802.1Q Fields

Tag protocol identifier (TPID):	16-bit is field set to 0x8100 to identify the packet as an 802.1Q packet.
Priority code point (PCP):	3-bit field indicates a class of service (CoS) as part of Layer 2 quality of service (QoS) between switches.
Drop elgible indicator (DEI):	This 1-bit field indicates whether the packet can be dropped when there is bandwidth contention.
VLAN identifier (VLAN ID):	This 12-bit field specifies the VLAN associated with a network packet.

Centralized Forwarding VS Distributed Forwarding

✱Centralized Forwarding✱

⇨ When a route processor (RP) engine is equipped with a forwarding engine

✱Distributed Forwarding✱

⇨ Forwarding engines are equipped in the line cards

⇨ When a packet is received on the ingress line card, it is transmitted to the local forwarding engine. The forwarding engine performs a packet lookup, and if it determines that the outbound interface is local, it forwards the packet out a local interface. If the outbound interface is located on a different line card, the packet is sent across the switch fabric, also known as the backplane, directly to the egress line card, bypassing the RP.

VLAN Ranges

VLAN 0	***Used for 802.1P Traffic*** Cannot be modified/deleted
VLAN 1	***Default VLAN*** Cannot be modified/deleted
VLAN 1002 to 1005	***Reserve Range*** Can be modified/deleted
VLAN 2 to 1001	***Normal Range*** Can be modified/deleted
VLAN 1006 to 4094	***Extended Range*** Can be modified/deleted

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