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Arquitetura de Redes

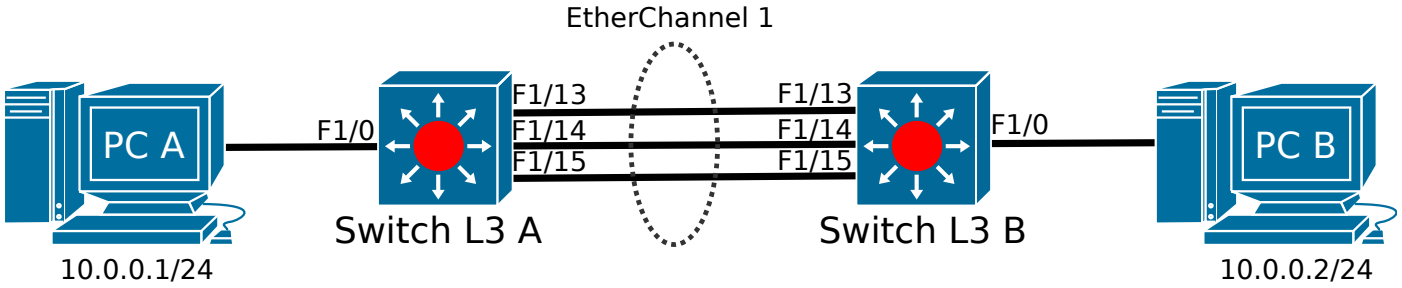
Access and Distribution Networks

Objectives

- Ethernet link aggregation

Ethernet Link Aggregation (EtherChannel)

Ethernet link aggregation in Cisco switches is made using EtherChannels. An EtherChannel allows multiple physical Ethernet links to combine into one logical channel.



1. Assemble the depicted network creating an EtherChanel (1) between switches Layer 2 A and B with 3 Fast Ethernet links. The EtherChannel will provide a 300Mbps logical channel to interconnect remote instances of VLAN 2 using a trunk.

At Switch Layer 3 A:

```
SwitchL3A(config)# interface range FastEthernet 1/13 - 15
SwitchL3A(config-if-range)# channel-group 1 mode on
SwitchL3A(config-if-range)# interface Port-channel 1
SwitchL3A(config-if)# switchport mode trunk
---
SwitchL3A# vlan database
SwitchL3A(vlan)# vlan 2
SwitchL3A(vlan)# exit
---
SwitchL3A(config)# interface FastEthernet 1/0
SwitchL3A(config-if)# switchport access vlan 2
```

Perform the same configurations in Switch Layer3 B.

Verify the correct implementation of the EtherChannel:

```
SwitchL3A# show ip interface brief
SwitchL3A# show etherchannel brief
SwitchL3A# show etherchannel detail
SwitchL3A# show etherchannel summary
SwitchL3A# show etherchannel load-balance
```

2. Start a capture in each one of the three ethernet links between the Switches Layer3 (you may use the topology summary to do it).

Perform pings between PC A and PC B and observe how the packets are exchange between the switches.

>> How the load (traffic) are distributed (balanced) over the physical links?

3. Create an additional EtherChannel (2) with a 200 Mbps capacity, and assign EtherChannel 1 to transport only VLAN 2 and EtherChannel 2 to transport VLAN 3 and 4. Add additional PCs to test the implementation.