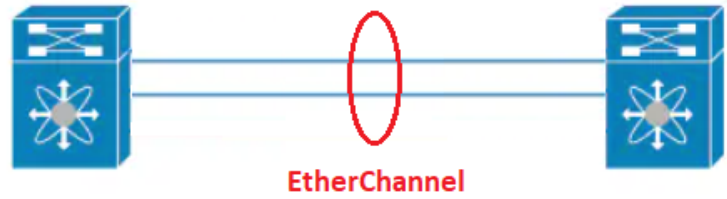
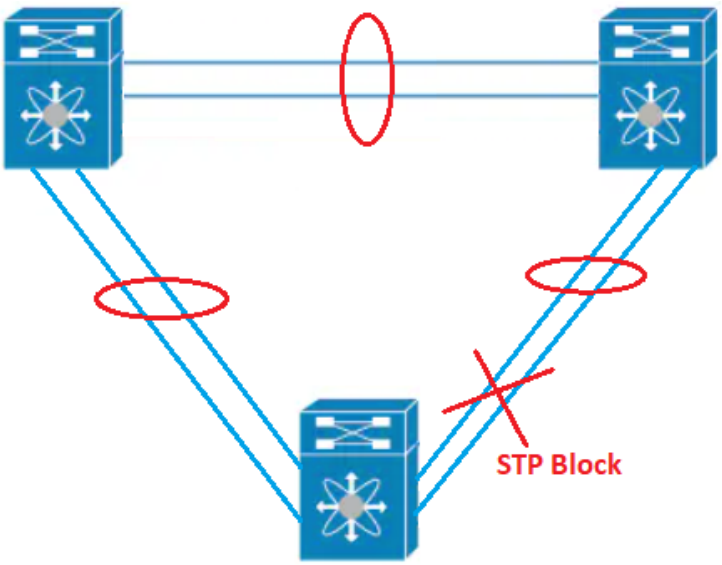
vPC (Virtual Port Channel) Summary:

To understand vPC (Virtual Port Channel), we should know about Single-Chassis Ether-Channel and Multi-Chassis Ether-Channel. Suppose your company has two switches connecting with each other single link and single point of failure.

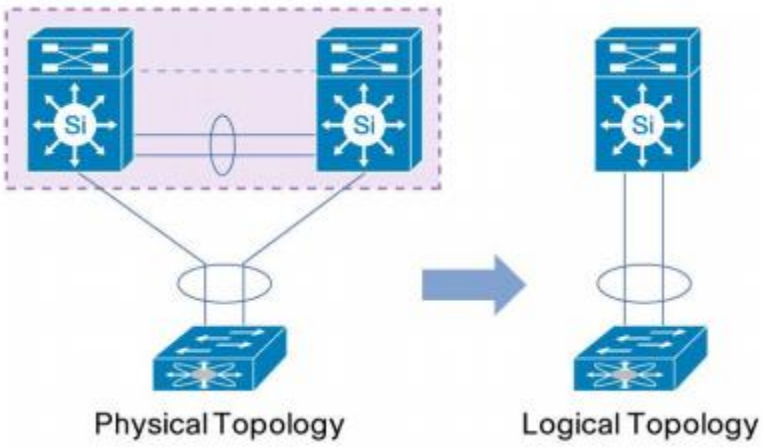
If you only connect other links between the two switches it will not work because Spanning-tree protocol (STP) will block redundant links to prevent a loop.

Port-Channel is a technique which is used to combine multiple physical links into a single logical link that combined bandwidth and STP sees this link as a single link so STP will not block any links. However, EtherChannel can be configure between only two devices, so there will be 1 Downstream and 1 Upstream device. Bandwidth increased but still have single point of failure.





Multichassis Etherchannel (MEC) is the implementation name used in Cisco switch families with Virtual Switching System (VSS) capability, StackWise, and vPC are options that are deployed in enterprises and data centers. Multi Chassis Ether-Channel is between 3 Devices. Increase bandwidth and resiliency. There are three main type of multi chassis Ether-Channel are VSS (Virtual Switching System), StackWise and Nexus vPC (Virtual Port Channel).



MEC enables the VSS technology and appears as a single switch or a single logical device to devices with connectivity to the VSS. Therefore, Virtual Switching System supports the implementation of link aggregation where the physical links will be seen as a single logical link.

StackWise allows link aggregation of two physical switches together into a single logical switch. The two switches share the same configuration and forwarding state.

Virtual Port Channel is a feature that provides the ability to configure a port channel across multiple switches. Actually, VPC allows the links which are physically connected to two different Nexus devices to appear as single port-channel to the third device.