CHAPTER 25

Using mLACP Commands

In Carrier Ethernet networks, various redundancy mechanisms provide resilient interconnection of nodes and networks. The choice of redundancy mechanisms depends on various factors such as:

- Transport technology
- Topology
- Single node versus entire network multihoming
- Capability of devices
- Autonomous system (AS) boundaries
- Service provider operations model
- Service provider preferences.

Carrier Ethernet network high-availability can be achieved by employing both intra and interchassis redundancy mechanisms. The Multichassis EtherChannel (MCEC) solution of Cisco addresses the need for interchassis redundancy mechanisms, where a carrier wants to dual home a device to two upstream points of attachments (PoAs) for redundancy.

In Multichassis EtherChannel (MCEC), the DHD is dual-homed to two upstream PoAs. The DHD is incapable of running any loop prevention control protocol such as Multiple Spanning Tree (MST). Therefore, another mechanism is required to prevent forwarding loops over the redundant setup.

LACP, as defined in IEEE 802.3ad, is a link-level control protocol that allows the dynamic negotiation and establishment of LAGs. An extension of the LACP implementation to PoAs is required to convey to a DHD that it is connected to a single virtual LACP peer and not to two disjointed devices. This extension is called Multichassis LACP or mLACP.

The PoAs forming a virtual LACP peer, from the perspective of the DHD, are defined as members of a redundancy group. For the PoAs in a redundancy group to appear as a single device to the DHD, the states between them must be synchronized through the Interchassis Communication Protocol (ICCP), which provides a control-only interchassis communication channel (ICC).

Supported Network Elements

You can run the mLACP commands on all Cisco IOS and Cisco IOS XR devices that support pseudowire technology, such as

- Cisco 7600 series devices
- Cisco 6509 NEB-A series devices
- Cisco ASR 9000 series routers.

See Part 1—Cisco VNEs for details on the software versions Prime Network supports for these network elements. To run the mLACP commands, the software on the network element must support the mLACP technology.

Show Group

Use the **Show Group** command to show the group.

Step 1 In the inventory window, expand the Logical Inventory tree and choose Ethernet Link Aggregation.

Step 2 Right-click the required interface and choose **Commands > Show > Show Group**. The Show Group dialog box opens.

Step 3 To see the command that will be applied on the device, click **Preview**.

Step 4 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 5 To run the command, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 6 To close the dialog box, click **Close**.

Show MPLS LDP

Use the **Show MPLS Label Distribution Protocol (LDP)** command to show the LDP used by the selected network element.

Step 1 In the inventory window, expand the Logical Inventory tree and choose Ethernet Link Aggregation.

Step 2 Right-click the required interface and choose **Commands > Show > Show Mpls Ldp**. The Show MPLS LDP dialog box opens.

Step 3 To see the command that will be applied on the device, click **Preview**.

Step 4 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 5 To run the command, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 6 To close the dialog box, click **Close**.

Show Channel

Use the **Show Channel** command to show the channel in the selected network element.

Step 1 In the inventory window, expand the Logical Inventory tree and choose Ethernet Link Aggregation.

Step 2 Right-click the required interface and choose **Commands > Show > Show Channel**. The Show Channel dialog box opens.

Step 3 To see the command that will be applied on the device, click **Preview**.

Step 4 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 5 To run the command, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 6 To close the dialog box, click **Close**.

Show LACP Internal

Use the **Show Link Aggregation Control Protocol (LACP) Internal** command to show the LACP in the selected network element.

Step 1 In the inventory window, expand the Logical Inventory tree and choose Ethernet Link Aggregation.

Step 2 Right-click the required interface and choose **Commands > Show > Show Lacp Internal**. The Show Lacp Internal dialog box opens.

Step 3 To see the command that will be applied on the device, click **Preview**.

Step 4 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 5 To run the command, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 6 To close the dialog box, click **Close**.