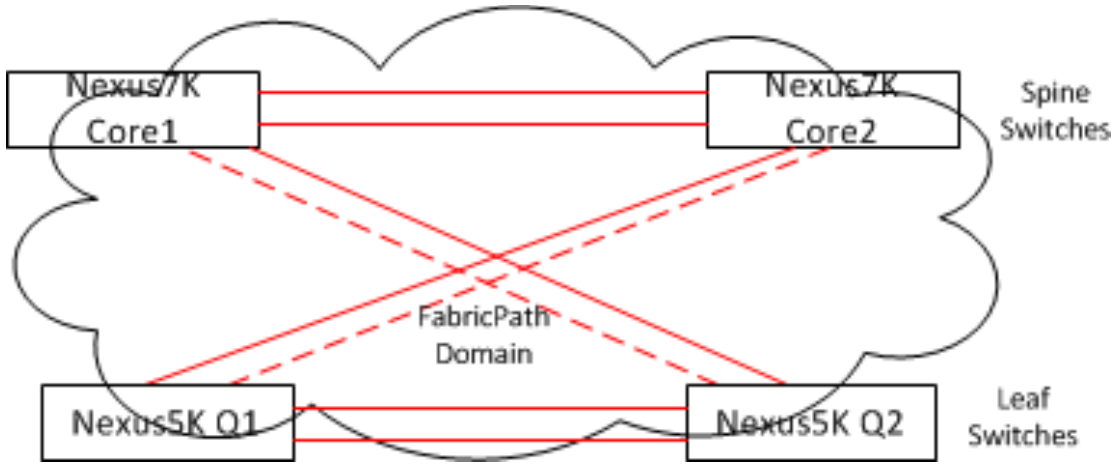
Connecting Cisco Fabric-Path to Classical Ethernet Switches

Overview

- Customer's Data-Center uses Cisco FabricPath Infrastructure
- FabricPath is a Cisco-proprietary protocol

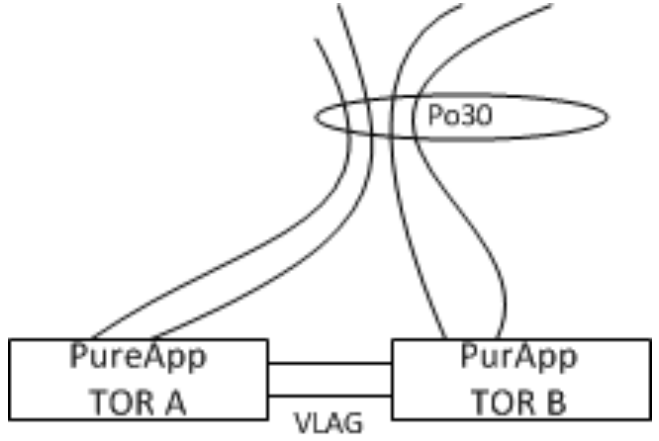


- Equipment Top-of-Rack (TOR) switches are Blade Network G8264 Ethernet switches
- G8264 switches do not run FabricPath
- Interconnection options need to be discussed

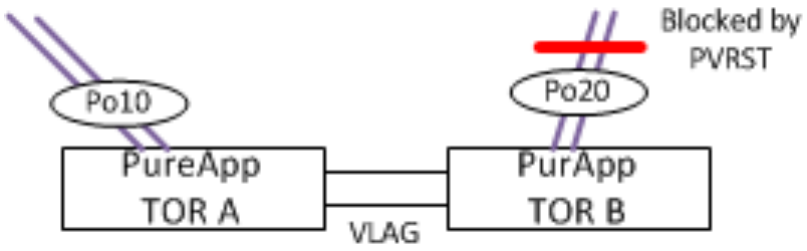
Options Available On G8264 TOR Switches

- Using Cisco terminology, the TORs are “Classical Ethernet” switches
- The PureApp System TORs support the following two connection options
- **Both options require matching configuration on the FabricPath switches**

- Option 1
  - Links into the two TORs are aggregated in a vPC across TOR-A and TOR-B
  - PVRST Spanning Tree is enabled



- Option 2
  - Links into the two TORs are not aggregated in a vPC across TOR-A and TOR-B
  - PVRST Spanning Tree enabled

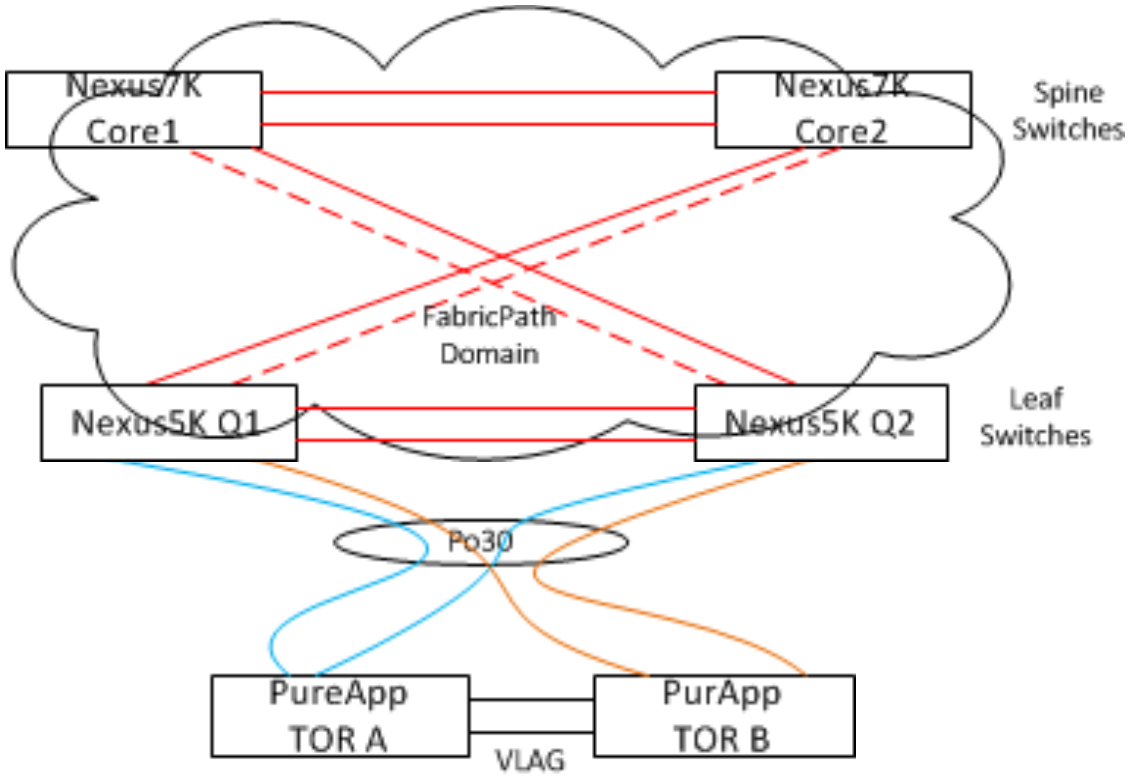


Configuration on FabricPath Switches

http://www.cisco.com/c/dam/en/us/products/collateral/switches/nexus-7000-series-switches/white_paper_c07-728188.pdf

- In the above document, Cisco has included details of connecting 'Classical Ethernet' or CE devices to the FabricPath fabric
- The following slides are a quick look at the configuration required

Option 1



- The schematic diagram of Customer's FabricPath network is as above
- Option 1 that was presented before will connect the FabricPath fabric to PureApp using an active-active dual-homed port-channel as shown

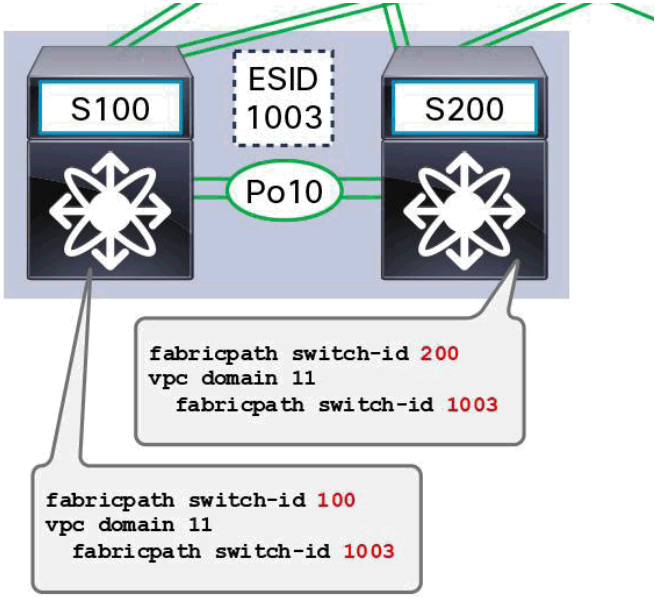
Configuration for Option 1

- From Cisco's Best Practices document:

Attachment of Devices Other Than Cisco FabricPath Devices to the Network Fabric

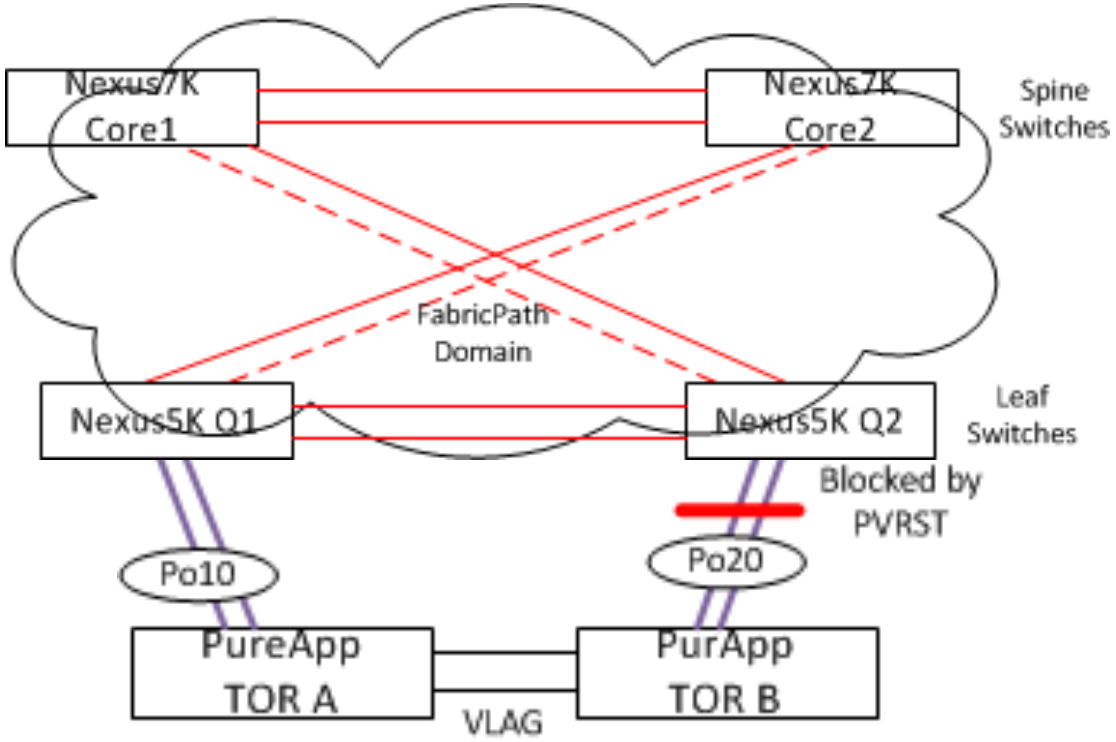
Devices other than Cisco FabricPath devices (servers, switches, and services appliances) can be dual-attached to vPC+ switches using IEEE standard PortChannels without the need to use Spanning Tree Protocol to provide redundancy. VLANs carried on vPC+ member ports must be Cisco FabricPath mode VLANs.

- Further discussion using Cisco's Best Practices document



fabricpath switch-id 100
vpc domain 11
fabricpath switch-id 1003

Option 2



- The schematic diagram of Customer's FabricPath network is as above
- Option 2 that was presented before will connect the FabricPath fabric to PureApp using forwarding-blocked STP port-channels as shown

Configuration for Option 2

- From Cisco's Best Practices document:

Cisco FabricPath and Spanning Tree Protocol Connectivity Options

On all Cisco FabricPath switches that have Classic Ethernet (CE) ports connected to Classic Ethernet switches, configure the same root priority using the **spanning-tree pseudo information** command shown here:

```
S100(config)# spanning-tree pseudo-information
S100(config-pseudo)#  vlan 10-100 root priority 4096
```

- Further discussion using Cisco's Best Practices document

When a traditional spanning-tree domain is connected to a Cisco FabricPath network, the whole Cisco FabricPath network will be perceived as a single spanning-tree switch, which, however, does not pass STP BPDUs by default.

- Identify all Cisco FabricPath edge ports connected to the same external spanning-tree domain.
- Configure all identified Cisco FabricPath edge ports with the identical spanning-tree domain ID using the following command: **spanning-tree domain <x>**.