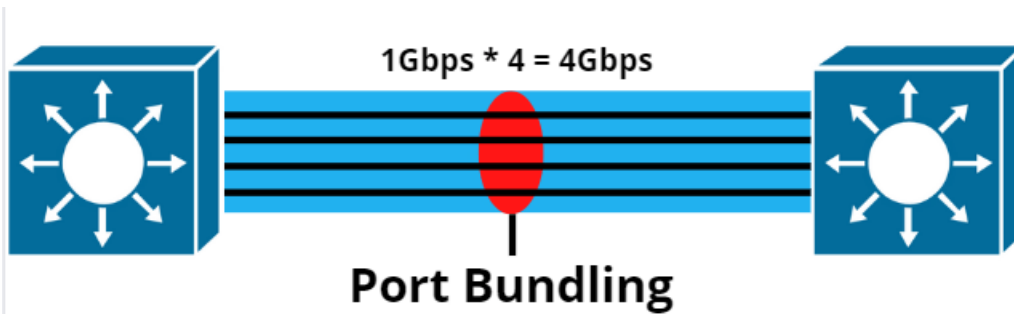
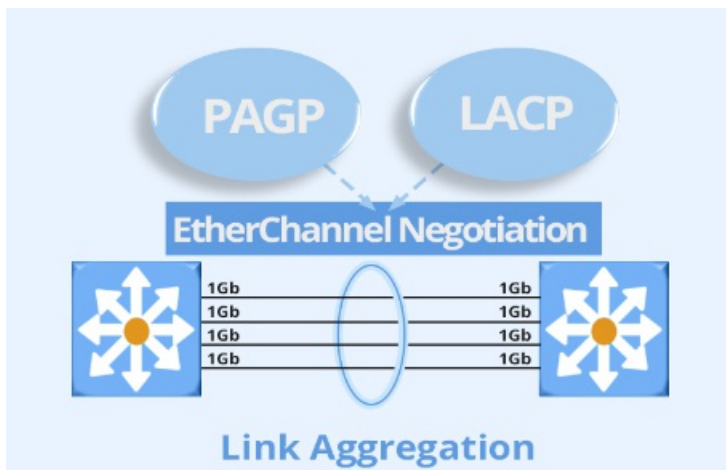


Etherchannel overview

- Etherchannel is the technology Cisco uses to increase bandwidth by bundling physical ports into one logical port. Ether channel has many names across the industry. Some of the names you may hear are as follows.
 - Link aggregation
 - Port channel
 - Port bundling
 - NIC teaming



- Those are just some of the names you may hear. Essentially all this technology does is create a logical interface for Layer 2 and 3 devices to communicate on to utilize the bandwidth of all connected ports. Ether-channel also has other added benefits. Like load-balancing. You can load-balance between switches either at Layer 2 or Layer 3.



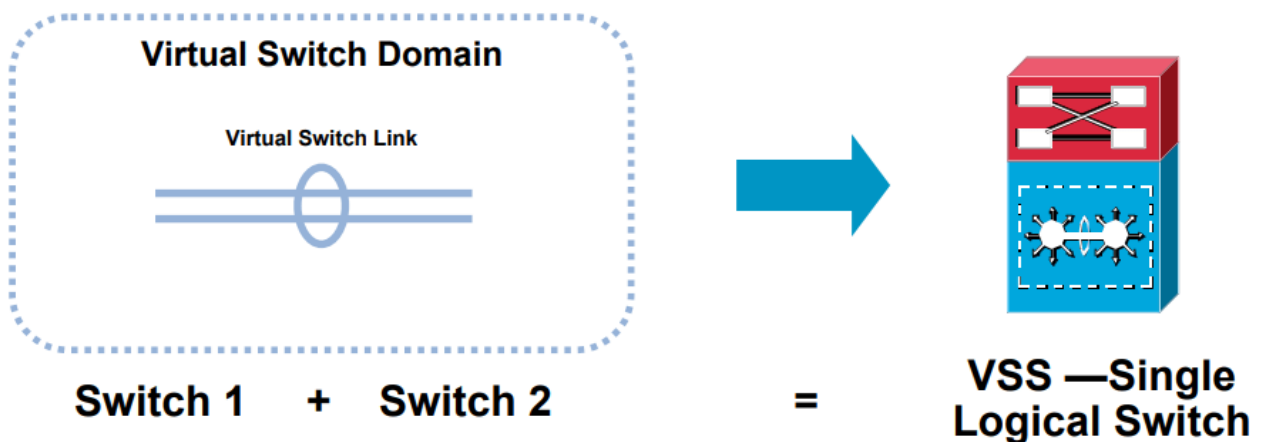
- There are three different ways you can setup an Etherchannel on Cisco Catalyst switches
 - LACP - This is the IEEE standard EtherChannel. (This protocol does negotiation.)
 - PAGP - Port aggregation grouping protocol. Cisco Proprietary. (This protocol does negotiation.)
 - STATIC. (does not negotiate)

Will an EtherChannel Form?

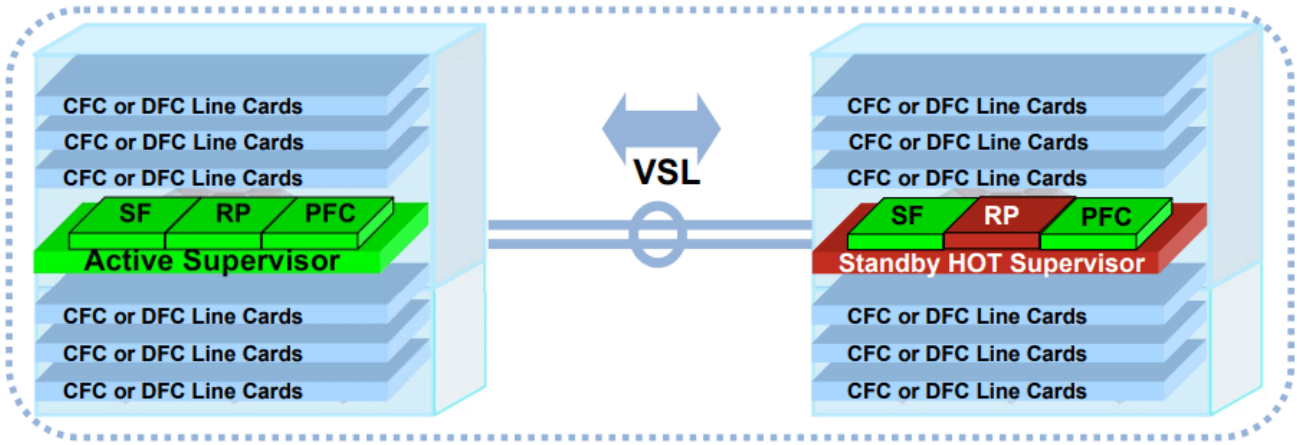
LACP			PAgP		
	Active	Passive		Desirable	Auto
Active	Yes	Yes	Desirable	Yes	Yes
Passive	Yes	No	Auto	Yes	No

VSS

- Virtual Stack Switching is a campus design implementation that logically combines the control plane of two catalyst switches to create a "single" switch.
- VSS leverages Etherchannel technologies to share Control Plane traffic between switches in a VSS stack.



- VSS allows one logical control plane, with dual active forwarding planes.
- Uses one supervisor in each chassis with inter-chassis Stateful Switchover (SSO) method in with one supervisor is ACTIVE and other in HOT_STANDBY mode
- Active/standby supervisors run in synchronized mode (boot-env, runningconfiguration, protocol state, and line cards status gets synchronized)
- ACTIVE supervisor manages the control plane functions such as protocols (routing, EtherChannel, SNMP, telnet, etc.) and hardware control (OIR, port management)
- Switchover to STANDBY_HOT supervisor occurs when ACTIVE supervisor fails providing subsecond protocol and data forwarding recovery



SF: Switch Fabric
 RP: Route Processor
 PFC: Policy Forwarding Card

CFC: Centralize Forwarding Card
 DFC: Distributed Forwarding Card

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