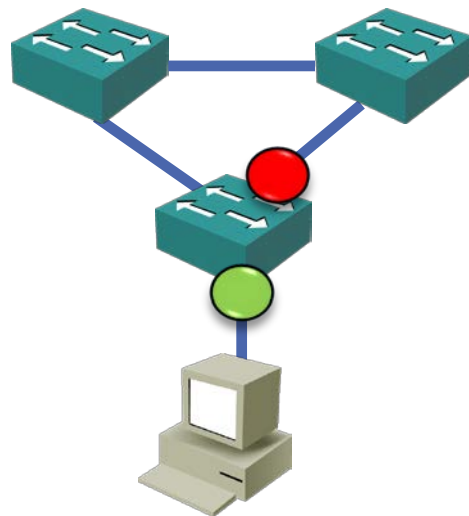# Spanning Tree Portfast

- It can take up to 50 seconds for Spanning Tree to transition a port to a forwarding state when it becomes active

- A loop cannot be formed on ports where a single end host is plugged in

- You can make the port transition to a forwarding state immediately when it becomes active by disabling Spanning Tree on the port
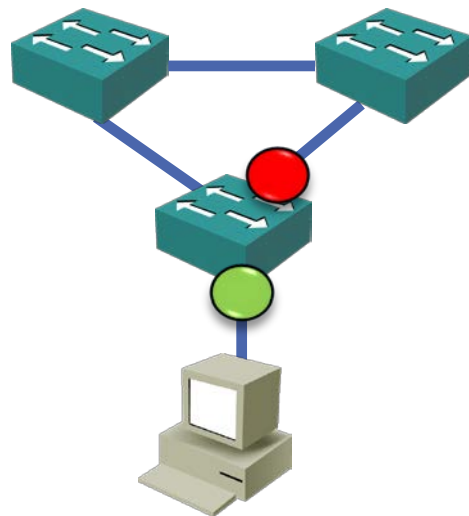
Spanning Tree Portfast

```
SW1(config)# interface f0/10
SW1(config-if)# spanning-tree portfast

SW1(config)# spanning-tree portfast default
```
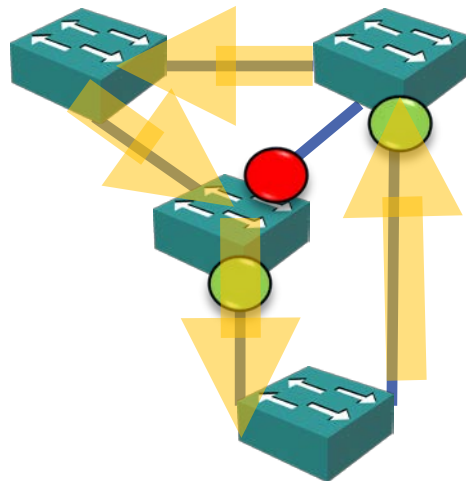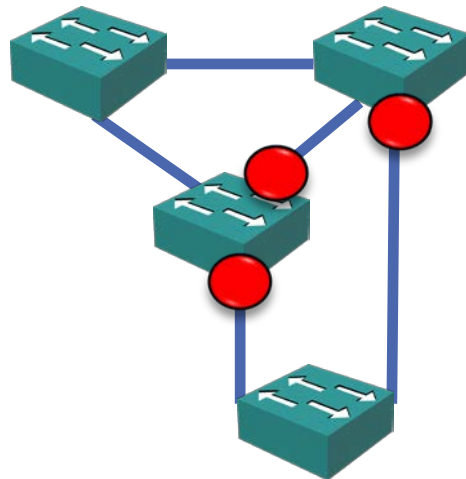
Spanning Tree BPDU Guard

- If you enable Portfast on a port and then a loop is formed through it, a broadcast storm will result

- This can be caused by users adding devices to the network or changing cabling

Spanning Tree BPDU Guard

- You can enable BPDU Guard on Portfast ports to guard against this happening
- If a BPDU is received the port will be shut down
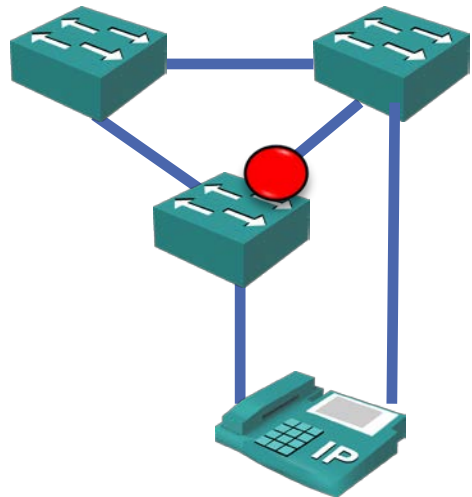
Spanning Tree BPDU Guard

```
SW1(config)# interface f0/10
SW1(config-if)# spanning-tree portfast
SW1(config-if)# spanning-tree bpduguard enable


SW1(config)# spanning-tree portfast bpduguard default
```
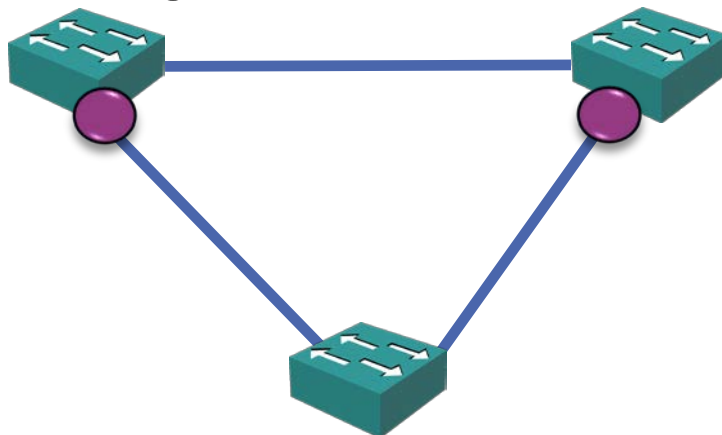
Spanning Tree Root Guard

- Spanning Tree Root Guard prevents an unintended switch from becoming the root bridge

- If a port where Root Guard is enabled receives BPDU's that are superior than the current root bridge, it will transition the port to root-inconsistent and not forward any traffic over the port

Root Bridge

```
SW2(config)#interface fa0/2
SW2(config-if)#spanning-tree guard root
```

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