CHAPTER 15

Managing a VPLS Service Request

This chapter contains the basic steps to provision a VPLS service. It contains the following sections:

Introducing VPLS Service Requests

A VPLS service request consists of one or more attachment circuits, connecting various sites in a multipoint topology. When you create a service request, you enter several parameters, including the specific interfaces on the CE and PE routers and UNI parameters. You can also integrate a Prime Fulfillment template with a service request. You can associate one or more templates to the CE, PE, or any U-PE in the middle.

To create a service request, a service policy must already be defined, as described in Chapter 14, "Creating a VPLS Policy." Based on the predefined VPLS policy, an operator creates a VPLS service request, with or without modifications to the VPLS policy, and deploys the service. The service request must be the same service type (ERMS/EVP-LAN or EMS/EP-LAN) as the policy selected. Service creation and deployment are normally performed by regular network technicians for daily operation of network provisioning.

The following steps are involved in creating a service request for Layer 2 connectivity between customer sites:

- Choose a VPLS policy.
- Choose a VPN. For more information, see Defining VPNs, page 7-4.
- Add a link.
- Choose a CE or UNI interface.
- Choose a Named Physical Circuit (NPC) if more than one NPC exists from the CE or the UNI interface.
- Edit the link attributes.

For sample configlets for VPLS scenarios, see Chapter 18, "Sample Configlets."

Creating a VPLS Service Request

To create a VPLS service request, perform the following steps.

Step 1 Choose **Operate > Service Requests > Service Request Manager**.

The Service Requests Manager window appears.

Step 2 Click **Create**.

Step 3 Choose **VPLS** from the drop-down list.

VPLS service requests must be associated with a VPLS policy. You choose a VPLS policy from the policies previously created (see Chapter 15, "Managing a VPLS Service Request").

Step 4 If more than one VPLS policy exists, a list of VPLS policies appears.

Step 5 When you make the choice, click **OK**.

The new service request inherits all the properties of that VPLS policy, such as all the editable and noneditable features and preset parameters.

To continue creating a VPLS service request, go to one of the following sections:

- Creating a VPLS Service Request with a CE, page 15-2.
- Creating a VPLS Service Request without a CE, page 15-4.

Creating a VPLS Service Request with a CE

This section includes detailed steps for creating a VPLS service request with a CE present. In this example, the service request is for an VPLS policy over an MPLS core with an ERMS (EVP-LAN) service type and CE present.

Perform the following steps.

Step 1 Choose the appropriate VPLS policy.

The Edit VPLS Link window appears.

Step 2 Click **Select VPN** to choose a VPN for use with this CE.

The Select VPN window appears with the VPNs defined in the system. Only VPNs with the same service type (ERMS/EVP-LAN or EMS/EP-LAN) as the policy you chose appear.

Note The VC ID is mapped from the VPN ID. By default, Prime Fulfillment will "auto pick" this value. However, you can set this manually, if desired. This is done by editing the associated VPN configuration. The Edit VPN window has an **Enable VPLS** check box. When you check this check box, you can manually enter a VPN ID in a field provided. For more information on creating and modifying VPNs, see Chapter 3, "Setting Up Logical Inventory."

Step 3 Choose a **VPN Name** in the Select column.

Step 4 Click **Select**.

The Edit VPLS Link window appears with the VPN name displayed.

Step 5 Click **Add Link**.

The window updates, allowing you specify the CE endpoints.

Step 6 You can enter a description for the service request in the **Description** field.

The description will show up in this window and also in the Description column of the VPLS Service Requests window. The maximum length for this field is 256 characters.

Step 7 Click **Select CE** in the CE column.

The Select CPE Device window appears.

This window displays the list of currently defined CEs.

a. From the **Show CPEs with** drop-down list, you can display CEs by Customer Name, by Site, or by Device Name.

b. You can use the **Find** button to either search for a specific CE, or to refresh the display.

c. You can set the **Rows per page** to 5, 10, 20, 30, 40, or All.

Step 8 In the Select column, choose a CE for the VPLS link.

Step 9 Click **Select**.

The Edit VPLS Link window appears displaying the name of the selected CE in the CE column.

Step 10 Choose the CE interface from the drop-down list.

Note When you provision an ERMS (EVP-LAN) service (and when you choose a UNI for a particular device), Prime Fulfillment determines if there are other services using the same UNI. If so, a warning message is displayed. If you ignore the message and save the service request, all of the underlying service requests lying on the same UNI are synchronized with the modified shared attributes of the latest service request. In addition, the state of the existing service requests is changed to the Requested state.

Step 11 Click **Select one circuit** in the Circuit Selection column.

The Select NPC window appears. If only one NPC exists for the chosen CE and CE interface, that NPC is automatically populated in the Circuit Selection column and you need not choose it explicitly.

Step 12 Choose the name of the NPC from the Select column.

Step 13 Click **OK**.

Each time you choose a CE and its interface, the NPC that was precreated from this CE and interface is automatically displayed under **Circuit Selection**. This means that you do not have to further specify the PE to complete the link.

Step 14 If you want to review the details of this NPC, click **Circuit Details** in the Circuit Details column.

The NPC Details window appears and lists the circuit details for this NPC.

Step 15 The Circuit ID is created automatically, based on the VLAN data for the circuit.

Step 16 To edit values that were set by the VPLS policy, that is, the values that were marked “editable” during the VPLS policy creation, click the **Edit** link in the Link Attributes column for a link.

The Edit VPLS window appears.

Note For more information on setting attributes in this window, see Modifying the VPLS Service Request, page 15-6.

Note For information on the Bridge Domain ID attribute, which shows up in some VPLS service request scenarios, see Modifying the VPLS Service Request, page 15-6.

Step 17 Continue to specify additional CEs, as in previous steps, if desired.

Step 18 Click **OK**.

Step 19 Click **Save**.

The service request is created and saved into Prime Fulfillment.

Creating a VPLS Service Request without a CE

This section includes detailed steps for creating a VPLS service request without a CE present. In this example, the service request is for an VPLS policy over an MPLS core with an EMS (EP-LAN) service type and no CE present.

Perform the following steps.

Step 1 Choose the appropriate VPLS policy.

The Edit VPLS Link window appears.

Step 2 Click **Select VPN** to choose a VPN for use with this PE.

The Select VPN window appears with the VPNs defined in the system. Only VPNs with the same service type (ERMS/EVP-LAN or EMS/EP-LAN) as the policy you chose appear.

Note The VC ID is mapped from the VPN ID. By default, Prime Fulfillment will "auto pick" this value. However, you can set this manually, if desired. This is done by editing the associated VPN configuration. The Edit VPN window has an **Enable VPLS** check box. When you check this check box, you can manually enter a VPN ID in a field provided. For more information on creating and modifying VPNs, see Chapter 3, "Setting Up Logical Inventory."

Step 3 Choose a **VPN Name** in the Select column.

Step 4 Click **Select**.

The Edit VPLS Link window appears with the VPN name displayed.

Step 5 Click **Add Link**.

The Edit VPLS Link window updates, allowing you specify the U-PE/PE-AGG/U-PE endpoints. You can add one or more links in the window.

Step 6 You can enter a description for the service request in the first **Description** field.

The description will show up in this window and also in the Description column of the VPLS Service Requests window. The maximum length for this field is 256 characters.

Step 7 Click **Select N-PE/PE-AGG/U-PE** in the N-PE/PE-AGG/U-PE column.

The Select PE Device window appears.

This window displays the list of currently defined PEs.

a. The **Show PEs with** drop-down list shows PEs by customer name, by site, or by device name.

b. The **Find** button allows a search for a specific PE or a refresh of the window.

c. The **Rows per page** drop-down list allows the page to be set to 5, 10, 20, 30, 40, or All.

Step 8 In the **Select** column, choose the PE device name for the VPLS link.

Step 9 Click **Select**.

The Edit VPLS Link window appears displaying the name of the selected N-PE/PE-AGG/U-PE in the N-PE/PE-AGG/U-PE column

Step 10 Choose the UNI interface from the drop-down list.

Note When you provision an ERMS (EVP-LAN) service (and when you choose a UNI for a particular device), Prime Fulfillment determines if there are other services using the same UNI. If so, a warning message is displayed. If you ignore the message and save the service request, all of the underlying service requests lying on the same UNI are synchronized with the modified shared attributes of the latest service request. In addition, the state of the existing service requests is changed to the Requested state.

Step 11 If the PE role type is U-PE, click **Select one circuit** in the Circuit Selection column.

The Select NPC window appears. If only one NPC exists for the chosen PE and PE interface, that NPC is automatically populated in the Circuit Selection column and you need not choose it explicitly.

Note If the PE role type is N-PE, the columns Circuit Selection and Circuit Details are disabled.

Step 12 Choose the name of the NPC from the **Select** column.

Step 13 Click **OK**.

Each time you choose a PE and its interface, the NPC that was precreated from this PE and interface is automatically displayed under **Circuit Selection**. This means that you do not have to further specify the PE to complete the link.

Step 14 If you want to review the details of this NPC, click **Circuit Details** in the Circuit Details column.

The NPC Details window appears and lists the circuit details for this NPC.

The Circuit ID is created automatically, based on the VLAN data for the circuit.

Step 15 To edit values that were set by the VPLS policy, that is, the values that were marked “editable” during the VPLS policy creation, click the **Edit** link in the Link Attributes column for a link.

Note For more information on setting attributes in this window, see Modifying the VPLS Service Request, page 15-6.

Note For information on the Bridge Domain ID attribute, which shows up in some VPLS service request scenarios, see Modifying the VPLS Service Request, page 15-6.

Step 16 Continue to specify additional PEs, as in previous steps, if desired.

Step 17 Click **Save**.

The VPLS service request is created and saved into Prime Fulfillment.

Modifying the VPLS Service Request

You can modify a VPLS service request if you must change or modify the VPLS links. This is also where you can associate templates and data files to a link.

Perform the following steps.

Step 1 Choose **Operate > Service Requests > Service Request Manager**.

Step 2 Check a check box for a service request.

Step 3 Click **Edit**.

The Edit VPLS Link window appears.

Step 4 Specify items in the window as necessary for your configuration:

- Choose any of the blue highlighted values to edit the VPLS links.
- Click **Add Link** to add a VPLS link.
- Click **Delete Link** to delete a VPLS link.

Note If you are attempting to decommission a service request to which a template has been added, see Decommissioning Service Requests, page 47-12, for information on the proper way to do this.

- You can enter a description for the service request in the first **Description** field. The description will show up in this window and also in the Description column of the Service Requests window. The maximum length for this field is 256 characters.
- The Circuit ID is created automatically, based on the VLAN data for the circuit.

Step 5 To modify the link attributes, click **Edit** in the Link Attributes column as shown in the VPLS link editor.

The Edit VPLS window appears.

Step 6 Edit the link attributes as desired.

Note If you did not choose **VLANI D AutoPick** in the VPLS policy, you are prompted to provide the VLAN in a **Provider VLAN ID** field.

Note For information on the Bridge Domain ID attribute, which shows up in some VPLS service request scenarios, see Modifying the VPLS Service Request, page 15-6.

Step 7 To add a template and data file to a link, choose a Device Name, and click the **Add** link in the Templates column.

The Add/Remove Templates window appears.

Note To add a template to a link, you must have already created the template. For detailed steps to create templates, see Chapter 48, "Overview of Templates and Data Files." For more information on how to use templates and data files in service requests, see Chapter 49, "Using Templates and Data Files with Policies and Service Requests."

Step 8 Click **Add**.

The Template Data File Chooser window appears.

Step 9 In the left pane, navigate to and select a template.

The associated data files are listed in rows in the main window.

Step 10 Check the data file that you want to add and click **Accept**.

The Add/Remove Templates window appears with the template displayed.

Step 11 Choose a Template name.

Step 12 Under Action, use the drop-down list and choose **APPEND** or **PREPEND**.

Append tells Prime Fulfillment to append the template generated CLI to the regular Prime Fulfillment (non-template) CLI. Prepend is the reverse and does not append the template to the Prime Fulfillment CLI.

Step 13 Choose Active to use this template for this service request.

If you do not choose Active, the template is not used.

Step 14 Click **OK**.

The Edit VPLS window appears with the template added.

Step 15 Click **OK**.

The Edit VPLS Link window appears.

Step 16 When you are finished editing the VPLS links, click **Save**.

Using the Bridge Domain ID Attribute

The Bridge Domain ID attribute appears in the Link Attributes window of some VPLS service request scenarios.

To use the Bridge Domain ID attribute, enter an ID number in the **Bridge Domain ID** text field to enable bridge domain functionality for the VPLS service request.

Acceptable values are 1 to 4294967295.

Usage notes:

- The Bridge Domain ID attribute is only available for the following service request scenarios:
  - Ethernet/ERMS (EVP-LAN) with a CE
  - Ethernet/ERMS (EVP-LAN) without a CE
  - Ethernet/EMS (EP-LAN) with a CE
  - Ethernet/EMS (EP-LAN) without a CE
- The Bridge Domain ID attribute is only supported for the Cisco GSR 12406 running IOS 12.0(32)SY6 and functioning in an N-PE role. This attribute will show up in a service request only for this platform; otherwise, the attribute will be filtered from the Link Attributes window of the service request.
- The following points apply to service requests based on this policy:
  - When an N-PE (GSR platform) is used as a UNI device, the standard UNI attributes are not displayed in the Link Attributes window of the service request workflow.
  - When a U-PE (non-GSR platform) is used as a UNI device, all standard UNI attributes are displayed in the Link Attributes window of the service request workflow.
  - For VPLS EMS services, a U-PE (non-GSR platform) should be used in the same circuit which is terminating on a GSR device (N-PE). In other words, an NPC circuit should be used to provision VPLS EMS on GSR devices.

Saving the VPLS Service Request

To save a VPLS service request, perform the following steps.

Step 1 When you are finished setting all the attributes for the attachment circuits, click **Save** to finish the VPLS service request creation.

If the VPLS service request is successfully created, you will see a list of service request s in the Service Request Manager window. The newly created VPLS service request is added with the state of REQUESTED.

Step 2 If, however, the VPLS service request creation failed for some reason (for example, a value chosen is out of bounds), you are warned with an error message.

In such a case, you should correct the error and save the service request again.