



Provisioning Regular PE-CE Links

This chapter describes how to configure MPLS VPN PE-CE links in the IP Solution Center (ISC) provisioning process. This chapter contains the following major sections:

- [MPLS VPN PE-CE Link Overview, page 7-1](#)
- [Creating MPLS VPN PE-CE Service Policies, page 7-5](#)
- [Creating MPLS VPN PE-CE Service Requests, page 7-14](#)

MPLS VPN PE-CE Link Overview

This section contains the following sections:

- [Network Topology, page 7-2](#)
- [Prerequisite Tasks, page 7-2](#)
- [Infrastructure Data, page 7-3](#)

To provision an MPLS VPN service in ISC, you must first create an MPLS VPN Service Policy. In ISC, a Service Policy is a set of default configurations for creating and deploying a Service Request.

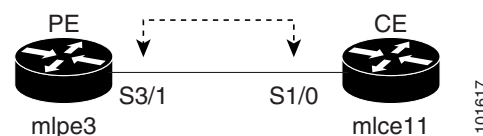
ISC supports two MPLS VPN Service Policy Types: Regular PE-CE and MVRFCE PE-CE. The following scenarios focus on the Regular PE-CE Policy Type.

The Regular PE-CE Policy Type is a normal PE to CE link between two devices. This Policy Type has two options:

- CE Present *enabled* (One PE with one CE; two devices)
- CE Present *disabled* (PE Only with no CE; one device)

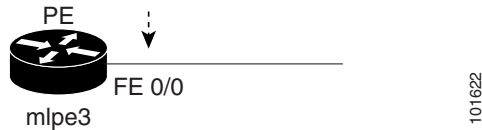
[Figure 7-1](#) shows an example of a normal PE to CE link between two devices.

Figure 7-1 PE to CE link with CE Present



In a PE to CE link with CE Present enabled, interfaces S3/1 and S1/0 are configured as an MPLS VPN link in the Service Request process.

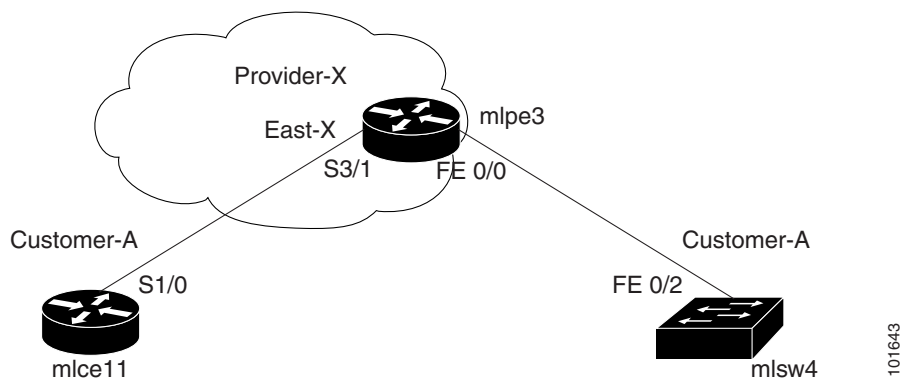
[Figure 7-2](#) shows an example of a PE Only link with no CE.

Figure 7-2 PE to CE link with No CE

In a PE to CE link with CE Present disabled, interface FE0/0 is configured as an MPLS VPN link in the Service Request process.

Network Topology

Figure 7-3 shows an overview of the network topology in which the MPLS VPN PE-CE links are created.

Figure 7-3 Network Topology for MPLS VPN PE-CE Scenarios.

The network topology in Figure 7-3 illustrates the lab environment of a service provider (Provider-X) and one customer (Cust-A). There is one Region (East-X) and one PE (mlpe3.cisco.com). Each customer device (one CE and one CLE) represents a Site (mlce11-Site and mlsw4-Site).

Prerequisite Tasks

Before you can create a Service Policy in ISC, you must complete the following Inventory Management tasks:

-
- Step 1** Set up a Customer with a Site.
 - Step 2** Setup a Provider with a Region.
 - Step 3** Import, create, or discover Devices.
 - Step 4** Create CPE and PE.
 - Step 5** Collect Configurations.
 - Step 6** Create Resource Pools and CE routing communities (CERC).
 - Step 7** Define a VPN.
-

Infrastructure Data

In the subsequent PE-CE scenarios, the following infrastructure data is used:

- Provider: **Provider-X**
- Region: **East-X**
- AS#: **99**
- PE: **mlpe3.cisco.com**
- Device Role: **PE POP**
- Customer: **Cust-A**
- Site: **Cust-A-Site- mlce11**
- CE: **mlce11.cisco.com**
- Device Role: **CPE**
- IP Address Pool:
 - Name: **Provider-X-East-X**
 - Type: **Region**
 - Start: **25.5.0.0**
 - Mask: **30**
 - Size: **16384**
- Route Distinguisher Pool:
 - Name: **99:PROVIDER-X**
 - Start: **50000**
 - Size: **10000**
- Route Target Pool:
 - Name: **99:PROVIDER-X**
 - Start: **50000**
 - Size: **10000**
- VPN
 - Definition: **east-xVPN**
 - See: [Defining a VPN for the PE-CE Link, page 7-3](#)

Defining a VPN for the PE-CE Link

During service deployment, ISC generates the Cisco IOS commands to configure the logical VPN relationships.

At the beginning of the provisioning process, before creating a Service Policy, a VPN must be defined within ISC. The first element in a VPN definition is the name of the VPN.

To create a VPN Name, follow these steps:

Step 1 Log in to ISC.

Step 2 Go to **Service Inventory > Inventory and Connection Manager > VPNs**.

The VPN window appears, as shown in [Figure 7-4](#).

Figure 7-4 VPNs

The screenshot shows the 'VPNs' management page. On the left is a 'TOC' (Table of Contents) sidebar with a tree view containing: Service Requests, Inventory Manager, Topology Tool, Devices, Device Groups, Customers (with sub-items: Customer Sites, CPE Devices), Providers (with sub-items: Provider Regions, PE Devices, Access Domains), Resource Pools, CE Routing Communities, **VPNs** (highlighted), AAA Servers, Named Physical Circuits, and NPC Rings. The main area is titled 'VPNs' and includes a search bar 'Show VPNs with [VPN Name] matching *' and a 'Find' button. Below the search bar, it says 'Showing 0 of 0 records'. There is a table header with columns '#', 'VPN Name', and 'Customer Name'. Below the header, there is a 'Rows per page: 10' dropdown and a pagination control 'Go to page: 1 of 0 Go'. At the bottom right of the table area are 'Create', 'Edit', and 'Delete' buttons.

101619

Step 3 Click **Create** to create a VPN.

The Create VPN window appears, as shown in [Figure 7-5](#).

Figure 7-5 Create VPN

The screenshot shows the 'Create VPN' configuration window. It has a 'TOC' sidebar identical to the one in Figure 7-4. The main area is titled 'Create VPN'. It contains several fields: 'Name' (with value 'east-xVPN'), 'Customer' (with value 'CUST-A' and a 'Select' button), 'MPLS Attributes' section with 'Create Default CE Routing Community' checked and set to 'PROVIDER-X', 'Enable Multicast' unchecked, 'Data MDT Size' set to '0', 'Data MDT Threshold' set to '0' (with a note '(1 - 4294967)'), and a 'CE Routing Communities' list with a 'Select' button and a 'Remove' button. Below this is the 'VPLS Attributes' section with 'Enable VPLS' unchecked, 'Service Type' set to 'ERS', and 'Topology' set to 'Full Mesh'. At the bottom right are 'Save' and 'Cancel' buttons. A note at the bottom left says 'Note: * - Required Field'.

101624

Step 4 Edit the following attributes:

- **Name:** Enter the *vpn name*. (**east-xVPN**)
- **Customer:** Click **Select**.

The Select Customer window appears, as shown in [Figure 7-6](#).

Figure 7-6 Choose Customer

#	Select	Name
1.	☒	CUST-A
2.	☐	CUST-B

Step 5 Choose a customer and click **Select**.

Step 6 Click **Save**.

The VPNs window reappears, as shown in [Figure 7-7](#).

Figure 7-7 VPNs

#	VPN Name	Customer Name
1.	east-xVPN	Customer1
2.	L2VPN	Customer1
3.	ME-VPN	Customer1
4.	mpls1	Customer1

The VPN Name (**east-xVPN**) is associated with the Customer (**Cust-A**) in this new VPN definition.

Creating MPLS VPN PE-CE Service Policies

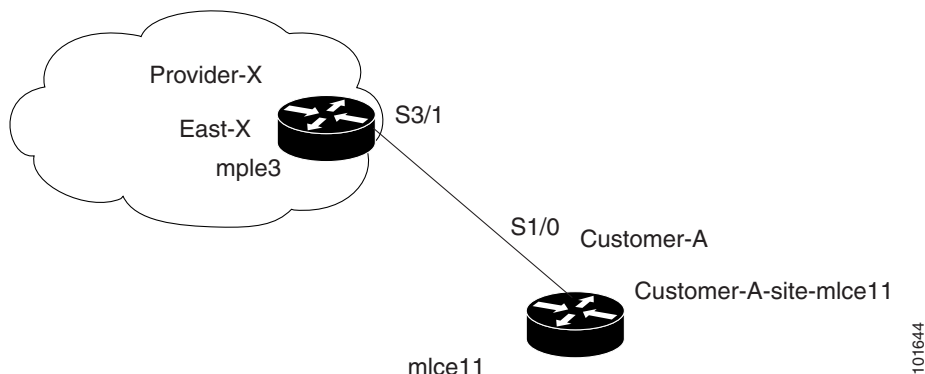
This section contains the following sections:

- [PE-CE Service Policy Overview, page 7-5](#)
- [Creating a PE-CE Service Policy, page 7-6](#)
- [Creating a PE-NoCE Service Policy, page 7-10](#)

PE-CE Service Policy Overview

[Figure 7-8](#) shows an example of the PE-CE link that is defined in the PE-CE Service Policy scenario.

Figure 7-8 PE-CE Topology

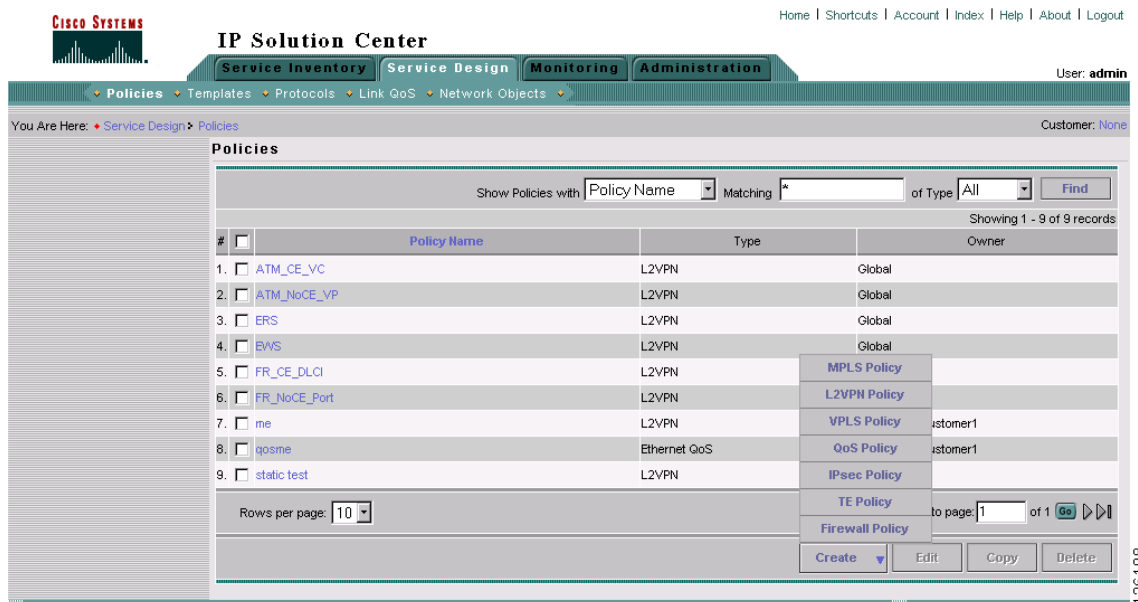


Creating a PE-CE Service Policy

To create a PE-CE Service Policy, follow these steps:

- Step 1** Log in to ISC.
- Step 2** Go to **Service Design > Policies**.
The Policies window appears, as shown in Figure 7-9.

Figure 7-9 Policies



- Step 3** From the **Create** drop-down list, choose **MPLS Policy**.
The MPLS Policy Editor - Policy Type window appears, as shown in Figure 7-10.

Figure 7-10 MPLS Policy Editor - Policy Type

Attribute	Value
Policy Name *	mpls-pe-ce
Policy Owner:	☒ Customer ☐ Provider ☐ Global Policy
Customer *	Select
Policy Type:	☒ Regular: PE-CE ☐ MVRFCPE: PE-CE
CE Present:	☒

Note: * - Required Field

101637

Step 4 Edit the following attributes:

- **Policy Name:** Enter the *policy name*.
- **Policy Owner:** Choose the Policy Owner.
- **Customer:** See [Step 5](#).
- **Policy Type:** Choose the Policy Type.
- **CE Present:** Choose CE Present.

Step 5 Click **Select** to specify a Customer.

The Customer for MPLS Policy ownership window appears, as shown in [Figure 7-11](#).

Figure 7-11 Customer for MPLS Policy

#	Select	Name
1.	☒	CUST-A
2.	☐	CUST-B

Rows per page: 10 Go to page: 1 of 1 Go

Select Cancel

101638

Step 6 Choose a customer and click **Select**. (Cust-A)

Step 7 Click **Next**.

The MPLS Policy Editor - Interface window appears, as shown in [Figure 7-12](#).

Figure 7-12 The MPLS Policy Editor - Interface

MPLS Policy Editor - Interface

Attribute	Value	Editable
Reset all Attribute editable flags:		☒
PE Information		
Interface Type:	ANY	
Interface Format:		
Interface Description:		☒
Shutdown Interface:	☐	☒
Auto-Pick VLAN ID:	☐	☒
Link Speed:	None	☒
Link Duplex:	None	☒
ETTH Support:	☐	☒
CE Information		
Interface Type:	ANY	
Interface Format:		
Interface Description:		☒

Step 8 Click **Next** to accept the defaults.

**Note**

Make sure the Editable check boxes are checked, so you can edit these attributes in the Service Request process.

The MPLS Policy Editor - IP Address Scheme window appears, as shown in [Figure 7-13](#).

Figure 7-13 The MPLS Policy Editor - IP Address Scheme

MPLS Policy Editor - IP Address Scheme

Attribute	Value	Editable
PE-CE Interface Addresses/Mask		
IP Numbering Scheme:	IP Numbered	☒
Extra CE Loopback Required:	☐	☒
Automatically Assign IP Addresses:	☒	☒
IP Address Pool:	Region Pool	☒

Step 9 Edit the following attributes:

- **IP Numbering Scheme:** Choose an IP Numbering Scheme.
- **Automatically Assign IP Address:** To have ISC automatically assign IP Addresses, click the check box.
- **IP Address Pool:** Choose the IP Address Pool.

Step 10 Click **Next**.

The MPLS Policy Editor - Routing Information window appears, as shown in [Figure 7-14](#).

Figure 7-14 The MPLS Policy Editor - Routing Information

MPLS Policy Editor - Routing Information

Attribute	Value	Editable
PE-CE Routing Information		
Routing Protocol	STATIC	☒
CsC Support:	☐	☒
Give Only Default Routes to CE:	☐	☒
Redistribute Connected (BGP only):	☐	☒
Default Information Originate (BGP only):	☐	☒

Step 11 Click **Next** to accept the defaults.

**Note**

Make sure the Editable check boxes are checked, so you can edit these attributes in the Service Request process.

The MPLS Policy Editor - VRF and VPN Membership window appears, as shown in [Figure 7-15](#).

Figure 7-15 The MPLS Policy Editor - VRF and VPN Membership

MPLS Policy Editor - VRF and VPN Membership

Attribute	Value	Editable
VRF Information		
Export Map:		☒
Import Map:		☒
Maximum Routes:	(1-4294967295)	☒
Maximum Route Threshold:	80 (1-100)	☒
VRF Description:		☒
Allocate new route distinguisher:	☐	☒
VRF And RD Overwrite	☐	☒
Template Association		
Template Enable:	☐	
VPN Selection		
PE VPN Membership:		☒

Select Customer VPN Provider CERC Is Hub

Add Delete

Step 12 Click **Next** to accept the defaults.

**Note**

Make sure the Editable check boxes are checked, so you can edit these attributes in the Service Request process.

Step 13 Click **Finish**.

The Policies window reappears, as shown in [Figure 7-16](#).

Figure 7-16 Policies

Policies

Show Policies with matching of type

Showing 1-1 of 1 records

#	Policy Name	Service	Owner
1.	mpls-pe-ce	MPLS	Customer - CUST-A

Rows per page: Go to page: of 1

The MPLS VPN PE-CE Service Policy is complete.

Creating a PE-NoCE Service Policy

To create a PE-NoCE Service Policy, follow these steps:

- Step 1** Log in to ISC.
- Step 2** Go to **Service Design > Policies**.

The Policies window appears, as shown in [Figure 7-17](#).

Figure 7-17 Policies

IP Solution Center

Home | Shortcuts | Account | Index | Help | About | Logout

User: admin

Policies

You Are Here: [Service Design](#) > [Policies](#) Customer: None

Show Policies with Matching of Type

Showing 1 - 9 of 9 records

#	Policy Name	Type	Owner
1.	ATM_CE_VC	L2VPN	Global
2.	ATM_NoCE_VP	L2VPN	Global
3.	ERS	L2VPN	Global
4.	EVS	L2VPN	Global
5.	FR_CE_DLCl	L2VPN	MPLS Policy
6.	FR_NoCE_Port	L2VPN	L2VPN Policy
7.	me	L2VPN	VPLS Policy customer1
8.	qosme	Ethernet QoS	QoS Policy customer1
9.	static test	L2VPN	IPsec Policy

Rows per page: Go to page: of 1

- Step 3** From the **Create** drop-down list, choose **MPLS Policy**.

The MPLS Policy Editor - Policy Type window appears, as shown in [Figure 7-18](#).

Figure 7-18 MPLS Policy Editor - Policy Type

Attribute	Value
Policy Name *	mpls-pe-noce
Policy Owner:	☒ Customer ☐ Provider ☐ Global Policy
Customer *	CUST-A Select
Policy Type:	☒ Regular: PE-CE ☐ MVRFC: PE-CE
CE Present:	☐

Note: * - Required Field

- Step 4** Edit the following attributes:
- **Policy Name:** Enter the *policy name*.
 - **Policy Owner:** Choose the Policy Owner.
 - **Customer:** See [Step 5](#).
 - **Policy Type:** Choose the Policy Type.
 - **CE Present:** *Do not choose* CE Present.

- Step 5** Click **Select** to specify a Customer.
- The Customer for MPLS Policy window appears, as shown in [Figure 7-19](#).

Figure 7-19 Customer for MPLS Policy

Customer for MPLS policy ownership

Show Customers with Customer Name matching * Find

Showing 1-2 of 2 records

#	Select	Name
1.	☒	CUST-A
2.	☐	CUST-B

Rows per page: 10 Go to page: 1 of 1 Go

Select Cancel

- Step 6** Choose a customer and click **Select**.

- Step 7** Click **Next**.

The MPLS Policy Editor - Interface window appears, as shown in [Figure 7-20](#).

Figure 7-20 *The MPLS Policy Editor - Interface*

MPLS Policy Editor - Interface

Attribute	Value	Editable
Reset all Attribute editable flags:		☒
PE Information		
Interface Type:	ANY	
Interface Format:		
Interface Description:		☒
Shutdown Interface:	☐	☒
Auto-Pick VLAN ID:	☐	☒
Link Speed:	None	☒
Link Duplex:	None	☒
ETTH Support:	☐	☒

Step 8 Click **Next** to accept the defaults.

**Note**

Make sure the Editable check boxes are checked, so you can edit these attributes in the Service Request process.

The MPLS Policy Editor - IP Address Scheme window appears, as shown in [Figure 7-21](#).

Figure 7-21 *The MPLS Policy Editor - IP Address Scheme*

MPLS Policy Editor - IP Address Scheme

Attribute	Value	Editable
PE-CE Interface Addresses/Mask		
IP Numbering Scheme:	IP Numbered	☒
Automatically Assign IP Addresses:	☒	☒
IP Address Pool:	Region Pool	☒

Step 9 Edit the following attributes:

- **IP Numbering Scheme:** Choose the IP Numbering Scheme.
- **Automatically Assign IP Address:** To have ISC automatically assign IP Addresses, click the check box.
- **IP Address Pool:** Choose the IP Address Pool.
- Click **Next**.

Step 10 Click **Next**.

The MPLS Policy Editor - Routing Information window appears, as shown in [Figure 7-22](#).

Figure 7-22 The MPLS Policy Editor - Routing Information

MPLS Policy Editor - Routing Information

Attribute	Value	Editable
PE-CE Routing Information		
Routing Protocol	STATIC	☒
CsC Support:	☐	☒
Give Only Default Routes to CE:	☐	☒
Redistribute Connected (BGP only):	☐	☒
Default Information Originate (BGP only):	☐	☒

Step 11 Click **Next** to accept the defaults.

**Note**

Make sure the Editable check boxes are checked, so you can edit these attributes in the Service Request process.

The MPLS Policy Editor - VRF and VPN Membership window appears, as shown in [Figure 7-23](#).

Figure 7-23 The MPLS Policy Editor - VRF and VPN Membership

MPLS Policy Editor - VRF and VPN Membership

Attribute	Value	Editable
VRF Information		
Export Map:		☒
Import Map:		☒
Maximum Routes:	(1-4294967295)	☒
Maximum Route Threshold:	80 (1-100)	☒
VRF Description:		☒
Allocate new route distinguisher:	☐	☒
VRF And RD Overwrite	☐	☒
Template Association		
Template Enable:	☐	
VPN Selection		
PE VPN Membership:		☒

Select Customer VPN Provider CERC Is Hub

Add Delete

- Step 5 of 5 -

< Back Next > Finish Cancel

Step 12 Accept the default attributes and choose **Finish**.

The Policies window reappears, as shown in [Figure 7-24](#).

Figure 7-24 Policies

Policies

Show Policies with matching of type

Showing 1-2 of 2 records

#	☐	Policy Name	Service	Owner
1.	☒	mpls-pe-ce	MPLS	Customer - CUST-A
2.	☐	mpls-pe-noce	MPLS	Customer - CUST-A

Rows per page: Go to page: of 1

The MPLS VPN PE-NoCE Service Policy is complete.

Creating MPLS VPN PE-CE Service Requests

This section contains the following sections:

- [Creating a PE-CE Service Request, page 7-14](#)
- [Creating a PE-NoCE Service Request, page 7-21](#)

Creating a PE-CE Service Request

To create a PE-CE Service Request, follow these steps:

- Step 1** Log in to ISC.
- Step 2** Go to **Service Inventory > Inventory and Connection Manager > Service Requests**.
The Service Requests window appears, as shown in [Figure 7-25](#).

Figure 7-25 Service Requests

Service Requests

Show Services with matching of type

Showing 1-1 of 1 records

#	☒	Job ID	State	Type	Operation Type	Creator	Customer Name	Policy Name	Last Modified	Description
1.	☒	1	DEPLOYED	MPLS	ADD	admin	CUST-A	mpls-pe-ce	10/10/03 4:26 PM	ce2-sw1-sw2-pe2

Rows per page: Go to page: of 1

Auto Refresh: ☒

MPLS VPN

- Step 3** From the **Create** drop-down list, choose **MPLS VPN**.
The Select MPLS Policy window appears, as shown in [Figure 7-26](#).

Figure 7-26 Choose MPLS Policy

Select MPLS Policy

Show MPLS policies with matching

Showing 1-5 of 5 records

#	Select	Policy Name	Policy Owner
1.	☐	mpls-mgmt	Customer - CUST-A
2.	☐	mpls-mvrfce-pe-ce	Customer - CUST-A
3.	☐	mpls-mvrfce-pe-noce	Customer - CUST-A
4.	☒	mpls-pe-ce	Customer - CUST-A
5.	☐	mpls-pe-noce	Customer - CUST-A

Rows per page:

101623

Step 4 Choose the MPLS Policy. (**mpls-pe-ce**)

Step 5 Click **OK**.

The MPLS Service Request Editor window appears, as shown in [Figure 7-27](#).

Figure 7-27 MPLS Service Request Editor

MPLS Service Request Editor

Job ID: _____ SR ID: _____ SR State: _____

Policy:

Customer:

Description:

Showing 0 of 0 records

#	☐	Link ID	CE	CE Interface	PE	PE Interface	Link Attribute	Logical Link
---	--------------------------	---------	----	--------------	----	--------------	----------------	--------------

Rows per page:

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Step 6 Click **Add Link**.

The MPLS Service Request Editor window appears, as shown in [Figure 7-28](#).

Figure 7-28 MPLS Service Request Editor - Select CE

MPLS Service Request Editor

Job ID: SR ID: SR State:

Policy: POL1

Customer: CUST1

Description:

Showing 1 - 1 of 1 record

#	☐	Link ID	CE	CE Interface	PE	PE Interface	Link Attribute	Logical Link
1.	☐	0	Select CE		Select PE		Add	N/A

Rows per page: Go to page: of 1

Step 7 Click **Select CE**.

The CPE for MPLS VPN Link window appears, as shown in [Figure 7-29](#).

Figure 7-29 CPE for MPLS VPN Link

Select CPE Device - Microsoft Internet Explorer

Show CPEs with Matching

Showing 1 - 4 of 4 records

#		Device Name	Customer Name	Site Name	Management Type
1.	☐	mlce7	Customer1	SF	Managed
2.	☐	mlce11	Customer1	NY	Managed
3.	☐	mlce6	Customer1	SF	Managed
4.	☐	mlce10	Customer1	NY	Managed

Rows per page: Go to page: of 1

Step 8 Choose the CPE device and click **Select**.

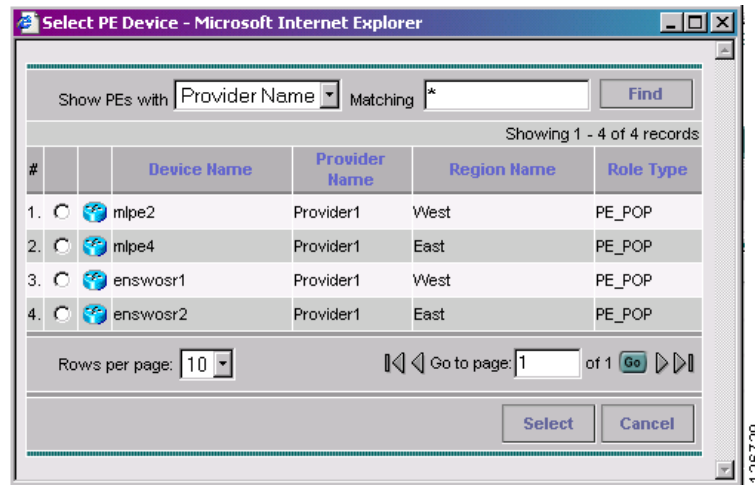
The MPLS Service Request Editor window appears.

Step 9 Choose the CE Interface from the drop-down box.

The MPLS Service Request Editor window appears.

Step 10 Click **Select PE**.

The PE for MPLS VPN Link window appears, as shown in [Figure 7-30](#).

Figure 7-30 PE for MPLS VPN Link

Step 11 Choose the PE device and click **Select**.

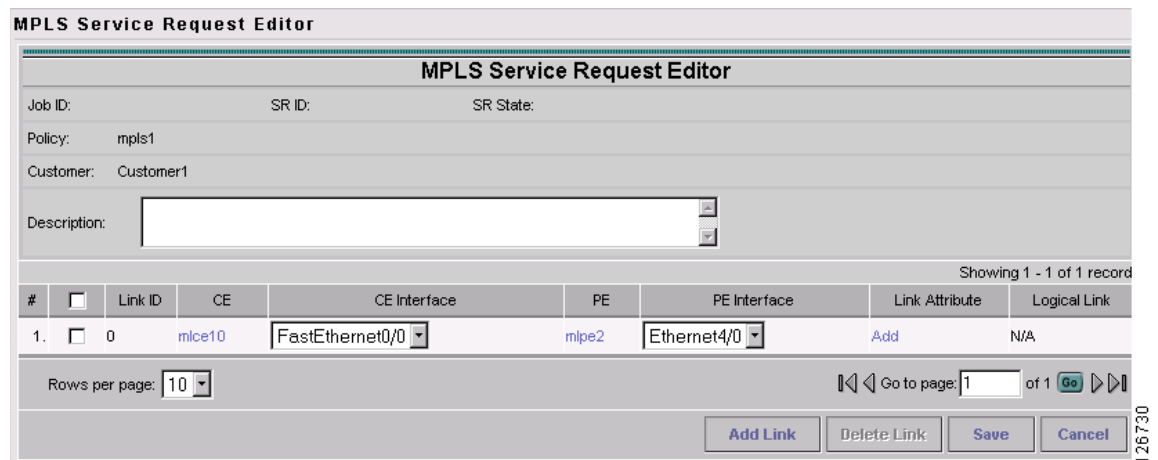
The MPLS Service Request Editor window appears.

Step 12 Choose the PE Interface from the drop-down box.

The MPLS Service Request Editor window appears.

Step 13 Click **Select PE**.

The PE for MPLS VPN Link window appears, as shown in [Figure 7-31](#).

Figure 7-31 MPLS Service Request Editor

Step 14 Click **Add** in the Link Attribute cell.

The MPLS Link Attribute Editor - Interface window appears, as shown in [Figure 7-32](#).

Figure 7-32 MPLS Link Attribute Editor - Interface

MPLS Link Attribute Editor - Interface

Attribute	Value
PE Information	
PE	enswosr2
Interface Name:	POS7/1.
Interface Description:	
Shutdown Interface:	☒
Encapsulation:	FRAME_RELAY
DLCI*:	100 (16-1007)
CE Information	
CE	enswosr1
Interface Name:	POS7/1.
Interface Description:	
Encapsulation:	FRAME_RELAY
DLCI*:	100 (16-1007)

Note: * - Required Field

Step 1 of 5 -

< Back Next > Finish Cancel

PE Information

Step 15 Encapsulation: Choose the PE Encapsulation from the drop-down box.

Step 16 DLCI: Enter the *CE DLCI*. (100)

CE Information

Step 17 Encapsulation: Choose the PE Encapsulation from the drop-down box.

Step 18 DLCI: Enter the *PE DLCI*. (100)

Step 19 Click **Next**.

The MPLS Link Attribute Editor - IP Address Scheme window appears, as shown in [Figure 7-33](#).

Figure 7-33 MPLS Link Attribute Editor - IP Address Scheme

MPLS Link Attribute Editor - IP Address Scheme

Attribute	Value
PE-CE Interface Addresses/Mask	
IP Numbering Scheme:	IP Numbered
Extra CE Loopback Required:	☐
Automatically Assign IP Addresses:	☒
IP Address Pool:	Region Pool

Note: * - Required Field

Step 20 Accept the defaults and click **Next**.

The MPLS Link Attribute Editor - Routing Information window reappears, as shown in [Figure 7-34](#).

Figure 7-34 MPLS Link Attribute Editor - Routing Information

MPLS Link Attribute Editor - Routing Information

Attribute	Value
PE-CE Routing Information	
Routing Protocol	STATIC
CsC Support:	☐
Give Only Default Routes to CE:	☐
Redistribute Connected (BGP only):	☐
Default Information Originate (BGP only):	☐
Advertised Routes for CE:	Edit
Routes To Reach Other Sites:	Edit

Note: * - Required Field

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Step 21 Accept the defaults and click **Next**.

The MPLS Link Attribute Editor - VRF and VPN window appears, as shown in [Figure 7-35](#).

Figure 7-35 MPLS Link Attribute Editor - VRF and VPN

MPLS Link Attribute Editor - VRF and VPN

Attribute	Value
VRF Information	
Export Map:	
Import Map:	
Maximum Routes:	(1-4294967295)
Maximum Route Threshold *:	80 (1-100)
VRF Description:	
Allocate new route distinguisher:	☐
VRF And RD Overwrite	☐
VPN Selection	
PE VPN Membership *:	
Select	Customer VPN Provider CERC Is Hub
Add Delete	

Note: * - Required Field

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Step 22 Click **Add** to join VPN. The Select CERCs window appears as show in [Figure 7-36](#).

Figure 7-36 *Select CERCs Window*

Customer: VPN:

Showing 1 - 1 of 1 record

#	☐	Customer	VPN	Provider	CERC	Topology
1.	☐	Customer1	mpls1	Provider1	cerc1	Hub and Spoke

Rows per page: Go to page: of 1

- Step 23** Choose a customer from the drop-down list.
- Step 24** Choose a VPN from the drop-down list.
- Step 25** Choose a VPN from the list.
- Step 26** Click **Join As Hub** or **Join As Spoke**.
- Step 27** Click **Done**. The MPLS Link Attribute Editor - VRF and VPN window reappears, as shown in [Figure 7-37](#).

Figure 7-37 *MPLS Service Request Editor*

MPLS Policy Editor - VRF and VPN Membership

Attribute	Value	Editable
VRF Information		
Export Map:		☒
Import Map:		☒
Maximum Routes:	(1-4294967295)	☒
Maximum Route Threshold:	80 (1-100)	☒
VRF Description:		☒
Allocate New Route Distinguisher:	☐	☒
VRF And RD Overwrite:	☐	☒
Template Association		
Template Enable:	☐	
VPN Selection		
PE VPN Membership:		☒

Select	Customer	VPN	Provider	CERC	Is Hub
☐	Customer1	mpls1	Provider1	cerc1	☒

Step 5 of 5 -

- Step 28** Click **Finish**.
- The MPLS Service Request Editor window reappears, as shown in [Figure 7-38](#).

Figure 7-38 MPLS Service Request Editor

MPLS Service Request Editor

Job ID: 14 SR ID: 14 SR State: REQUESTED

Policy: mpls1

Customer: Customer1

Description:

Showing 1 - 1 of 1 record

#	☐	Link ID	CE	CE Interface	PE	PE Interface	Link Attribute	Logical Link
1.	☐	25	enswosr1	POS7/1	enswosr2	POS7/2	Edited	N/A

Rows per page: 10

Go to page: 1 of 1

Step 29 Enter the Service Request *description* and click **Save**. (**mpls-pe-ce**)

The MPLS Service Requests window reappears, as shown in [Figure 7-39](#).

Figure 7-39 Service Request

Service Requests

Show Services with matching of type

Showing 1-2 of 2 records

#	☐	Job ID	State	Type	Operation Type	Creator	Customer Name	Policy Name	Last Modified	Description
1.	☐	1	DEPLOYED	MPLS	ADD	admin	CUST-A	mpls-pe-ce	10/10/03 4:26 PM	ce2-sw1-sw2-pe2
2.	☐	2	REQUESTED	MPLS	ADD	admin	CUST-A	mpls-pe-ce	10/12/03 12:46 AM	mpls-pe-ce

Rows per page: 10

Go to page: 1 of 1

Auto Refresh: ☒

The MPLS VPN PE-CE Service Request is in the Requested state and ready to deploy.

Creating a PE-NoCE Service Request

To create a PE-NoCE Service Request, follow these steps:

- Step 1** Log in to ISC.
- Step 2** Go to **Service Inventory > Inventory and Connection Manager > Service Requests**.

The Service Requests window appears, as shown in [Figure 7-40](#).

Figure 7-40 Service Requests

Service Requests

Show Services with Job ID matching * of type All Find

Showing 0 of 0 records

#	Job ID	State	Type	Operation Type	Creator	Customer Name	Policy Name	Last Modified	Description
---	--------	-------	------	----------------	---------	---------------	-------------	---------------	-------------

Rows per page: 10 Go to page: 1 of 0 Go

Auto Refresh: ☒ Create Details Edit Deploy Decommission Purge

MPLS VPN

- Step 3** From the **Create** drop-down list, choose **MPLS VPN**.
The Select MPLS Policy window appears, as shown in [Figure 7-41](#).

Figure 7-41 Select MPLS Policy

Select MPLS Policy

Show MPLS policies with Policy Name matching * Find

Showing 1-5 of 5 records

#	Select	Policy Name	Policy Owner
1.	☐	mpls-mgmt	Customer - CUST-A
2.	☐	mpls-mvrfee-pe-ce	Customer - CUST-A
3.	☐	mpls-mvrfee-pe-noce	Customer - CUST-A
4.	☐	mpls-pe-ce	Customer - CUST-A
5.	☒	mpls-pe-noce	Customer - CUST-A

Rows per page: 10 Go to page: 1 of 1 Go

OK Cancel

- Step 4** Choose the MPLS Policy.
- Step 5** Click **OK**.
The MPLS Service Request Editor window appears, as shown in [Figure 7-42](#).

Figure 7-42 *MPLS Service Request Editor*

MPLS Service Request Editor

Job ID: SR ID: SR State:

Policy: mpls-pe-nocce

Customer: Customer1

Description:

Showing 0 of 0 records

#	☐	Link ID	CLE	CLE Interface	PE	PE Interface	Link Attribute	Logical Link
Rows per page: 10 Go to page: 1 of 1 Go 								
Add Link Delete Link Save Cancel								

Step 6 Click **Add Link**.

The MPLS Service Request Editor window appears, as shown in [Figure 7-43](#).

Figure 7-43 *MPLS Service Request Editor - Select CE*

MPLS Service Request Editor

Job ID: SR ID: SR State:

Policy: mpls-pe-nocce

Customer: Customer1

Description:

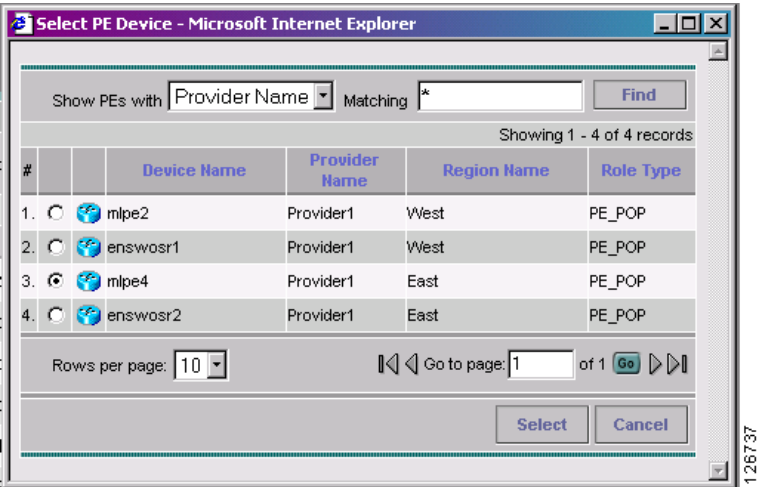
Showing 1 - 1 of 1 record

#	☐	Link ID	CLE	CLE Interface	PE	PE Interface	Link Attribute	Logical Link
1.	☐	0	Select CLE		Select PE		Add	N/A
Rows per page: 10 Go to page: 1 of 1 Go 								
Add Link Delete Link Save Cancel								

Step 7 Click **Select PE**.

The PE for MPLS VPN Link window appears, as shown in [Figure 7-44](#).

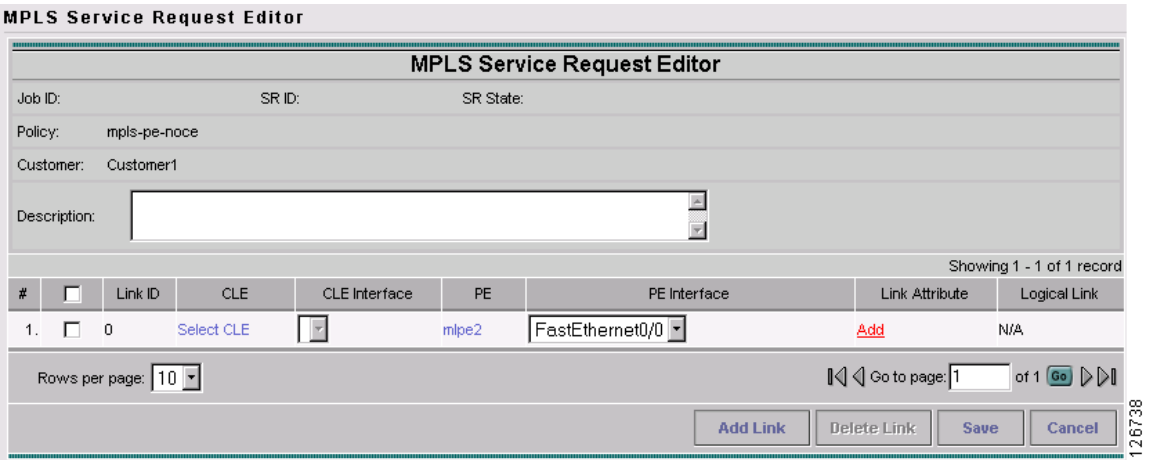
Figure 7-44 PE for MPLS VPN Link



Step 8 Choose the PE device and click **Select**.
The MPLS Service Request Editor window appears.

Step 9 Choose the PE Interface from the drop-down box.
The MPLS Service Request Editor window appears, as shown in Figure 7-45.

Figure 7-45 MPLS Service Request Editor



Step 10 Click **Add** in the Link Attribute cell.
The MPLS Link Attribute Editor - Interface window appears, as shown in Figure 7-46.

Figure 7-46 MPLS Link Attribute Editor - Interface

MPLS Link Attribute Editor - Interface

Attribute	Value
PE Information	
PE	mlpe2
Interface Name:	FastEthernet0/0.
Interface Description:	
Shutdown Interface:	☐
CE Encapsulation: ⓘ	DOT1Q ▾
VLAN ID *:	(1-4095)
Auto-Pick VLAN ID:	☐
Link Speed:	None ▾
Link Duplex:	None ▾

Note: * - Required Field

Step 11 Choose the CE Encapsulation from the drop-down list. (**DOT1Q**)



Note This field is needed for deciding PE/UNI encapsulation.

Step 12 Click **Next**.

The MPLS Link Attribute Editor - IP Address Scheme window appears, as shown in [Figure 7-47](#).

Figure 7-47 MPLS Link Attribute Editor - IP Address Scheme

MPLS Link Attribute Editor - IP Address Scheme

Attribute	Value
PE-CE Interface Addresses/Mask	
IP Numbering Scheme:	IP Numbered ▾
Automatically Assign IP Addresses:	☒
IP Address Pool:	Region Pool ▾

Note: * - Required Field

Step 13 Accept the defaults and click **Next**.

The MPLS Link Attribute Editor - Routing Information window reappears, as shown in [Figure 7-48](#).

Figure 7-48 *MPLS Link Attribute Editor - Routing Information*

MPLS Link Attribute Editor - Routing Information

Attribute	Value
PE-CE Routing Information	
Routing Protocol	STATIC
CsC Support:	☐
Give Only Default Routes to CE:	☐
Redistribute Connected (BGP only):	☐
Default Information Originate (BGP only):	☐
Advertised Routes for CE:	Edit
Routes To Reach Other Sites:	Edit

Note: * - Required Field

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Step 14 Accept the defaults and click **Next**.

The MPLS Link Attribute Editor - VRF and VPN window reappears, as shown in [Figure 7-49](#).

Figure 7-49 *MPLS Link Attribute Editor - VRF and VPN*

MPLS Link Attribute Editor - VRF and VPN

Attribute	Value
VRF Information	
Export Map:	
Import Map:	
Maximum Routes:	(1-4294967295)
Maximum Route Threshold *	80 (1-100)
VRF Description:	
Allocate new route distinguisher:	☐
VRF And RD Overwrite	☐
VPN Selection	
PE VPN Membership *	
Select	Customer VPN Provider CERC Is Hub
Add Delete	

Note: * - Required Field

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Click **Add** to join the VPN.

The Join VPN dialog box appears, as shown in [Figure 7-50](#).

Figure 7-50 MPLS Service Request Editor

Customer: VPN:

Showing 1-1 of 1 records

#	☒	Customer	VPN	Provider	CERC	Topology
1.	☒	CUST-A	east-xVPN	PROVIDER-X	Default	Hub and Spoke

Rows per page: Go to page: of 1

Step 15 Click the check box to choose the VPN. (**Cust-A east-xVPN**)

Step 16 Click Join as Hub or Join as Spoke. (**Join as Spoke**)

Click **Done**.

The MPLS Service Request Editor window reappears, as shown in [Figure 7-51](#).

Figure 7-51 MPLS Service Request Editor

MPLS Link Attribute Editor - VRF and VPN

Attribute	Value
VRF Information	
Export Map:	
Import Map:	
Maximum Routes:	1-4294967295
Maximum Route Threshold *:	80 (1-100)
VRF Description:	
Allocate new route distinguisher:	☐
VRF And RD Overwrite	☐
VPN Selection	
PE VPN Membership *	
Select	Customer
☐	CUST-A
VPN	east-xVPN
Provider	PROVIDER-X
CERC	Default
Is Hub	☐
Add Delete	

Note: * - Required Field

- Step 4 of 4 -

Step 17 Click **Finish**.

The MPLS Service Requests Editor window reappears, as shown in [Figure 7-52](#).

Figure 7-52 MPLS Service Request Editor

MPLS Service Request Editor

Job ID:

SR ID:

SR State:

Policy:

mpls-pe-noce

Customer:

Customer1

Description:

Showing 1 - 1 of 1 record

#	☐	Link ID	CLE	CLE Interface	PE	PE Interface	Link Attribute	Logical Link
1.	☐	0	Select CLE	☐	m1pe2	FastEthernet0/0	Edited	N/A

Rows per page: 10

Go to page: 1 of 1

Add Link

Delete Link

Save

Cancel

Step 18 Enter the Service Request *description* and click **Save**. (mpls-pe-noce)
The MPLS Service Requests window reappears, as shown in Figure 7-53.

Figure 7-53 Service Request

You Are Here: Service Inventory > Inventory and Connection Manager > Service Requests

Customer: None

Service Requests

Show Services with Job ID Matching * of Type All Find

Showing 1 - 9 of 9 records

#	☐	Job ID	State	Type	Operation Type	Creator	Customer Name	Policy Name	Last Modified	Description
1.	☐	1	DEPLOYED	L2VPN	ADD	SD	Customer1	FR_CE_DLCl	9/22/04 11:20 AM	FR DLCl 51
2.	☐	2	DEPLOYED	L2VPN	MODIFY	SD	Customer1	ATM_CE_VC	9/22/04 11:32 AM	ATM VC 48
3.	☐	4	DEPLOYED	L2VPN	ADD	SD	Customer1	FR_NoCE_Port	9/22/04 11:36 AM	FR port
4.	☐	5	DEPLOYED	L2VPN	ADD	SD	Customer1	ATM_NoCE_VP	9/22/04 11:39 AM	ATM VP
5.	☐	6	REQUESTED	L2VPN	MODIFY	admin	Customer1	ERS	12/1/04 5:34 PM	ERS
6.	☐	8	DEPLOYED	L2VPN	MODIFY	SD	Customer1	EWS	9/28/04 10:11 AM	EWS
7.	☐	13	REQUESTED	QoS	ADD	admin	Customer1	qsme	11/5/04 10:37 AM	
8.	☐	14	REQUESTED	MPLS	ADD	admin	Customer1	mpls1	12/1/04 5:19 PM	
9.	☐	16	REQUESTED	MPLS	ADD	admin	Customer1	mpls-pe-noce	12/2/04 3:12 PM	

Rows per page: 10

Go to page: 1 of 1

Auto Refresh: ☒

Create

Details

Edit

Deploy

Decommission

Purge

Status

Operation: Create MPLS SR

Status: ☒ Succeeded

The MPLS VPN PE-NoCE Service Request is ready to deploy.