Dell C9010 Module Switch Interoperability with Cisco Catalyst 3750

Dell Network Solutions Engineering
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A Dell EMC Deployment and Configuration Guide

Revisions

Date	Revision	Description	Authors
September 2015	1.0	Initial release	Edward Blazek, Curtis Bunch, Mike Matthews

Table of contents

1 Introduction

Dell Networking provides customers with the most efficient use of current networking equipment at the lowest cost while still providing today's new technologies focused around the explosive data growth in the industry. Increased reliance on Voice over IP (VoIP), instant messaging clients, streaming video and larger email attachments, as well as the emergence of virtual machines, virtual desktop infrastructure, and very large databases have driven the need for increased bandwidth, lower latency, and converged infrastructure. Figure 1 presents some of the technologies involved with today's networks.

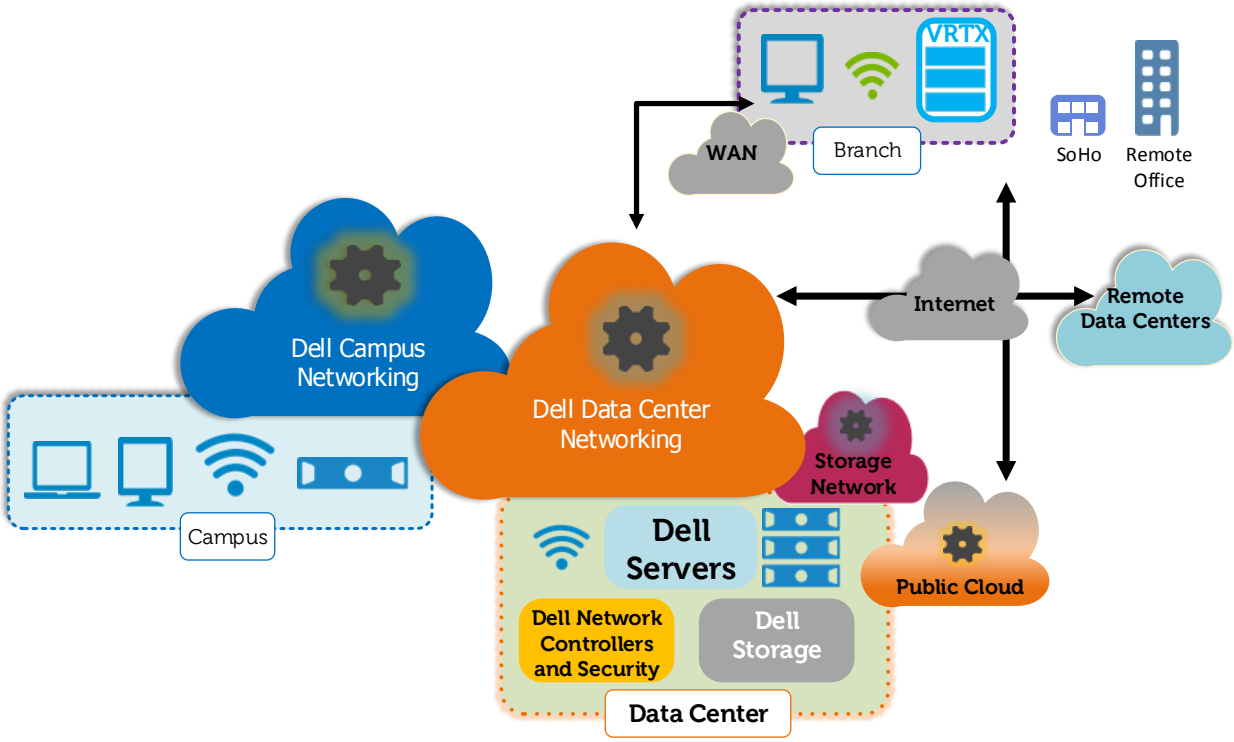

Figure 1 Networking Architecture Overview

While Dell EMC provides complete solutions for any size network, regardless of complexity, we also recognize that customers must choose the best solutions that fit the diverse requirements of their businesses and work with their existing infrastructure. For example, Dell EMC supports open and heterogeneous networking and interoperability in campus networks when constructed following industry standards. Cisco switches, for instance, can work seamlessly in a Dell C-Series switch environment when properly configured as shown in this deployment guide.

2 C9010 Hardware Description

The C9010 switch is part of Dell Networking's next-generation LAN solution scalable switches. The C9010 switch can be deployed as an access or aggregation/core switch for installations in which a modular switch is preferred to a stack. For larger port requirements, you can also connect C1048P port extenders as access devices to the C9010 switch.

The C9010 switch supports up to 240 x 10GE or 60 x 40GE ports with a combination of port speeds and media types, such as copper, fiber, and direct attach cable (DAC). It has an 8U chassis with 18” depth (19” with rack ears mounted). When fully loaded, the C9010 supports the following components:

- Two full-width route processor modules (RPMs) with four 10GE uplinks per module
- Ten half-width Ethernet line cards, including:
  - 6-Port 40GE QSFP+
  - 24-Port 10GE SFP+
  - 24-Port 10GE-Base-T RJ-45
- Three hot-swappable fan trays with side-to-side airflow (draws air through ventilation holes on the right side of the chassis and expels air through ventilation holes on the left side)
- Four 2900 watt AC power supply units (PSUs)

The slot numbers of all components are shown in Figure 2.

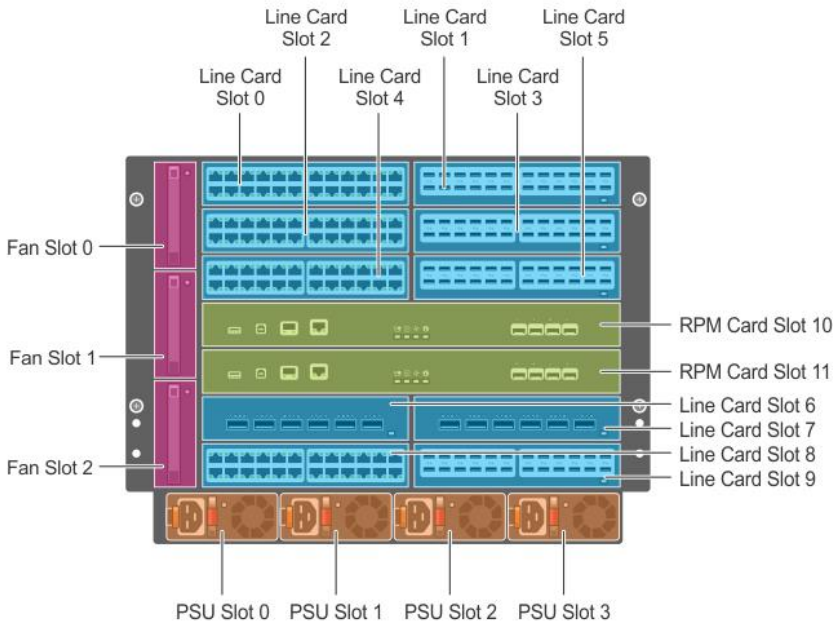

Figure 2 C9010 Chassis — Installed Components with Slot Numbers

3 Deployment Scenarios

In the following sections, a variety of network deployment scenarios are discussed and step-by-step instructions and the commands required to build each setup are provided. This guide covers configuring a Virtual Link Trunk (VLT) between two C9010 switches. This includes creating a Link Aggregation Group (LAG) and configuring the appropriate port channels between the Cisco Catalyst 3750 and the two C9010 chassis. Virtual Local Area Networks (VLANs) are then created to divide the network into logical segments. Before configuring the VLT, Spanning Tree Protocol (STP) considerations are discussed. Instructions are provided to enable Per-VLAN Spanning Tree Plus (PVST+) on the C9010s and Rapid Per-VLAN Spanning Tree (Rapid-PVST) on the Cisco Catalyst.

3.1 Per-VLAN Spanning Tree Plus (PVST+)

While VLT provides loop-free redundant topologies without the requirement of Spanning Tree Protocol (STP), it is a strongly recommended best practice that RSTP or PVST+ be deployed to help with loop prevention in the event a hardware malfunction or a reload of a VLT peer switch causes a node to drop offline.

In this topology, PVST+ is supported on the two C9010 peer switches. The primary VLT switch (C9010-1) is the priority root bridge for all even numbered VLANs while the secondary VLT peer switch (C9010-2) handles all odd numbered VLANs. This achieves a load balancing solution allowing all interconnects to be active as shown in Figure 3. The green arrows represent the forwarding states for the respective VLANs from their root bridge. In the event of a VLT peer switch failure, the other peer switch becomes the priority root bridge.

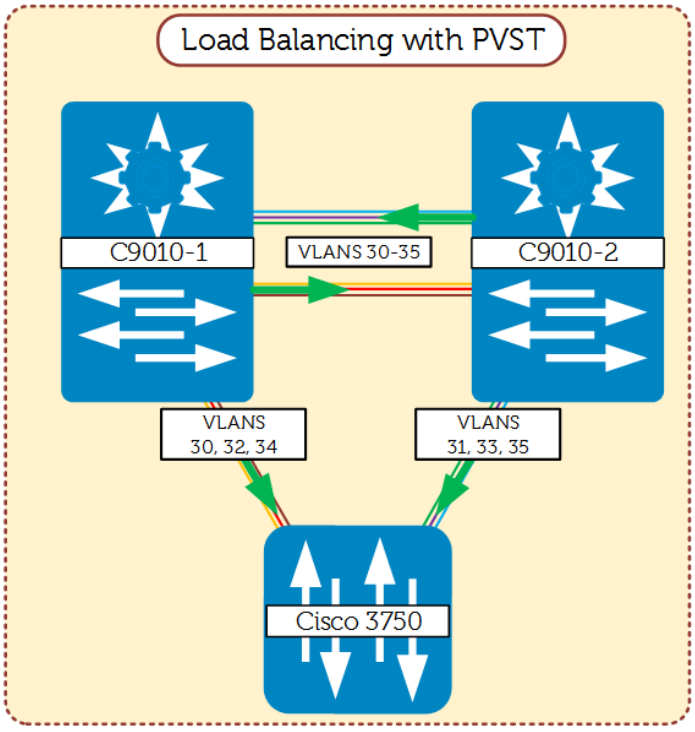

Figure 3 Potential VLT Peer Failure – Resulting STP Topology

3.1.1 Configuring PVST+ – Dell C9010

To enable and enter PVST+ configuration mode, enter the command `protocol spanning-tree pvst` followed by `no disable`. The bridge priority value is then set on both switches to achieve load balancing by VLANs between the two switches. In this example, C9010-1 is the root bridge for all even numbered VLANs and the C9010-2 is the root bridge for all odd numbered VLANs. All VLANs' priorities are defined on both switches to ensure that in the event of a peer switch failure, the other switch will take over as the root bridge. This is accomplished by setting the root bridge priority to 8,192 on the second switch. Since the value of 8,192 is less than the default priority of 32,768, the second switch will take over as root bridge in the event the primary switch fails.

9010-1	9010-2
Issue the `protocol` command to set PVST as the STP protocol running on the switch. The bridge priority is set to reflect VLT priorities and achieve VLAN STP load balancing between the two switches.	Issue the `protocol` command to set PVST as the STP protocol running on the switch. Then the bridge priority is set to reflect VLT priorities and achieve VLAN STP load balancing between the two switches.

`configure`
`protocol spanning-tree pvst`
`no disable`
`vlan 30 bridge-priority 4096`
`vlan 32 bridge-priority 4096`
`vlan 34 bridge-priority 4096`
`vlan 31 bridge-priority 8192`
`vlan 33 bridge-priority 8192`
`vlan 35 bridge-priority 8192`
	`configure`
	`protocol spanning-tree pvst`
	`no disable`
	`vlan 31 bridge-priority 4096`
	`vlan 33 bridge-priority 4096`
	`vlan 35 bridge-priority 4096`
	`vlan 30 bridge-priority 8192`
	`vlan 32 bridge-priority 8192`
	`vlan 34 bridge-priority 8192`

Below, the output for PVST with details for VLAN 30 is shown. The bold text in the output is to highlight that PVST is VLT-aware and will not place the VLTi port into a blocking state for any VLAN.

9010-1

```
9010-1#show spanning-tree pvst vlan 30
VLAN 30
Root Identifier has priority 4096, Address 3417.eb01.9c00
Root Bridge hello time 2, max age 20, forward delay 15
Bridge Identifier has priority 4096, Address 3417.eb02.6000
Configured hello time 2, max age 20, forward delay 15
We are the root of VLAN 30
Current root has priority 4096, Address 3417.eb01.9c00
Number of topology changes 0, last change occurred 1w2d ago on

Port 6 (Port-channel 5) is designated Forwarding
Port is a Virtual Link Trunk port
Port path cost 2000, Port priority 128, Port Identifier 128.6
Designated root has priority 4096, address 3417.eb01.9c:00
Designated bridge has priority 4096, address 3417.eb02.60:00
Designated port id is 128.6   , designated path cost 0
Number of transitions to forwarding state 0
BPDU sent 86316, received 0
The port is not in the Edge port mode

Port 13 (Port-channel 12) is root Forwarding
Port is a Virtual Link Trunk Interconnect port
Port path cost 1400, Port priority 128, Port Identifier 128.13
Designated root has priority 0, address 3417.eb01.9c:00
Designated bridge has priority 0, address 3417.eb01.9c:00
Designated port id is 128.13  , designated path cost 1400
Number of transitions to forwarding state 1
BPDU sent 1, received 86317
The port is not in the Edge port mode
```

3.1.2 Configuring Rapid Per-VLAN Spanning Tree (Rapid-PVST) – Cisco 3750

In this environment, the 3750 will use Cisco's Rapid-PVST. This is compatible with PVST+, which is configured on the C9010 switches. The configuration command `spanning-tree mode rapid-pvst` enables RPVST+. No additional VLAN-specific configuration is required on the Cisco Catalyst. The `show spanning-tree vlan 30-35 summary` command is issued to confirm forwarding state on all participating interfaces. For each root bridge, these can be compared to the C9010 switch's output to trace the path of any given VLAN.

C3750

Enable Rapid-PVST

```
configuration terminal
spanning-tree mode rapid-pvst
end
```

C3750

```
C3750#sh spanning-tree vlan 30-35 summary
Switch is in rapid-pvst mode
Root bridge for VLAN0030 is 4096.3417.eb01.9c00.
Root bridge for VLAN0031 is 4096.3417.eb02.6000.
Root bridge for VLAN0032 is 4096.3417.eb01.9c00.
Root bridge for VLAN0033 is 4096.3417.eb02.6000.
Root bridge for VLAN0034 is 4096.3417.eb01.9c00.
Root bridge for VLAN0035 is 4096.3417.eb02.6000.

EtherChannel misconfig guard is enabled
Extended system ID           is enabled
Portfast Default             is disabled
PortFast BPDU Guard Default  is disabled
Portfast BPDU Filter Default is disabled
Loopguard Default            is disabled
UplinkFast                   is disabled
BackboneFast                 is disabled
Configured Pathcost method used is short


Name             Blocking Listening Learning Forwarding STP Active
---------------- -------- --------- -------- ---------- ----------
VLAN0030              0         0        0         2          2
VLAN0031              0         0        0         2          2
VLAN0032              0         0        0         2          2
VLAN0033              0         0        0         2          2
VLAN0034              0         0        0         2          2
VLAN0035              0         0        0         2          2
```

The output below shows a single VLAN, VLAN 30, its Root ID Priority, its Bridge ID, and which local interface is the closest path the root bridge. In this example, Te1/1/2 is the designated port, is part of the port channel 5, connects to the non-root bridge for VLAN 30, and is the backup designation in the event of a root bridge failure.

C3750

```
C3750#show spanning-tree vlan 30

VLAN0030
  Spanning tree enabled protocol rstp

  Root ID     Priority    0
              Address     3417.eb01.9c00
              Cost        1
              Port        520 (Port-channel5)
              Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID   Priority    32798  (priority 32768 sys-id-ext 30)
              Address     4c4e.354e.fe00
              Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec
              Aging Time  300 sec

Interface           Role Sts Cost      Prio.Nbr Type
------------------- ---- --- --------- -------- --------------------------
Te1/1/2             Desg FWD 2         128.53   P2p
Po5                 Root FWD 1         128.520  P2p
```

Note: Advanced STP topics such as PortFast, LoopGuard, and Backbone are beyond the scope of this document. For details on these configuration options please see the Additional Resources section at the end of this document.

3.2 Virtual Link Trunking (VLT)

VLT is a means of providing layer 2 multipathing. It is a way to increase redundancy and bandwidth by enabling multiple active parallel paths between nodes. In this deployment, two C9010 switches behave as distribution switches to a Cisco Catalyst 3750, which behaves as a Top of Rack (ToR) switch. This simple topology is shown below (Figure 4). The VLTi LAG between the two C9010 chassis utilizes 40GbE ports while the uplinks from the Catalyst 3750 utilize 10GbE interfaces.

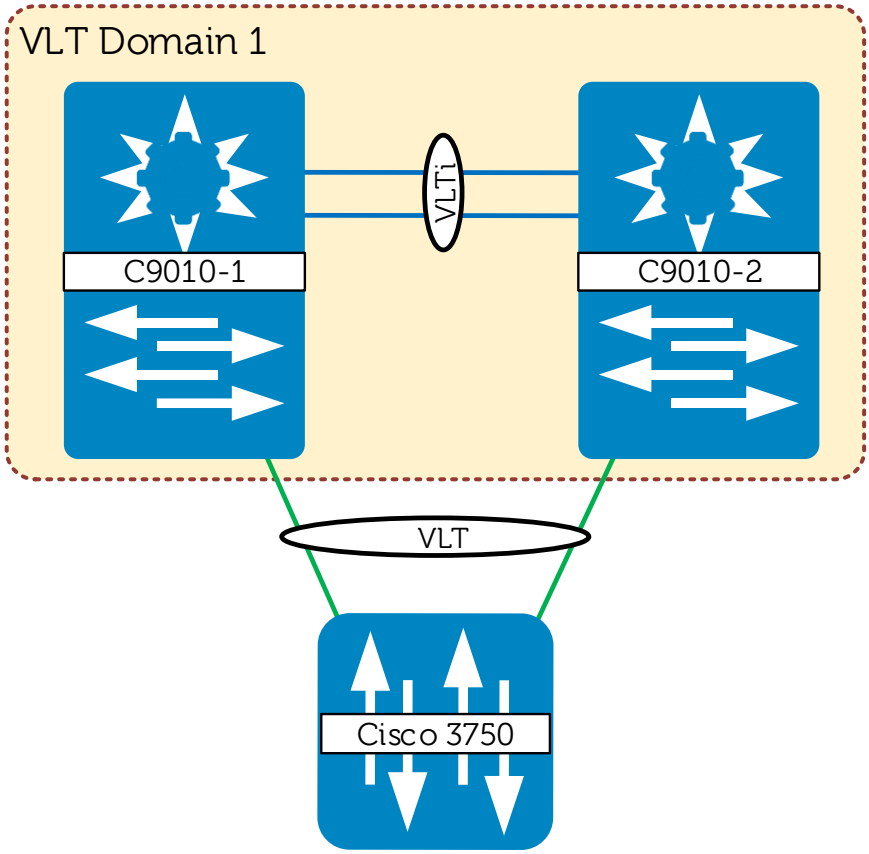

Figure 4 VLT Topology Diagram

The following example shows how VLT is deployed. The physical and logical layout of the topology is shown in Figure 5. The physical layout shows all physical connections required to deploy this scenario. From a logical point of view, the Cisco 3750 views the two Dell C9010 switches as a single device.

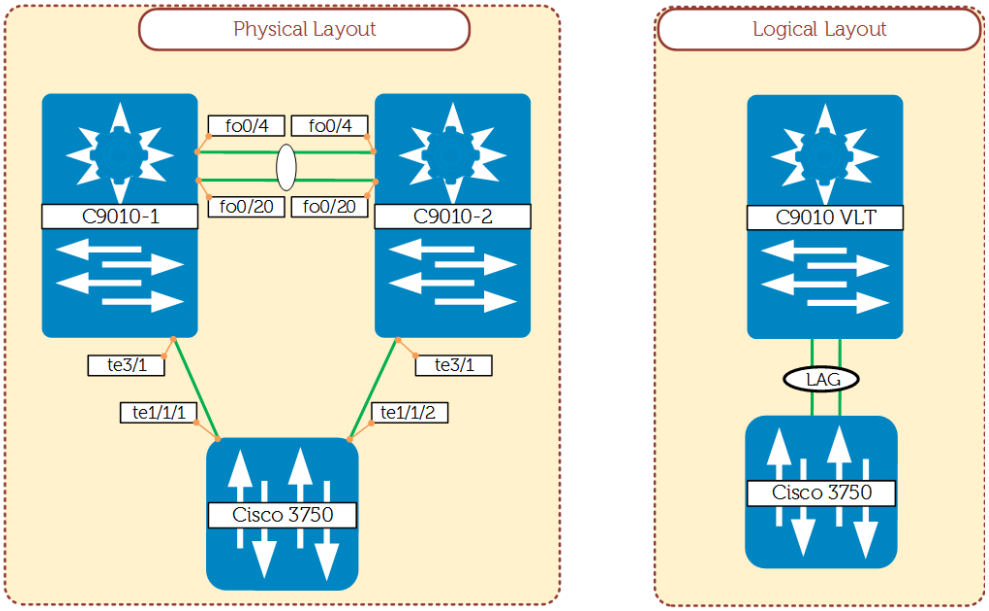

Figure 5 Physical and Logical Topology

Table 1 Cabling

VLTi Dell C9010-1 to Dell C9010-2		
From Switch / Port		**To Switch / Port**
☐	C9010-1 fo0/4	C9010-2 fo0/4
☐	C9010-1 fo0/20	C9010-2 fo0/20
☐	C9010-1 te3/13	C9010-2 te3/13
LAG Dell C9010-1 to Cisco 3750		
From Switch / Port		**To Switch / Port**
☐	C9010-1 te3/1	3750 te1/1/1
LAG Dell C9010-2 to Cisco 3750		
From Switch / Port		**To Switch / Port**
☐	C9010-2 te3/1	3750 te1/1/2

Note: To prevent initial L2 loop creation, Spanning Tree Protocol (STP) is still required and runs by default on the C9010. Modifying STP is covered in an earlier section.

3.2.1 Configuring VLTi Port Channel Interfaces

The first step in the configuration is to bring the VLT interconnect (VLTi) interface up. To accomplish this task, a dedicated port channel is created and the designated 40 GbE interfaces assigned. This method of deployment creates a static LAG in line with VLT best practices. In a static LAG configuration, either side of the logical interface will assume the other side is functioning properly.

9010-1	9010-2
Create a port channel Interface, add a description, and set no ip.	Create a port channel Interface, add a description, and set no ip.

`configure`
`interface port-channel 12`
`description To_VLT_peer_VLTi`
`no ip address`
	`configure`
	`interface port-channel 12`
	`description To_VLT_peer_VLTi`
	`no ip address`

Add channel members, in this example two Forty GbE are utilized.	Add channel members, in this example two Forty GbE are utilized.

`channel-member fortyGigE 0/4,20`
`no shutdown`
`exit`
	`channel-member fortyGigE 0/4,20`
	`no shutdown`
	`exit`

3.2.2 Configuring VLT Domain

Creating the VLT domain is the second step required for VLT deployment. The port channel and heartbeat destinations are then assigned to the VLT domain. Finally, the predetermined VLT priority, system MAC, and unit ID of both switches are assigned. While these steps are not required, they are considered a best practice and will assist in any future troubleshooting. If a system MAC is not specified, the lowest MAC address between the two C9010s is used.

Note: The backup destination used in the following steps uses the virtual-ip assigned to each chassis. This IP is typically assigned as part of the deployment of the switch and is covered in the Configuration Guide. If a virtual IP is not available, a dedicated point-to-point link will need to be created.

9010-1	9010-2
Create VLT domain ID, assign previous created Port Channel, and set backup destination IP.	Create VLT domain ID, assign previous created Port Channel, and set backup destination IP.

`configure`
`vlt domain 1`
`peer-link port-channel 12`
`back-up destination 172.25.171.71`
	`configure`
	`vlt domain 1`
	`peer-link port-channel 12`
	`back-up destination 172.25.170.71`

While still in the VLT domain configuration, set specific VLT configuration including priority, system MAC, and unit ID.	While still in the VLT domain configuration, set specific VLT configuration including priority, system MAC, and unit ID.

`primary-priority 1`
`system-mac mac-address`
`00:11:22:33:44:55`
`unit-id 0`
`end`
	`primary-priority 2`
	`system-mac mac-address`
	`00:11:22:33:44:55`
	`unit-id 1`
	`end`

The command `show vlt brief` is issued to verify that that the VLT domain has been successfully formed and to confirm the priorities that were applied to the C9010 switches.

9010-1

```
9010-1#show vlt brief
 VLT Domain Brief
------------------
 Domain ID:                    1
 Role:                         Primary
 Role Priority:                1
 ICL Link Status:              Up
 HeartBeat Status:             Up
 VLT Peer Status:              Up
 Local Unit Id:                0
 Version:                      6(6)
 Local System MAC address:     34:17:eb:01:9c:00
 Remote System MAC address:    34:17:eb:02:60:00
 Configured System MAC address: 00:11:22:33:44:55
 Remote system version:        6(6)
 Delay-Restore timer:          90 seconds
 Delay-Restore Abort Threshold: 60 seconds
 Peer-Routing :                Disabled
 Peer-Routing-Timeout timer:   0 seconds
 Multicast peer-routing timeout: 150 seconds
```

9010-2

```
9010-2 #show vlt brief
 VLT Domain Brief
------------------
 Domain ID:                    1
 Role:                         Secondary
 Role Priority:                2
 ICL Link Status:              Up
 HeartBeat Status:             Up
 VLT Peer Status:              Up
 Local Unit Id:                1
 Version:                      6(6)
 Local System MAC address:     34:17:eb:02:60:00
 Remote System MAC address:    34:17:eb:01:9c:00
 Configured System MAC address: 00:11:22:33:44:55
 Remote system version:        6(6)
 Delay-Restore timer:          90 seconds
 Delay-Restore Abort Threshold: 60 seconds
 Peer-Routing :                Disabled
 Peer-Routing-Timeout timer:   0 seconds
 Multicast peer-routing timeout: 150 seconds
```

3.3 Link Aggregation Groups

A Link Aggregation Group (LAG) allows the bonding of up to eight physical Ethernet links into a single logical link with an aggregate bandwidth of all the physical links used. For example, if a LAG is composed of four 1 Gbps links, it would have the cumulative total bandwidth of 4 Gbps. However, the default behavior of a port channel is to assign one of the physical links to each packet that transverses the LAG. When the access device is connected to a pair of VLT-enabled switches, VLT uses shortest path routing to ensure that the proper side of the LAG is used for designated traffic that is only available through one of the two VLT peer switches.

3.3.1 Configuring LAGs – Dell C9010

First, the port channel facing the Cisco Catalyst 3750 is created. This LAG is dynamic and uses LACP to negotiate port channel settings with the Catalyst 3750. The `vlt-peer-lag` command is required for VLT to work. Once configuration is completed, if the port channel does not come online, the diagnostic command `show vlt mismatch` can be issued from enable mode to compare both VLT configurations.

9010-1	9010-2
First, create the port channel which the Cisco 3750 to connect with. It is important to specify the VLT peer lag. Best practice is to use the same port channel ID on both switches.	First, create the port channel which the Cisco 3750 to connect with. It is important to specify the VLT peer lag. Best practice is to use the same port channel ID on both switches.

`configure`
`interface port-channel 5`
`description "LAG to Cisco 3750"`
`portmode hybrid`
`switchport`
`rate-interval 30`
`vlt-peer-lag port-channel 5`
`no shut`
`exit`
	`configure`
	`interface port-channel 5`
	`description "LAG to Cisco 3750"`
	`portmode hybrid`
	`switchport`
	`rate-interval 30`
	`vlt-peer-lag port-channel 5`
	`no shut`
	`exit`

Then create an LACP-enabled port channel by specifying "active" for the port channel mode.	Then create an LACP-enabled port channel by specifying "active" for the port channel mode.

`interface te3/1`
`no ip address`
`description "To Cisco 3750-1"`
`port-channel-protocol lacp`
`port-channel 5 mode active`
`no shutdown`
`end`
	`interface te3/1`
	`no ip address`
	`description "To Cisco 3750-1"`
	`port-channel-protocol lacp`
	`port-channel 5 mode active`
	`no shutdown`
	`end`

The `show interfaces` command is used from enable mode on both C9010 VLT peer switches to show that the port channel is operational.

Note: The `show interfaces` command shown below was issued after the configuration was completed in the Configuring a LAG – Cisco 3750 section.

9010-1

```
C9010-1#show interfaces port-channel 5 brief


Codes: L - LACP Port-channel
       O - OpenFlow Controller Port-channel
       A - Auto Port-channel
       I - Internally Lagged


    LAG  Mode  Status       Uptime      Ports
L   5    L2    up           1d20h49m    Te 3/1      (Up)
```

9010-2

```
C9010-2#show interfaces port-channel 5 brief

Codes: L - LACP Port-channel
       O - OpenFlow Controller Port-channel
       A - Auto Port-channel
       I - Internally Lagged

    LAG  Mode  Status       Uptime      Ports
L   5    L2    up           1d20h50m    Te 3/1      (Up)
```

3.3.2 Configuring a LAG – Cisco 3750

All switchport configuration has been completed for the C9010 switches. Now, a port channel needs to be created on the Cisco Catalyst 3750. This is the logical interface that will be split between the two C9010 switches allowing multipathing. Following the configuration, the appropriate show commands are issued to validate the configuration.

C3750

Create and configure the port channel for dot1q trunking.

```
configure terminal
interface range tenGigabitEthernet 1/1/1-2
switchport
channel-group 5 mode active
no shutdown
interface port-channel 5
description “LAG to C9010 VLT Peer Switches”
switchport
switchport trunk encapsulation dot1q
switchport mode trunk
no shutdown
end
```

C 3750

```
C3750#show etherchannel 5 summary

Flags:  D - down        P - bundled in port-channel
        I - stand-alone s - suspended
        H - Hot-standby (LACP only)
        R - Layer3      S - Layer2
        U - in use      N - not in use, no aggregation
        f - failed to allocate aggregator

     M - not in use, no aggregation due to minimum links not met
     m - not in use, port not aggregated due to minimum links not met
     u - unsuitable for bundling
     d - default port
     w - waiting to be aggregated

Number of channel-groups in use: 1
Number of aggregators:           1

Group  Port-channel  Protocol    Ports
------+-------------+-----------+-----------------------------------------
5      Po5(SU)         LACP      Te1/1/1(P)       Te1/1/2(P)
```

3.4 Virtual LANs

A Virtual Local Area Network (VLAN) is an implementation of IEEE specification 802.1Q. Operating at layer 2 of the OSI reference model, a VLAN is a means of dividing a single network into logical groups of users or organizations as if they physically resided on their own dedicated LAN segment. VLANs allow a network to be logically segmented without regard to the physical locations of devices in the network. VLANs limit the number of ARP requests that hosts receive by reducing the size of broadcast domains.

Configuring multiple VLANs on a switch to allow several broadcast domains within the switch or with other switches is typically desired. As shown in Figure 3, multiple ports from each switch can be assigned to the same VLAN, allowing end devices attached to these ports to only communicate with each other via layer 2 switching.

Note: Any VLAN that is configured on both VLT peers is referred to as a Spanned VLAN. The VLTi port is automatically added as a member of the Spanned VLAN. As a result, any adjacent router connected to at least one VLT node on a Spanned VLAN subnet is directly reachable from both VLT peer nodes at a routing level.

3.4.1 Configuring VLANs – Dell 9010

The following commands illustrate how to create multiple VLANs on the Dell C9010 switch. First, the switch is put in configuration mode, then each VLAN interface is accessed, and an optional description is applied. The `tagged` command is used to specify which interfaces will accept the VLAN tagged (tagged interfaces). Configuration mode is then exited and the `show vlan` command is issued to verify the creation of the VLANs.

9010-1	9010-2
Each required VLAN is created, a description added, and then associated with the port channel created previously to achieve switchport trunking.	Each required VLAN is created, a description added, and then associated with the port channel created previously to achieve switchport trunking.

`configure`
`int vlan 30`
`description Finance_Department`
`tagged po5`
`int vlan 31`
`description HR_Department`
`tagged po5`
`int vlan 32`
`description Sales_Department`
`tagged po5`
`int vlan 33`
`description Employee_Wifi`
`tagged po5`
`int vlan 34`
`description Guest_Wifi`
`tagged po5`
`int vlan 35`
`description Corporate`
`tagged po5`
`end`
`write memory`
	`configure`
	`int vlan 30`
	`description Finance_Department`
	`tagged po5`
	`int vlan 31`
	`description HR_Department`
	`tagged po5`
	`int vlan 32`
	`description Sales_Department`
	`tagged po5`
	`int vlan 33`
	`description Employee_Wifi`
	`tagged po5`
	`int vlan 34`
	`description Guest_Wifi`
	`tagged po5`
	`int vlan 35`
	`description Corporate`
	`tagged po5`
	`end`
	`write memory`

9010-1

```
C9010-1#show vlan
Codes: * - Default VLAN, G - GVRP VLANs, R - Remote Port Mirroring
VLANs, P - Primary, C - Community, I - Isolated
       O - Openflow
Q: U - Untagged, T - Tagged
   x - Dot1x untagged, X - Dot1x tagged
   o - OpenFlow untagged, O - OpenFlow tagged
   G - GVRP tagged, M - Vlan-stack
   i - Internal untagged, I - Internal tagged, v - VLT untagged, V - VLT
tagged

   NUM    Status    Description                    Q Ports
*   1      Active                                   U Po5(Te 3/1)
                                                    U Po12(Fo 0/4,20)
    30     Active    Finance_Department             T Po5(Te 3/1)
                                                    V Po12(Fo 0/4,20)
    31     Active    HR_Department                  T Po5(Te 3/1)
                                                    V Po12(Fo 0/4,20)
    32     Active    Sales_Department               T Po5(Te 3/1)
                                                    V Po12(Fo 0/4,20)
    33     Active    Employee_Wifi                  T Po5(Te 3/1)
                                                    V Po12(Fo 0/4,20)
    34     Active    Guest_Wifi                     T Po5(Te 3/1)
                                                    V Po12(Fo 0/4,20)
    35     Active    Corporate                      T Po5(Te 3/1)
                                                    V Po12(Fo 0/4,20)
```

Note: Notice that even though only Po5 was configured with VLT in place, the VLTi port channel has automatically been assigned to the VLANs identified by the "V" in the Q column.

3.4.2 Configuring VLANS — Cisco Catalyst

The following commands illustrate how to create multiple VLANs on the Cisco Catalyst. First, the switch is put in configuration mode, then each VLAN is entered, and an optional name is given to each VLAN to help identify them. Configuration mode is then exited and the `show vlan brief` command is issued to verify the creation of the VLANs.

C3750

Create the VLANs and assign names to each.

```
configure terminal
vlan 30
name Finance_Department
vlan 31
name HR_Department
vlan 32
name Sales_Department
vlan 33
name Employee_Wifi
vlan 34
name Guest_Wifi
vlan 35
name Corporate
end
```

C3750

```
C3750#show vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------
30   Finance_Department                    active
31   HR_Department                         active
32   Sales_Department                      active
33   Employee_Wifi                         active
34   Guest_Wifi                            active
35   Corporate                             active
```

A Configuration Details

Table 2 Component table

Component	Description
Dell C-Series 9010	Dell Operating System 9.9
Cisco Catalyst WS-C3750X-48	C3750E-UNIVERSALK9-M version 12.2(55)SE5

B Additional Resources

Referenced or recommended publications:

- TechCenter Networking Guides
  http://en.community.dell.com/techcenter/networking/p/guides#R-series
- Dell Chassis Switches
  http://www.dell.com/us/business/p/force10-networking?~ck=anav
- Cisco Catalyst 3750-X Series Switches
  http://www.cisco.com/c/en/us/products/switches/catalyst-3750-x-series-switches/index.html

C Support and Feedback

Contacting Technical Support:

Support Contact Information

Web: http://Support.Dell.com/

Telephone: USA: 1-800-945-3355

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