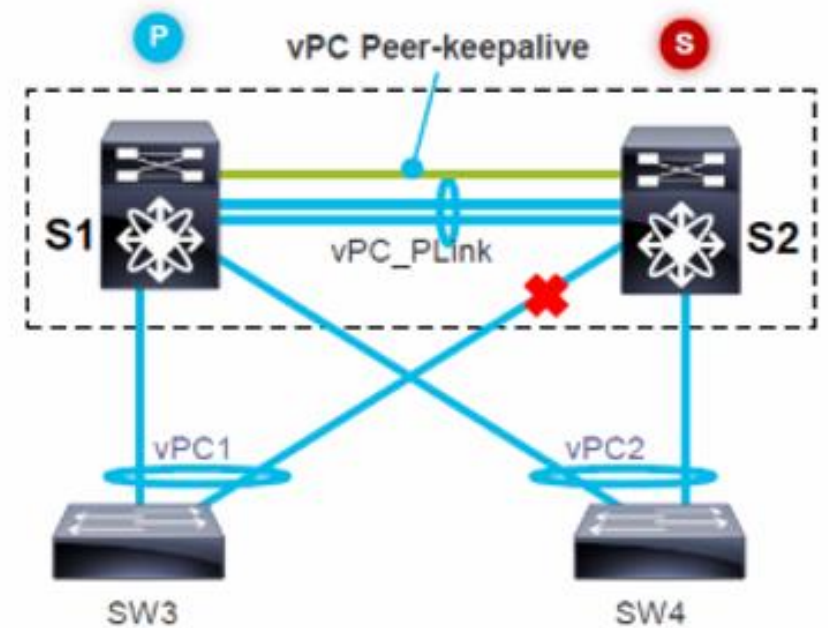


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VPC Failure Scenarios

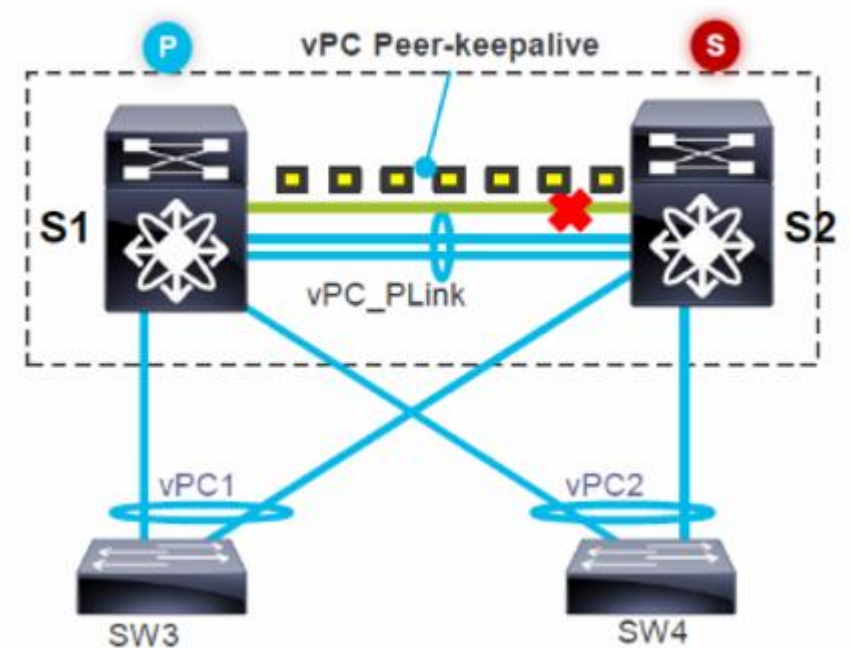
VPC Member Port Down

- One of the vPC member ports fails:
- VPC primary and secondary peers remain, no change in roles.
- Results in Bandwidth reduction, but the connected device is still able to forward traffic using the other link.



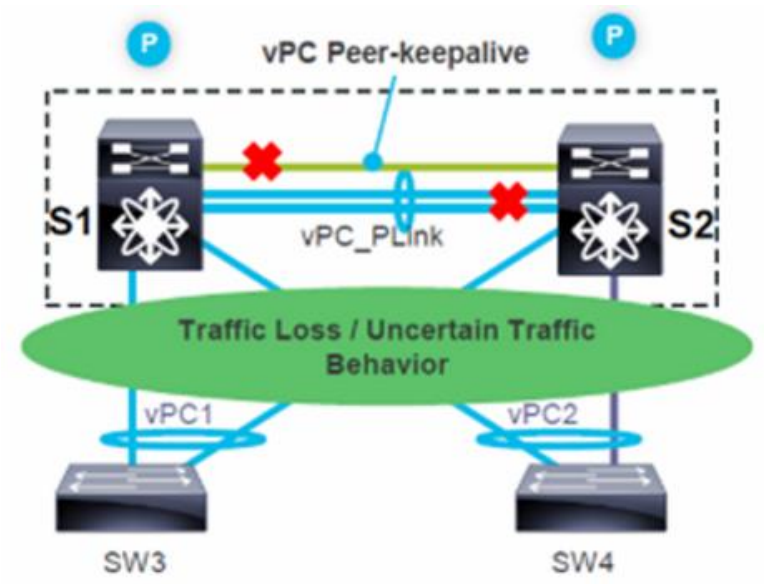
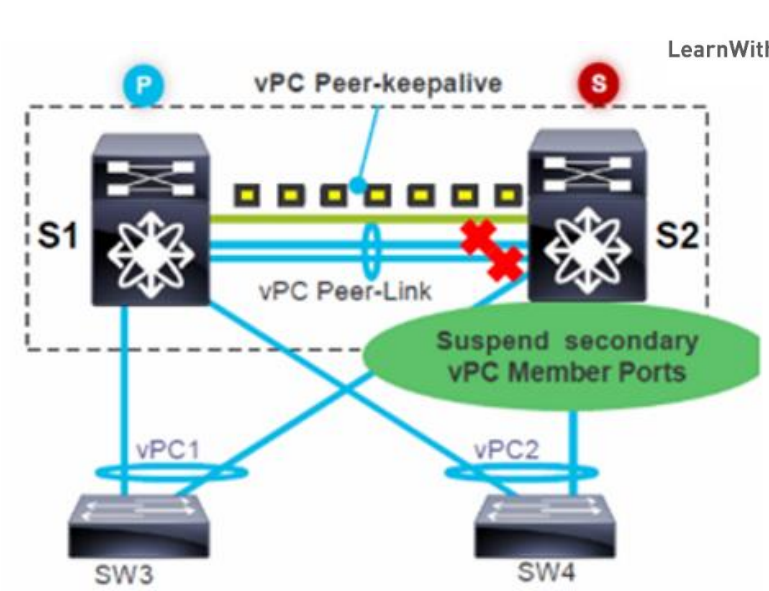
VPC keep-alive port down

- VPC peer-keepalive link failure (link loss):
 - VPC peer-link is up.
 - No VPC role change.
 - Status of the other vPC peer is known via the peer-link.
 - Both peers are forwarding.
 - No down time in the network.



VPC Peer- Link Failures

- VPC peer-link failure (link loss) (Keepalive link is up):
 - VPC peer-keepalive is up.
 - The status of the other vPC peer is known.
 - Secondary VPC peer disables all VPC member ports.
 - Traffic flows over the VPC primary only.
 - Traffic from orphan devices connected to secondary will be black holed.
- VPC peer-link failure (link loss) (Keepalive link is already down):
 - Result "DUAL-ACTIVE" or "SPLIT BRAIN" scenario.
 - VPC primary remains in primary role and VPC secondary becomes operational primary.
 - Result in traffic loss and uncertain traffic behavior.
 - When links are restored, the operational primary (former secondary) keeps the primary role, and the former primary becomes operational secondary.



Other failure Scenarios

- Power outage with node failure problem case:
 - Power outage on both peers.
 - Only one peer is restored.
 - VPC peer keepalive never comes up.
 - Means VPC peer link can never come up.
 - Means VPC member ports can never come up, and servers are isolated.
- Gradual failure problem case:
 - VPC Peer Link goes down.
 - VPC Secondary pings vPC primary and gets response.
 - VPC secondary disables vPC member ports.
 - VPC primary completely fails.
 - VPC secondary does not re-activate member ports, and servers are isolated.

VPC Auto Recovery

- VPC Auto Recovery feature allows the secondary peer to detect the previously mentioned failure scenarios:
 - VPC Primary is continually tracked over VPC Peer Keepalive.
 - If peer-link is down on secondary switch, 3 consecutive missing peer-keepalives will trigger auto recovery.
 - Peer Keepalive failure at later time results in secondary promoting itself to Primary role.
 - Secondary re-activate its member ports, bypassing consistency checks.
- **`(config-vpc-domain) # auto-recovery`**

Thanks for watching!