet0/1 - Group 1
State is Active
6 state changes, last state change 00:56:38
Virtual IP address is 10.10.10.1
Active virtual MAC address is 0000.0C07.AC01
Local virtual MAC address is 0000.0C07.AC01 (v1 default)
Hello time 3 sec, hold time 10 sec
Next hello sent in 0.774 secs
Preemption enabled
Active router is local
Standby router is 10.10.10.3, priority 90 (expires in 7 sec)
Priority 110 (configured 110)
Group name is hsrp-Gig0/1-1 (default)
```

‘Active/Active’ HSRP Option 1

- R1 is HSRP Active for 10.10.10.1, R2 is Active for 10.10.10.254
- 50% of PCs use 10.10.10.1 as default gateway, other 50% use 10.10.10.254

```
R1(config)#interface g0/1
R1(config-if)#ip address 10.10.10.2 255.255.255.0
R1(config-if)#no shutdown

R1(config-if)#standby 1 ip 10.10.10.1
R1(config-if)#standby 1 priority 110
R1(config-if)#standby 1 pre-empt

R1(config-if)#standby 2 ip 10.10.10.254
R1(config-if)#standby 2 priority 90
```

```
R2(config)#interface g0/1
R2(config-if)#ip address 10.10.10.3 255.255.255.0
R2(config-if)#no shutdown

R2(config-if)#standby 1 ip 10.10.10.1
R2(config-if)#standby 1 priority 90

R2(config-if)#standby 2 ip 10.10.10.254
R2(config-if)#standby 2 priority 110
R2(config-if)#standby 2 preempt
```

‘Active/Active’ HSRP Option 2

- R1 is HSRP Active for 10.10.10.1, R2 is Active for 10.10.20.1
- 50% of PCs use 10.10.10.1 as default gateway, other 50% use 10.10.10.254

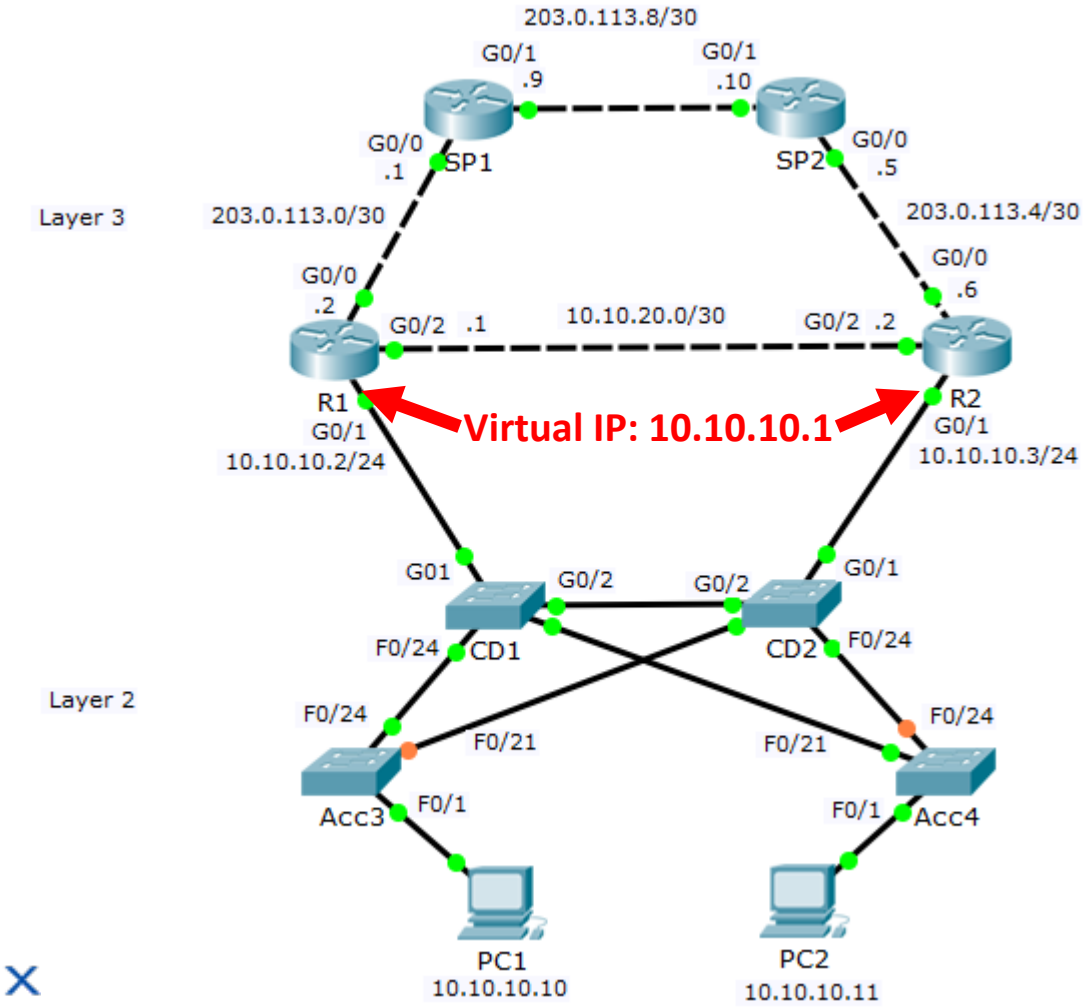
```
R1(config)#interface g0/1
R1(config-if)#ip address 10.10.10.2 255.255.255.0
R1(config-if)#no shutdown
R1(config-if)#standby 1 ip 10.10.10.1
R1(config-if)#standby 1 priority 110
R1(config-if)#standby 1 preempt

R1(config)#interface g0/2
R1(config-if)#ip address 10.10.20.2 255.255.255.0
R1(config-if)#no shutdown
R1(config-if)#standby 1 ip 10.10.20.1
R1(config-if)#standby 1 priority 90
```

```
R2(config)#interface g0/1
R2(config-if)#ip address 10.10.10.3 255.255.255.0
R2(config-if)#no shutdown
R2(config-if)#standby 1 ip 10.10.10.1
R2(config-if)#standby 1 priority 90

R2(config)#interface g0/2
R2(config-if)#ip address 10.10.20.3 255.255.255.0
R2(config-if)#no shutdown
R2(config-if)#standby 1 ip 10.10.20.1
R2(config-if)#standby 1 priority 110
R2(config-if)#standby 1 preempt
```

Lab



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