

L2VPN Commands

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l2vpn sdwan instance

To configure an L2VPN instance on an Cisco IOS XE Catalyst SD-WAN device, use the **l2vpn sdwan instance** command in global configuration mode. To remove the configured L2VPN instance, use the **no** form of this command.

l2vpn sdwan instance *instance-id* { **multipoint** | **point-to-point** }

Syntax Description

instance-id	A unique number that identifies the VPN or VRF instance. It must be same on the edge devices participating in the Layer 2 domain. Range: 1 to 65531 **Note** Starting from Cisco IOS XE Catalyst SD-WAN Release 17.16.1a, the range is 1 to 511 and 513 to 65527.
multipoint	(Optional) Specifies multipoint as the instance type for connecting multiple sites within the same instance.
point-to-point	(Optional) Specifies point-to-point as the instance type for a direct connection between two edge devices.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
Cisco IOS XE Catalyst SD-WAN Release 17.14.1a	This command was introduced.

Usage Guidelines

The instance ID must be a unique number. The ID must be the same on the Cisco IOS XE Catalyst SD-WAN devices participating in the Layer 2 domain. It must not overlap with your existing VRFs in the Cisco Catalyst SD-WAN fabric.

Examples

The following configures an L2VPN instance for point-to-point service:

```
Device(config)# l2vpn sdwan instance 10 point-to-point
```

The following configures an L2VPN instance for multipoint service:

```
Device(config)# l2vpn sdwan instance 20 multipoint
```

bridge-domain

To define a broadcast domain internal to a platform, use the **bridge-domain** command in global configuration mode. To remove the configured components from the bridge domain and to return the components to the bridge-domain default state, use the **no** form of this command.

bridge-domain *bridge-id*
member { *interface* **service-instance** *instance-id* | **sdwan-instance** *instance-id* [**remote-site-id** *site-id*] **vc-id** *vc-id* **single-homing** }

Syntax Description

bridge-domain *bridge-id*	Integer that identifies the bridge domain. Range: 1 to 16000 The upper limit may vary based on the platform.
member	The member interface specifies the LAN side interface or WAN side instance that participates in the bridge domain.
member *interface*	The LAN side interface that participates in the bridge domain.
member *interface* **service-instance**	Specifies the Ethernet service instance.
member *interface* **service-instance** *instance-id*	Specifies the ethernet service instance ID configured for the LAN interface. Range: 1 to 8000
member **sdwan-instance**	The sdwan-instance command is used to link the WAN side sdwan instance with the bridge-domain.

member **sdwan-instance** *instance-id*	Specifies the configured L2VPN SD-WAN instance ID. **Note** Starting from Cisco IOS XE Catalyst SD-WAN Release 17.16.1a, range is 1 to 511 and 513 to 65527.
instance-id	Specifies the ethernet service instance id configured under the LAN interface. It must be the same on the edge devices participating in the Layer 2 domain. Range: 1 to 65531
remote-site-id	The remote site id that participates in the P2P L2VPN sdwan instance.
site-id	Specifies the remote site ID. Range: 0 to 4294967295
vc-id	The Virtual Circuit (VC) ID that is used to identify a particular bridge domain.
vc-id	Specifies the Virtual Circuit (VC) ID. Range: 0 to 4294967295
single-homing	Specifies the homing type. Only single-homing is supported in Cisco IOS XE Catalyst SD-WAN Release 17.14.1a.
dual-homing	Specifies the homing type. Dual-homing is supported from Cisco IOS XE Catalyst SD-WAN Release 17.15.1a.

Command Default

Bridging is disabled.

Command Modes

Global configuration (config) and bridge-domain config

Command History

Release	Modification
Cisco IOS XE Catalyst SD-WAN Release 17.14.1a	The command was introduced.
Cisco IOS XE Catalyst SD-WAN Release 17.15.1a	Added **dual-homing** keyword.

Usage Guidelines

Use the command to link LAN side interface with bridge-domain. Enter the bridge-domain configuration mode, then enter the member commands.

Examples

The following example shows a bridge-domain 30 and service instance ID 20 configured for P2P connection and bridge-domain 31 with service instance ID 21 for P2MP connection for an edge device in a site using single-homing:

```
Device(config)# bridge-domain 30
Device(config-bdomain)# member GigabitEthernet7 service-instance 20
Device(config-bdomain-efp)# member sdwan-instance 10  remote-site 2 vc-id 1 single-homing
Device(config-bdomain)# exit
```

```
Device(config)# bridge-domain 31
Device(config-bdomain)# member GigabitEthernet7 service-instance 21
Device(config-bdomain-efp)# member sdwan-instance 11 vc-id 1 single-homing
```

The following example shows a bridge-domain 10 and service instance ID 20 configured for P2P connection and bridge-domain 20 with service instance ID 21 for P2MP connection for an edge device in a site using dual-homing:

```
Device(config)# bridge-domain 10
Device(config-bdomain)# member GigabitEthernet7 service-instance 20
Device(config-bdomain-efp)# member sdwan-instance 10  remote-site 2 vc-id 1 dual-homing
Device(config-bdomain)# exit
Device(config)# bridge-domain 20
Device(config-bdomain)# member GigabitEthernet7 service-instance 21
Device(config-bdomain-efp)# member sdwan-instance 11 vc-id 1 dual-homing
```

l2protocol peer

To enable Layer 2 packets peer for supported Layer 2 control protocols (such as STP, CDP, VTP, or others) on a specific SD-WAN instance, use the **l2protocol peer** command in interface configuration mode. To disable Layer 2 packets peer processing, use the **no** form of this command.

l2protocol peer { **R4** | **R5** | **R6** | **R8** | **R9** | **RA** | **RB** | **RC** | **RD** | **RF** | **cdp** | **dot1x** | **dtp** | **elmi** | **esmc** | **lacp** | **lldp** | **pagp** | **ptppd** | **stp** | **udld** | **vtp** }

no l2protocol peer { **R4** | **R5** | **R6** | **R8** | **R9** | **RA** | **RB** | **RC** | **RD** | **RF** | **cdp** | **dot1x** | **dtp** | **elmi** | **esmc** | **lacp** | **lldp** | **pagp** | **ptppd** | **stp** | **udld** | **vtp** }

Syntax Description

R4	Reserved Protocol using destination Mac 0180.C200.0004
R5	Reserved Protocol using destination Mac 0180.C200.0005
R6	Reserved Protocol using destination Mac 0180.C200.0006
R8	Reserved Protocol using destination Mac 0180.C200.0008
R9	Reserved Protocol using destination Mac 0180.C200.0009
RA	Reserved Protocol using destination Mac 0180.C200.000A
RB	Reserved Protocol using destination Mac 0180.C200.000B
RC	Reserved Protocol using destination Mac 0180.C200.000C
RD	Reserved Protocol using destination Mac 0180.C200.000D
RF	Reserved Protocol using destination Mac 0180.C200.000F
cdp	Cisco Discovery Protocol
dot1x	802.1x Protocol
dtp	Dynamic Trunking Protocol

elmi	ELMI Protocol
esmc	ESMC Protocol
lacp	LACP Protocol
lldp	Link Layer Discovery Protocol
pagp	Port Aggregation Protocol
ptppd	PTP Peer Delay Protocol
stp	Spanning Tree Protocol
udld	UDLD Protocol
vtp	VLAN Trunking Protocol

Command Default

None

Command Modes

Global configuration (config) and l2sdwan sdi config

Command History

Release	Modification
Cisco IOS XE Catalyst SD-WAN Release 17.18.1a	The command was introduced.

Usage Guidelines

Use the command in P2P mode to control the Control Protocol (L2CP) packets you want to block or use locally. Enter the P2P mode to block L2CP packets, then enter the **l2protocol peer** commands.

Examples

The example shows a l2vpn sdwan instance 222 point-to-point configuration. In the example, SD-WAN instance 222 will no longer forward Cisco Discovery Protocol (CDP) and Spanning Tree Protocol (STP). packets.

```
Device(config)# l2vpn sdwan instance 222 point-to-point
Device(config-l2sdwan-sdi)# l2protocol peer cdp stp
Device(config-l2sdwan-sdi)# exit
Device(config)# exit
```

l2protocol forward

To enable the forwarding of Layer 2 protocol packets on specific SD-WAN instance in a multipoint setup, use the **l2protocol forward** command in interface configuration mode. To disable Layer 2 protocol packet forwarding on the interface, use the **no** form of this command.

l2protocol forward { **R4** | **R5** | **R6** | **R8** | **R9** | **RA** | **RB** | **RC** | **RD** | **RF** | **cdp** | **dot1x** | **dtp** | **elmi** | **esmc** | **lacp** | **lldp** | **pagp** | **ptppd** | **stp** | **udld** | **vtp** }

no l2protocol forward { **R4** | **R5** | **R6** | **R8** | **R9** | **RA** | **RB** | **RC** | **RD** | **RF** | **cdp** | **dot1x** | **dtp** | **elmi** | **esmc** | **lacp** | **lldp** | **pagp** | **ptppd** | **stp** | **udld** | **vtp** }

Syntax Description

R4	Reserved Protocol using destination Mac 0180.C200.0004
R5	Reserved Protocol using destination Mac 0180.C200.0005
R6	Reserved Protocol using destination Mac 0180.C200.0006
R8	Reserved Protocol using destination Mac 0180.C200.0008
R9	Reserved Protocol using destination Mac 0180.C200.0009
RA	Reserved Protocol using destination Mac 0180.C200.000A
RB	Reserved Protocol using destination Mac 0180.C200.000B
RC	Reserved Protocol using destination Mac 0180.C200.000C
RD	Reserved Protocol using destination Mac 0180.C200.000D
RF	Reserved Protocol using destination Mac 0180.C200.000F
cdp	Cisco Discovery Protocol
dot1x	802.1x Protocol
dtp	Dynamic Trunking Protocol
elmi	ELMI Protocol
esmc	ESMC Protocol
lacp	LACP Protocol
lldp	Link Layer Discovery Protocol
pagp	Port Aggregation Protocol
ptppd	PTP Peer Delay Protocol
stp	Spanning Tree Protocol
udld	UDLD Protocol
vtp	VLAN Trunking Protocol

Command Default

None

Command Modes

Global configuration (config) and l2sdwan sdi config

Command History

Release	Modification
Cisco IOS XE Catalyst SD-WAN Release 17.18.1a	The command was introduced.

Usage Guidelines

Use the command to configure the SD-WAN instance to forward Layer 2 protocol packets, allowing protocol transparency across a Layer 2 VPN or tunneling environment. Enter the multipoint modes to forward l2cp packets, then enter the **l2protocol forward** commands.

Examples

This example shows the l2vpn sdwan instance 111 multipoint configurations. In the example, SD-WAN instance 111 actively forwards Cisco Discovery Protocol (CDP) and Spanning Tree Protocol (STP) packets. This implies that these packets are transparently passed through the L2VPN to the remote endpoints.

```
Device(config)# l2vpn sdwan instance 111 multipoint
Device(config-l2sdwan-sdi)# l2protocol forward cdp stp
```