



Overview

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Information about Layer 2 Switching

VEM Port Model

The Cisco Nexus 1000V InterCloud differentiates the following Virtual Ethernet Module (VEM) ports:

- VEM Virtual Ports

Virtual Ethernet Ports

A virtual Ethernet port (vEth) represents a port on the Cisco Nexus 1000V Distributed Virtual Switch. The Cisco Nexus 1000V has a flat space of vEth ports, 0...n. These vEth ports are what the virtual cable plugs into and are moved to the host that the VM is running on. Virtual Ethernet ports are assigned to port groups.

InterCloud Extender and InterCloud Switch

Each VEM that is attached to the VSM forwards traffic to and from the InterCloud Extender and InterCloud Switch as an independent and intelligent line card. Each VLAN uses its forwarding table to learn and store MAC addresses for ports that are connected to the VEM.

VSM Port Model

The Cisco Nexus 1000V InterCloud VSM is a Virtual machine vNic on the InterCloud Switch and InterCloud Extender.

MAC Address Tables

To switch frames between LAN ports efficiently, a MAC address table is maintained. The MAC address of the sending network is associated with the LAN port on which it was received.

VLANs

A VLAN is a switched network that is logically segmented by function, project team, or application, without regard to the physical locations of the users. VLANs have the same attributes of physical LANs, but you can group end stations even if they are not physically located on the same LAN segment.

Any switchport can belong to a VLAN, and unicast, broadcast, and multicast packets are forwarded and flooded only to end stations in that VLAN. Each VLAN is considered a logical network, and packets destined for stations that do not belong to the VLAN must be forwarded through a bridge or a router.

All ports, including the management port, are assigned to the default VLAN (VLAN1) when the device first comes up.

A total number of 128 VLANs are supported, and the valid range for VLANs is 1- 4094

These VLANs are organized into several ranges for different uses. Some of these VLANs are reserved for internal use by the device and are not available for configuration.

**Note**

Inter-Switch Link (ISL) trunking is not supported on the Cisco Nexus 1000V.

IGMP Snooping

The Internet Group Management Protocol (IGMP) snooping software examines Layer 2 IP multicast traffic within a VLAN to discover the ports where interested receivers reside. Using the port information, IGMP snooping can reduce bandwidth consumption in a multi-access LAN environment to avoid flooding the entire VLAN. The IGMP snooping feature tracks which ports are attached to multicast-capable routers to help the routers forward IGMP membership reports. The IGMP snooping software responds to topology change notifications. By default, IGMP snooping is enabled on the device.