

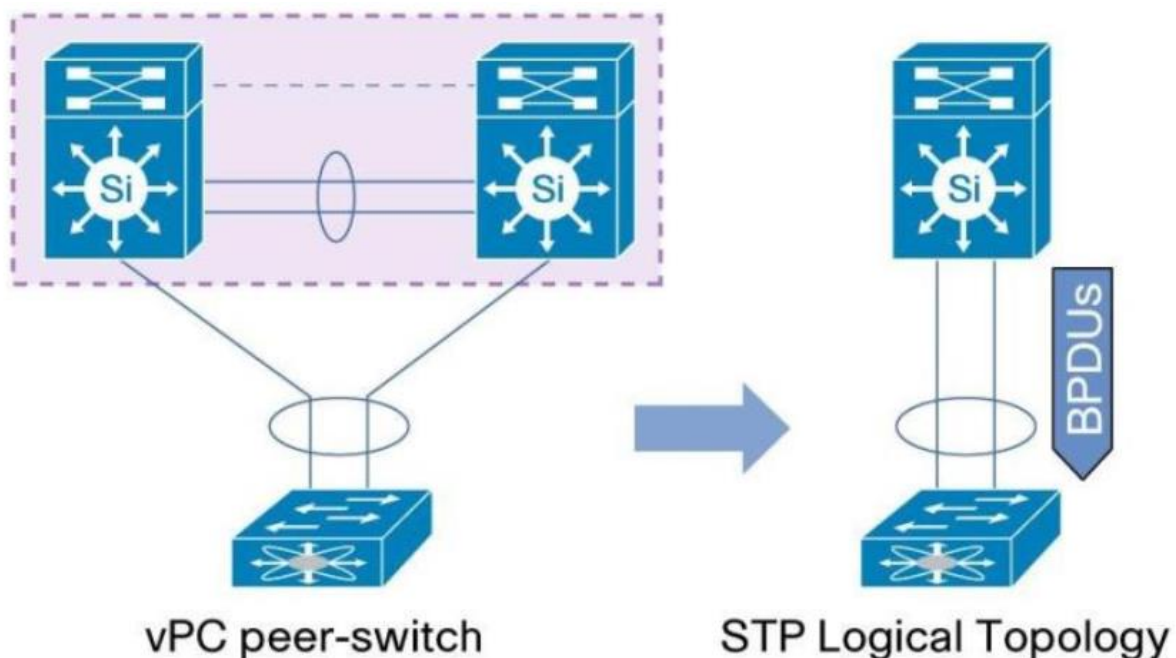
## vPC Peer-Switch:

vPC Peer-Switch feature allows a pair of Cisco Nexus switches to appear as a single spanning tree root in the Layer 2 topology. It eliminates the need to pin the spanning tree root to the vPC primary switch and improves vPC convergence if the vPC primary switch fails. **When this feature is enabled, both devices are STP root with the same Bridge ID, and both devices issue BPUDUs.**

The main function of peer switch is to accelerate STP convergence time after peer device failure. Under normal circumstances, when the primary fails, the secondary takes about 3s to converge on STP, and the convergence time will be reduced to sub-second after this feature is enabled.

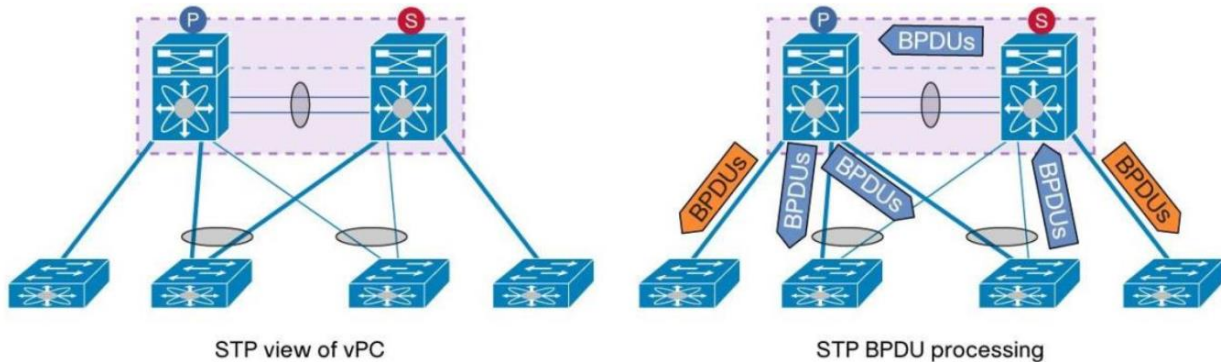
This feature allows, both vPC primary and secondary switches to originate same STP BPDU on vPC Port and use the same bridge ID using vPC system MAC address and whenever we enable peer-switch, it is mandatory that both devices have the exact same spanning tree priority. Before starting Peer-switch we have to understand, STP behavior when vPC Primary fails Completely. When vPC Primary fails then secondary will become operational primary and STP Root. From STP point of view there is no change in RP and No STP port state changes for vPC so traffic forwarding will be continuous. Once secondary become operational it starts sending BPDUs depending on Control plane load.

Now think like Primary came up after a while, it will take role as primary but operational will be secondary. As we know primary which is now operational secondary has better Bridge ID so it will become STP Root. once Primary (Operational Secondary) become STP Root then STP root port of secondary (Operational Primary) will change and that will trigger Sync Process and all non-edge ports will be in temporarily blocked. Once Sync is completed ports will resume the forwarding. To overcome this situation, we use Peer-Switch.



### Without vPC Peer-Switch:

STP BPDUs are processed only by the primary peer device for vPC attached switches. For directly single-attached switches, the respective connected NEXUS switch will process locally the BPDUs.



### With vPC Peer-Switch:

STP BDU processing behavior with vPC peer-switch. With vPC peer-switch activated, STP BPDUs are directly processed by the logical Spanning Tree Protocol root formed by the 2 peer devices. BDU proxying over vPC peer-link is no more needed once vPC peer switch is activated. For directly single-attached switches, the respective connected NEXUS switch will process locally the BDU.

