L2CP Tunneling MEF

This chapter introduces you to L2 Control Protocols (L2CP) tunneling to help initiate control packets from a local (customer-edge) CE device to a remote CE device.

L2CP Tunneling

The system supports the following tunnel protocols:

- Link Layer Discovery Protocol (LLDP)

- Link Aggregation Control Protocol (LACP)

- Operation, Administration, Management (OAM)

- Ethernet Local Management Interface (ELMI)

- Cisco Discovery Protocol (CDP)

On a subinterface, when control packets such as LLDP and LACP are tunneled, the system tunnels the same control packets to the main interface.

The LACP packet for VPLS also known as E-LAN service either gets peered or dropped. LACP tunneling is not supported for VPLS service. Tunneling of LACP packets is supported only for VPWS and EVPN-VPWS services.

The router allows to tunnel layer 2 packets between CEs. The following figure depicts Layer 2 Protocol Tunneling. The layer 2 traffic is sent through the S-network, and the S-network switches the traffic from end-to-end. Third-party PE forwards S-tagged frames and peers untagged frames.

Figure 1: L2CP Tunneling
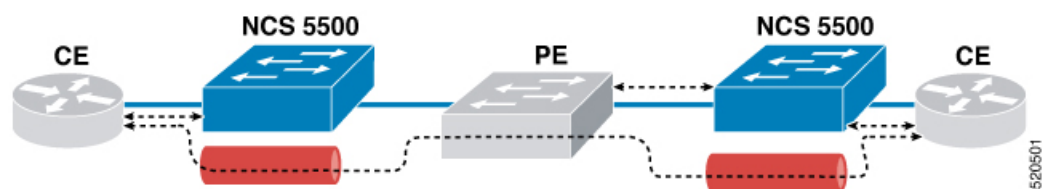
Prerequisites for L2CP Tunneling

A Cisco IOS XR Software that supports Layer 2 Control Protocol Tunneling must be installed previously on the router.

Configure L2CP Tunneling

The router supports layer 2 peering functionalities on a per EthernetFlow Point (EFP) basis. It supports a maximum packet rate of 10 packets ps (per interface) for a protocol, and 100 packets ps for all protocols (on all interfaces).

You do not need to configure L2CP tunneling explicitly. L2CP packets are tunneled over Layer 2 tunnel by default.

The following table lists the options that are supported on the router and displays the supported defaults and configuration options for the router.

Protocol	Packet Type	Action
CDP	Untagged	Peer
LACP	Untagged	Peer
LLDP	Untagged	Peer else Tunnelled
STP	Untagged	Peer
VTP	Untagged	Peer
OAM	Untagged	Peer
BPDU	Untagged	Tunnelled
UDLD	Untagged	Peer
CDP	Tagged	Tunnelled
LACP	Tagged	Tunnelled
LLDP	Tagged	Tunnelled
STP	Tagged	Tunnelled
VTP	Tagged	Tunnelled
BPDU	Tagged	Tunnelled
OAM	Tagged	Tunnelled
ELMI	Tagged	Tunnelled
UDLD	Tagged	Peer

The following table lists the supported options on the router and displays the supported defaults and configuration options for the NC57 line cards.

Table 1: L2CP Protocol Support on NC57 Line Cards

Protocol	Services and Action on NC57 Line cards							
	EPL1	EPL2	ELAN	E-Tree	EVPL1	EVLAN	EVTREE	Enable on Interface
STP	Tunnel	Tunnel	Tunnel	Tunnel	Tunnel	Tunnel	Tunnel	Not supported
RSTP	Tunnel	Tunnel	Tunnel	Tunnel	Tunnel	Tunnel	Tunnel	Not supported
LACP /LAMP	Tunnel	Tunnel	Discard	Discard	Discard	Discard	Discard	Punt
LOAM	Tunnel	Tunnel	Tunnel	Tunnel	NA	NA	NA	Drop
E-LMI	Tunnel	Tunnel	Tunnel	Tunnel	Tunnel	Tunnel	Tunnel	Punt
LLDP	Tunnel	Tunnel	Tunnel	Tunnel	Tunnel	Tunnel	Tunnel	Punt
PTP	Tunnel	Tunnel	Tunnel	Tunnel	Tunnel	Tunnel	Tunnel	Punt
ESMC /SynCE	Tunnel	Tunnel	Tunnel	Tunnel	NA	NA	NA	Not supported
CDP	Tunnel	Tunnel	Tunnel	Tunnel	NA	NA	NA	Punt
MACSEC	Tunnel	Tunnel	Tunnel	Tunnel	Not supported	Not supported	Not supported	Punt-not supported
UDLD	Drop	Drop	Drop	Drop	NA	NA	NA	Punt

Note L2CP protocols over BVI is not supported.

L2CP protocol on NC57 line cards is supported from Release 7.6.1.

MEF 2.0 Compliant L2CP Tunneling Services