Configuring Per VLAN Rapid Spanning Tree Plus

This chapter contains the following sections:

About PVST+

Per VLAN Rapid Spanning Tree Plus (PVST+), is an updated implementation of the Spanning Tree Protocol (STP) that allows you to create one spanning tree topology for each VLAN. PVST+ is the default STP mode on the switch and uses inter switch-link (ISL) trunking and allows a VLAN trunk to forward some VLANs while blocking other VLANs. Because PVST+ treats each VLAN as a separate network, it can load balance traffic (at Layer 2) by forwarding some VLANs on one trunk and other VLANs on another trunk without causing a spanning tree loop.

In Cisco UCS Director, PVST+ configuration is supported on the following Cisco network devices:

- Cisco Nexus 3000 Series switches

- Cisco Nexus 5000, 5500, and 5672 Series switches

- Cisco Nexus 6000 Series switches

- Cisco Nexus 7000 Series switches

- Cisco Nexus 9000 Series switches

Note   For more detailed information about PVST+ and configuration guidelines for PVST+, see the Cisco NX-OS Software Configuration Guides.

Configuring PVST+

Per VLAN Rapid Spanning Tree Plus (PVST+) maintains a spanning tree instance for each VLAN that you configure.

Step 1 On the menu bar, choose **Physical** > **Network**.

Step 2 In the **Network** pane, choose the pod.

Step 3 Click the **Managed Network Elements** tab.

Step 4 Select the network device to be configured.

Step 5 Click the down-arrow icon, and choose **Configure PVST**.
You can alternatively choose **Configure PVST** command on the **Summary** tab that appears on selection of the network device from the left pane.

Step 6 In the **Configure PVST** dialog box, complete the following fields:

Name	Description
Enable PVST check box	Check this check box to enable PVST+ on the device.
VLAN field	The VLAN ID within the valid range. The valid VLAN ID range value can be 2 through 4094 (except reserved VLAN values).
PVST Root Mode check box	Check this check box to enable PVST+ root mode which defines the tree with a root bridge and a loop-free path from the root to all switches in the network. STP forces redundant data paths into a blocked state. If a network segment in the spanning tree fails and a redundant path exists, the STP algorithm recalculates the spanning tree topology and activates the blocked path.
Priority drop-down list	Choose the STP port priority on the switch. This parameter is used to determine which port is put in the forwarding state and which port is put in the blocking state.
Path Cost drop-down list	Choose the STP path cost (**long** or **short**). This parameter is used to determine which port is put in the forwarding state and which port is put in the blocking state.
Copy Running configuration to Startup configuration check box	Check this check box to copy the running configuration to the startup configuration.

Step 7 Click **Submit**.