Cisco Prime Provisioning 7.2 Release Notes

August 14, 2019

All documentation, including this Cisco Prime Provisioning 7.2 Release Notes document and any or all parts of the Cisco Prime Provisioning 7.2 documentation set, might be upgraded over time. Therefore, we recommend you to access the Prime Provisioning 7.2 documentation set online at:

http://www.cisco.com/go/provisioning

You can also navigate to this documentation set by clicking **Help** on the Home Page of the Prime Provisioning 7.2 product.

The information in this release notes provides an overview of this release and helps you understand it at a high level. After reading the *Cisco Prime Provisioning 7.2 Documentation Overview*, please read this release note prior to reading any other documentation for Prime Provisioning 7.2.

URL's for base information about Prime Provisioning 7.2, a product overview, and suggested reading order of these documents is given in Related Documentation, page 21.

Contents

This document includes the following sections:

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Introduction

Prime Provisioning is a management solution for network provisioning that enables the automation and scaling of complex, policy-driven network provisioning tasks to produce consistent and reliable service deployments. Prime Provisioning does this by planning, provisioning, and auditing services across core, aggregation, access, and consumer premises equipment devices.

Cisco Prime Provisioning enables fast deployment and time-to-market of Multiprotocol Label Switching (MPLS) and Carrier Ethernet technologies. In addition, the Prime Provisioning Traffic Engineering Management (TEM) module is Cisco's exclusive planning and provisioning tool for Cisco MPLS Traffic Engineering-enabled routers. MPLS Transport Profile (TP) provides service providers with a reliable packet-based technology that is based upon circuit-based transport networking, and hence is expected to align with current organizational processes and large-scale work procedures similar to other packet transport technologies.

The Cisco Prime Provisioning solution has management capabilities for MPLS VPN, L2VPN and Carrier Ethernet, MPLS TP, and MPLS Traffic Engineering. These capabilities that comprise Cisco Prime Provisioning can be used in a stand-alone manner or can be integrated with the Prime Carrier Management September 2018 suite.

Cisco Prime Provisioning 7.2 includes many new and enhancement features whose highlights are listed below:

- L2 Features
  - Extended EFP-Trunk support for L2EVC
- L3 Features
  - Support for IP address allocation from VPN and Customer pool
  - Support for BVI ID auto-allocation from BVI resource pool

Installing Prime Provisioning 7.2

When purchasing Prime Provisioning you will be prompted to select either delivery by

- eDelivery, in which case you will receive an email with a download link, or physical DVD media

If the version is not the latest, you are advised to upgrade. The latest Prime Provisioning 6.x version can be ordered for download by eDelivery (or DVD shipment) free of charge, provided that you have a Software and Services (SAS) contract. The minor upgrade can be ordered through the Product Upgrade Tool (PUT):
http://tools.cisco.com/gct/Upgrade/jsp/productUpgrade.jsp

Additionally, you are strongly advised to apply the latest available service patch. Prime Provisioning patches are available at
http://software.cisco.com/download/navigator.html?mdfid=284127465&flowid=37682

For information about the installation process, see the *Cisco Prime Provisioning Installation Guide 7.2.*

Installation Notes

After the Patch upgrade, certain host configuration properties are not retained. So, it is advisable to create a backup of all the DCPL settings, by running the following script.

$PRIMEF_HOME/bin/extractproperties.sh

Once you upgrade, run the following script to restore the DCPL settings.

$PRIMEF_HOME/bin/extractproperties.sh -replace

New Features and Enhancements in Prime Provisioning 7.2

This section describes features and enhancements added or modified in Prime Provisioning 7.2.

For system recommendations, refer to the *Cisco Prime Provisioning Installation Guide 7.2,* and for device and platform support, refer to Cisco Prime Provisioning Supported Devices. It includes the network devices and related software supported with Prime Provisioning 7.2. We recommend that you thoroughly review this list before even planning your installation, to be sure you have all the hardware and software needed for a successful installation.

Prime Provisioning 7.2 is based on Cisco Prime Provisioning 7.1.

Prime Provisioning 7.2 includes problems fixed since Cisco Prime Provisioning 7.1. See Prime Provisioning 7.2 Resolved and Open Bugs, page 18.

Note Cisco Prime Provisioning 7.2 is compatible with Cisco Prime Central 2.1 and Cisco Prime Network 5.2. Make sure you upgrade Cisco Prime Central to version 2.1 before upgrading and integrating the current version of Prime Provisioning.

Note

- Prime Provisioning can be used as a standalone product or as a part of Prime Carrier Management September 2018. When installed as part of the suite, you can launch Prime Provisioning from the Prime Central portal. For more information about Prime Central, see the documentation for Cisco Prime Central.
- Cisco Prime for IP Next Generation Networks (IP NGN) has been renamed as Cisco Prime for Evolved Programmable Networks (EPN). Please keep this in mind when viewing the suite and application documentation for the upcoming Cisco Prime Carrier Management release.

Items specific to Prime Provisioning 7.2 include the new and changed information as documented in the following sections:

- Features introduced in Prime Provisioning 6.8.1
  - General Features, page 4
  - L2EVC/TDM-CEM New Features, page 6
  - API New Features, page 8
- Features introduced in Prime Provisioning 6.8.2
  - General Features, page 9
  - L3 Features, page 9
- Features introduced in Prime Provisioning 7.0.
  - L2 EVC Features, page 13
  - L3VPN/MPLS Services Features, page 14
- Features introduced in Prime Provisioning 7.1.

Features Introduced in Prime Provisioning 6.8.1

General Features

This section summarizes the general features that were added in Prime Provisioning 6.8.1.

Supporting NBI for IPv6 Address Pool

From this release, NBI support has been extended for **IPv6 Address** pool. IPv6 Address pool is used by MPLS services while automatically assigning the IPv6 Addresses from the pool.

Below is a sample **NBI XML** highlighting the tags, attributes and values required for creation of a new IPV6 Address pool.

```
<soapenv:Envelope>
   <soapenv:Header>
     <ns0:message id="199" timestamp="2016-07-05T17:15:38.885Z"
sessiontoken="E4DBF8A8E61BF4A77FF8B6106819C433"/>
   </soapenv:Header>
   <soapenv:Body>
    <ns1:createInstance>
      <objectPath xsi:type="ns1:CIMObjectPath">
        <className xsi:type="xsd:string">IPv6AddressPool</className>
        <properties xsi:type="ns1:CIMPropertyList" soapenc:arrayType="ns1:CIMProperty[]">
          <item xsi:type="ns1:CIMProperty">
            <name xsi:type="xsd:string">IPv6AddressPool</name>
            <value xsi:type="xsd:string">2090:588:af23::/110</value>
          </item>
          <item xsi:type="ns1:CIMProperty">
           <name xsi:type="xsd:string">SubnetMask</name>
            <value xsi:type="xsd:string">127</value>
           </item>
           <item xsi:type="ns1:CIMProperty">
             <name xsi:type="xsd:string">Region</name>
             <value xsi:type="xsd:string">Reg_00X</value>
           </item>
         </properties>
       </objectPath>
     </ns1:createInstance>
   </soapenv:Body>
 </soapenv:Envelope>
```

NBI Support for Automatically Assigning the IPv6 Addresses

From this release, Prime Provisioning extended NBI support for automatically assigning the **IPv6 Addresses** for MPLS Services from the pool.

IPv6 Address allocation is supported only for **Regular: PE-CE MPLS** policy and services.

Below are the sample **NBI XML** snippets highlighting the tags, attributes and values required for automatically assigning the **IPv6 Addresses** from the pool during creation/modification of MPLS Policies.

```
<item xsi:type="ns1:CIMProperty">
     <name xsi:type="xsd:string">Auto_Assign_IPv6_Address</name>
     <value xsi:type="xsd:string">true</value>
     <qualifier xsi:type="ns1:CIMQualifier">
       <name xsi:type="xsd:string">editable</name>
       <value xsi:type="xsd:string">true</value>
     </qualifier>
   </item>

   <item xsi:type="ns1:CIMProperty">
     <name xsi:type="xsd:string">IPv6_Address_pool_type</name>
     <value xsi:type="xsd:string">Region Pool</value>
     <qualifier xsi:type="ns1:CIMQualifier">
       <name xsi:type="xsd:string">editable</name>
       <value xsi:type="xsd:string">true</value>
     </qualifier>
   </item>

  <item xsi:type="ns1:CIMProperty">
     <name xsi:type="xsd:string">IPv6_Address_pool_mask</name>
     <value xsi:type="xsd:string">126</value>
     <qualifier xsi:type="ns1:CIMQualifier">
       <name xsi:type="xsd:string">editable</name>
       <value xsi:type="xsd:string">true</value>
     </qualifier>
   </item>
```

Note To create an IPv6 addressing based MPLS-SR via NBI, the Policy must be created with IP numbering scheme as **IPv6 Numbered**.

Deprecating Config Audit Functionality

From this release, Prime Provisioning deprecates the Config Audit functionality.

In Prime Provisioning, whenever an SR is deployed, configlets are pushed into the devices and config audit functionality compares the generated configlet against the one downloaded to the device.

During subsequent modification of SR, config audit only compares the additional/modified configlets which are pushed into the device. This doesn't serve any purpose as it doesn't check whether the initial configlets pushed into the devices are still available and valid.

Config Audit functionality can be reactivated using DCPL properties. If the value of the DCPL property is set to true, Prime Provisioning will not perform config audit. If the value is set to false, Prime Provisioning will perform config audit. The default value of DCPL property is true.

DCPL Path:

```
Provisioning\ProvDrv\DeprecateConfigAudit
```

Note Once the DCPL property is set to false, Prime Provisioning need to be restarted to re-display the Config Audit in the Task Manager.

L2EVC/TDM-CEM New Features

This section summarizes features that were added to enhance EVC services in Prime Provisioning 6.8.1.

Supporting Trunk EFP for ASR920 UPE device

In Prime Provisioning 6.8.1, a new attribute **Enable Trunk EFP** has been added in Service Request screens for UPE device, which gives flexibility to make many Layer 2 flow points within one interface. One interface can have only one trunk support and doesn't provide support for switchport trunk. Enable Trunk EFP attribute supports flex. It appears in the screen only when the Links with L2 Access Nodes or Rings contain ASR920 device. It provides support only for ASR920 IOS device.

If Enable Trunk EFP check box is enabled user will get "**service instance trunk <id> ethernet** and **encapsulation dot1q add <id>/ encapsulation dot1q remove <id>**" commands. If this check box is checked, Inner VLAN, Autopick Outer VLAN and Autopick Inner VLAN are not supported. For Rewrite Type only Pop is supported.

Note In SR modification, Encapsulation of VLAN Id does not support add and remove commands together due to XDE framework limitation. As a workaround, same can be achieved by using policy customization.

This is feature is supported through GUI, NBI and Physical Rings.

Below are the sample configlets:

```
service instance trunk <id> ethernet
   encapsulation dot1q add <value>
   rewrite ingress tag pop <id> symmetric
   bridge-domain from-encapsulation
```

Extending E-Tree Functionality

From Prime Provisioning 6.8.1, E-Tree role functionality has been extended to generate neighbor commands under vfi for hubs with E-Tree role as root or leaf for EVC services.

In accordance with this functionality, when the **E-Tree** role of the **HUB** node is set as **ROOT**, under vfi, neighbor commands gets generated for all the other hubs, and when the **E-Tree** role of the **HUB** node is set as **LEAF**, under vfi, neighbor commands gets generated for only the hub node with E-tree role as root.

Below are the sample configlets.

Example: HVPLS SR with E-Tree (2 HUBs_root, 2 HUBs_leaf)

cl-test-l2-7600-5 (HUB-root)	isc-cl-test-l2-asr9006-3 (HUB_leaf)

bridge-domain 558
l2 vfi vpn1-85254 manual
  vpn id 85254
  neighbor 192.18.156.71 encapsulation mpls
  neighbor 192.168.5.49 encapsulation mpls
  neighbor 192.169.105.65 encapsulation mpls
vlan 558
  exit
interface GigabitEthernet2/2
  service instance 885 ethernet
  description EVC-JOBID:15
  encapsulation dot1q 747
  bridge-domain 558
  exit
interface Vlan558
  no ip address
  description EVC-JOBID:15
  xconnect vfi vpn1-85254
  no shutdown
	interface GigabitEthernet0/1/0/12.552
	l2transport
	  description EVC-JOBID:15
	  encapsulation dot1q 552
	  no shutdown
	l2vpn
	  bridge group Customer1
	  bridge-domain ISC-vpn1-85254
	  interface
	GigabitEthernet0/1/0/12.552
	  split-horizon group
	  vfi vpn1-85254
	  neighbor 171.16.150.47 pw-id 85254
	  neighbor 192.18.156.71 pw-id 85254

isc-asr903 (HUB_root)	**isc-cl-test-me3800x-1 (HUB_leaf)**

bridge-domain 669
  exit
l2 vfi vpn1-85254 manual
  vpn id 85254
  bridge-domain 669
  neighbor 171.16.150.47 encapsulation mpls
  neighbor 192.168.5.49 encapsulation mpls
  neighbor 192.169.105.65 encapsulation mpls
interface GigabitEthernet0/0/3
  service instance 996 ethernet
  description EVC-JOBID:15
  encapsulation dot1q 369
  bridge-domain 669
  exit
	bridge-domain 550
	  exit
	l2 vfi vpn1-85254 manual
	  vpn id 85254
	  neighbor 171.16.150.47 9632
	encapsulation mpls no-split-horizon
	  neighbor 192.18.156.71 9632
	encapsulation mpls no-split-horizon
	vlan 550
	  exit
	interface GigabitEthernet0/14
	  switchport mode trunk
	  switchport trunk allowed vlan none
	  service instance 554 ethernet
	  description EVC-JOBID:15
	  encapsulation dot

Supporting SONET to SONET Provisioning

From this release, Prime Provisioning extended SONET–SONET provision support for EVC TDM-CEM services which will allow users to select **SONET** as a controller at A-End and Z-End. Prior to this release users were able to select SONET as a controller only at Z-End. In accordance with this functionality for CEM Container Type, a new value **SONET** controller has been introduced in both Policy editor screen and Service Request editor screen to provision SONET to SONET connectivity.

Supported Attributes are, when Framing Type is SDH:

- tug-3 Number: (ranges: 1-3)
- tug-2 Number: (ranges: 1-7)
- e1-Number: (ranges: 1-3)
- Time Slots: (1, 10-20, 24), (ranges: 1-31)

When Framing Type is SONET:

- sts-Number: (ranges: 1-3)

- VGT Number: (ranges: 1-7)
- T1 line-Number: (ranges: 1-4)
- Time Slots: (1, 10-20, 24), (ranges: 1-24)

These attributes are available in SR Link attribute at SR level.

Below are the sample configlets.

Example 1: Service Options: **SATop_UNFRAMED**, CEM Container Type: **SONET** and Framing Type: **SONET**

isc-asr903b (A Terminal)	isc-cl-test-l2-7600-6 (Z Terminal)

Configlet #4, Job ID 81 (Created: 2016-11-11 02:55:04)
 	
controller SONET 0/2/1
  sts-1 2
  mode vt-15
  vtg 7 t1 3 cem-group 201 unframed
interface CEM0/2/1
  cem 201
  xconnect 192.168.5.49 453 encapsulation mpls
	Configlet #3, Job ID 81 (Created: 2016-11-11 02:57:56)
	
	controller SONET 3/0/0
	  sts-1 2
	  vtg 6 t1 3 cem-group 908 unframed
	interface CEM3/0/0
	  cem 908
	  xconnect 1.1.78.79 453 encapsulation mpls

Example 2: Service Options: **CESoPN_TIMESLOT**, CEM Container Type: **SONET** and Framing Type: **SDH**

isc-asr903b _A Terminal	ems7606c _Z Terminal

Configlet #1, Job ID 35 (Created: 2016-11-09 04:53:26)
 	
controller SONET 0/2/2
  au-4 1 tug-3 1
  tug-2 1 e1 1 cem-group 342 timeslots 10
interface CEM0/2/2
  cem 342
  xconnect 20.10.10.100 5667 encapsulation mpls
	Configlet #1, Job ID 35 (Created: 2016-11-09 04:53:26)
	
	controller SONET 3/3/0
	  au-4 1 tug-3 1
	  tug-2 1 e1 1 cem-group 1 timeslots 10
	interface CEM3/3/0
	  cem 1
	  xconnect 1.1.78.79 5667 encapsulation mpls

API New Features

All Application Programming Interface (API) features are explained in detail in the *Cisco Prime Provisioning API Programmer Guide 7.0* and the accompanying *Cisco Prime Provisioning API Programmer Reference 7.0*.

New features added in Prime Provisioning are generally available via both the GUI and APIs. See the respective sections in this document for a description of new features under each service.

Features Introduced in Prime Provisioning 6.8.2

General Features

This section summarizes the general feature that were added in Prime Provisioning 6.8.2.

initdb Script Enhancements to Retain DCPL Values with Configured Values

During Prime Provisioning upgrade, to retain the Dynamic Component Properties Library (DCPL) property values without a reset, use the following CLI commands:

```
./prime.sh stop
./prime.sh startdb
./prime.sh initdb.sh noreset
./prime.sh start
```

The values are retained or updated in the Prime Provisioning repository based on the following criteria.

1. When the *initdb.sh* script is run without any argument, Prime Provisioning reads the DCPL properties from *vpnsc.properties* and updates them in the Prime Provisioning repository.
2. When the *initdb.sh* script is run with *noreset* argument, Prime Provisioning retains the DCPL values which are already configured.
3. When the *initdb.sh* script is run with some irrelevant argument other than the *noreset* argument, Prime Provisioning will display an error message; “The only supported argument for *initdb.sh* is *noreset*.”

L3 Features

Supporting Manual Allocation of IPv6 Address from IPv6 Address Pool

From this release, you can enter an IPv6 address manually in the IP Address Scheme window of Cisco Prime Provisioning (CPP) while creating an MPLS service request. The IPv6 address entered must be available in the IPv6 address pools. If the IPv6 address belongs to a valid IPv6 block, then the IPv6 address is blocked as allocated and is updated in the respective IPv6 pool. The IPv6 address pool is then split as valid IPv6 address blocks or pools.

While entering the IPv6 address, ensure that you remember the following conditions:

1. The subnet mask that you enter should be same as that of the IPv6 pool mask.
2. The IPv6 address mask of the Provider Edge (PE) interface and the Customer Edge (CE) interface must be under the same subnet mask as that of the IPv6 address pool.

Once the allocation is successful, you can view the valid IPv6 address pools with Allocated status in the Resource Pools window of CPP.

To remove the MPLS service request, you need to release the IPv6 address back to the available pool. The pools that are split as blocks are combined again into a single pool. For this, you can either decommission the service or perform force delete of the IPv6 allocated block or pool.

Extending VLAN-ID Range to Support BVI Interfaces with Values Range

Prime Provisioning 6.8.2 release allows you to create MPLS SR with VLAN-ID that ranges between 1-65535 for L3VPN/MPLS services on ASR9K series devices, only when the **EVC Service** is enabled.

Note This functionality supports only PE devices of IOS-XR type.

When you enable the **EVC Service** checkbox in the **MPLS Service Request Editor** page, the VLAN-ID value is automatically updated/changed to support VLAN-ID ranges of 1-65535.

It is recommended to enter the VLAN-ID ranges within the specified range otherwise, an exemption occurs in the following instances:

- On clicking **Next**, an invalid VLAN-ID error message is displayed when the value entered is greater than 65535.
- If the selected device is IOS and the given VLAN-ID value is more than 4094 an error message is displayed.

Note Enabling EVC service on L3VPN creates BVI virtual interfaces to allow routing through BVI interfaces. BVI interfaces can be configured in the range of 1-65535. This is because Prime Provisioning does not have an option to provide BVI interface and thus uses the VLAN- ID value as BVI interface value. The extended value of 1-65535 specified in the **VLAN-ID** range field allows you to create BVI interface with BVI interface number range 1-65535.

Supporting EVPN-VPWS Attributes through a Customization XML File

From this release, EVPN-VPWS configurations are supported by importing a EVPN-VPWS customization.xar file as part of Prime Provisioning policies and service requests to manage various Ethernet Virtual Circuit services.

Before you Begin

To view or edit the EVPN-VPWS attributes in the **Policy Editor** window or the **EVC Service Request Editor** window, make sure that you have completed the following prerequisite.

1. Import the **EVPNVPWSCustomization.xar** file under $PRIMEP_HOME/packages/std, which is already copied as part of Prime Provisioning product (PP6.8.2 or greater). The customization XML uses merge mode as “Combine”. For more information about how to Import customization files, see Importing and Exporting Customizations section in the Cisco Prime Provisioning 6.8 User Guide.

Note The EVPN-VPWS attributes are visible in the **Policy Editor** or the **EVC Service Request Editor** window only when you import the **EVPNVPWSCustomization.xar** file.

2. Make sure that the supported platform includes ASR9K with IOS-XR version 6.0 or later.

Enter or Modify EVPN-VPWS Attributes

To enter the EVPN-VPWS Attributes:

1. Create an EVC PW policy and import the “EVPNVPWSCustomization.xml”. Below is a configuration sample:

```
interface GigabitEthernet0/1/0/13.315 l2transport
```

```
  description  EVC-JOBID:53
  encapsulation dot1q 315
  no shutdown
l2vpn
  xconnect group ISC
    p2p ELINE888
      interface GigabitEthernet0/1/0/13.315
      neighbor evpn evi 4341  target 64123 source 64222
```

2. In the **Policy Editor** window, in the **Source ac-id** field, enter the range between 1 and 16777215.
3. In the **Remote ac-id** field, enter the range between 1 and 16777215.
4. Click **Finish** to save the EVC Policy.

Note You can also create an SR (VPWS) using this policy with XR devices and enter the values for the attributes.

Supporting EVPN-VPLS Attributes through a Customization XML File

From this release, EVPN-VPLS configurations are supported by importing a EVPN-VPLS customization.xar file as part of Prime Provisioning policies and service requests to manage various Ethernet Virtual Circuit services.

Before you Begin

To view or edit the EVPN-VPLS attributes in the **Policy Editor** window or the **EVC Service Request Editor** window, make sure that you have completed the following prerequisite.

1. Import the **EVPNVPLSCustomization.xar** file under $PRIMEP_HOME/packages/std, which is already copied as part of Prime Provisioning product (PP6.8.2 or greater). The customization XML uses merge mode as “Combine”. For more information about how to Import customization files, see Importing and Exporting Customizations section in the Cisco Prime Provisioning 6.8 User Guide.

Note The EVPN-VPLS attributes are visible in the **Policy Editor** or the **EVC Service Request Editor** window only when you import the **EVPNVPLSCustomization.xar** file.

2. Make sure that the supported platform includes ASR9K with IOS-XR version 6.0 or later.
3. Before configuring the EVPN-VPLS, configure BGP with new EVPN Address family as in the sample configuration below:

```
router bgp 64
 bgp router-id 1.100.100.100
 address-family l2vpn evpn
 !
 neighbor 2.100.100.100
  remote-as 64
  update-source Loopback0
  address-family l2vpn evpn
```

Enable or Modify EVPN-VPLS Attributes

To enter the EVPN-VPLS Attributes:

1. Create an EVC VPLS policy and import the “EVPNVPLSCustomization.xml”. Below is a configuration sample:

```
interface GigabitEthernet0/1/0/17.2017 l2transport
  description  EVC-JOBID:216
  encapsulation dot1q 2017
  no shutdown
l2vpn
  bridge group BGNevpn1
    bridge-domain BDNevpn1
      mtu 345
      interface GigabitEthernet0/1/0/17.2017
      vfi wppq
      evi 2001
evpn
  evi 2001
    load-balancing flow-label static
-------
evpn
 evi 2001
  advertise-mac
------
evpn
 evi 2001
  unknown-unicast-suppress
------
evpn
 evi 2001
  control-word-disable
-----
evpn
 evi 2001
  bgp
   route-target import 200:101
   route-target export 200:101
```

2. In the **Policy Editor** window, the following EVPN-EVI attributes are added.

Field	Description
Load Balancing	To provision the EVPN load balancing command and to view the load balancing policy name in the Service Request Manager, check the **Load Balancing** check box.
Enable Advertise Mac	To provision advertise Mac command, check the **Enable Advertise Mac** check box.
Unknown Unicast Supress	To provision the Unknown unicast supress command, check the **Unknown Unicast Supress** check box.
Control Word Disable	To provision the control word disable command, check the **Control Word Disable** check box.
Enable BGP	To provision the BGP command, check the **Enable BGP** check box.

Field	Description
Route Target Import	Enter the format for **Route Target Import**. For example: 1234:5678([0-9]:[0-9])
Route Target Export	Provide the format for **Route Target Export**. For example: 1234:5678([0-9]:[0-9])

Note You can also create an SR (VPLS) using this policy with XR devices and enter the values for the required attributes.

Features Introduced in Prime Provisioning 7.0

This release contains the following new and enhancements feature under different service blades and infrastructure.

L2 EVC Features

This section summarizes features that were added to enhance EVC services in Prime Provisioning 7.0.

Supporting Pseudowire Interface for EVC-Pseudowire Policies

From this release, Prime Provisioning supports new CLI that define pseudowire interface and cross connect between the service instance to the Pseudowire interface.

In new XE versions you can use both, old and new CLIs and support is provided only for ASR920 devices and applicable only for EVC-Pseudowire policies.

ASR920 supports only flex in Prime Provisioning and this feature is applicable only for flex services.

You can create an EVC Service Request (SR) with Use Pseudowire Interface feature for ASR 920 devices. If the selected device is other than ASR 920 devices, and when you try to create an EVC SR by enabling Use Pseudowire Interface, Prime Provisioning will report an error message.

For more information, see the section in the Prime Provisioning 7.0 User Guide.

Note Prime Provisioning does not support enabling the following attributes together at a time:
“Use Pseudowire Interface' and 'Configure Bridge Domain'
“Use Pseudowire Interface” and “Use Pseudowire Class”
Also, the minimum allowed direct link should be 2.

Supporting Autopick Bridge Domain Name for L2 Services

Prime Provisioning supports L2 services with Autopick Bridge Domain Name with new format L2-X.

Create L2 services with autopick bridge domain name, with the format of L2-X, where X will be the range between 1 to 60000 for the newly created service request.For example, "bridge-domain L2-40001".

As soon as the starting range value is set through the DCPL property as (Provisioning\Service\fsm\bridgeDomainName) for the first service request, Prime Provisioning will consider the set value as a starting range value for autopick bridge domain name automatically, and for the next service request onwards the value is incremented with +1.

If the default value for bridgeDomainName property is zero, the existing behavior will not change.

L3VPN/MPLS Services Features

This section summarizes features that were added to enhance L3VPN/MPLS services in Prime Provisioning 7.0.

Supporting BGP Additional Multipaths for ASR920 Devices

Prime Provisioning allows you to create MPLS services with BGP additional path configuration CLI for Install or Select backup.

Supporting IP Helper Addresses for ASR 920 Devices

You can provide DHCP Helper IP parameters for ASR920 devices, while creating MPLS service requests for the selected PE interface type you can view the IP helper address details of a server, VRF, GRT, MTU in CLI under the interface node.

In the MPLS Service Request Editor-Interface area, check the **Use EVC Service** check box to enable the following DHCP Helper IP fields:

- **DHCP Helper Server IP (a.b.c.d)**
- **DHCP Helper GRT IP (a.b.c.d)**
- **DHCP Helper VRF IP (a.b.c.d)**
- **MTU** (68 - 9216)

Supporting Auto RD Configuration

Create, modify, and decommission MPLS Service Request with auto RD Value for ASR9k devices. Prime Provision notifies an error if the selected device is IOS and the specified Rd value is “auto” while creating a MPLS Service request.

Supporting Modification of Site of Origin

From this release, you an edit Site Of Origin pool while editing a customer site, You can edit SOO pool with available pool values or with other than pool value, if required.

Features Introduced in Prime Provisioning 7.1

This release contains the following new and enhancements feature under different service blades and infrastructure.

L2 EVC Features

This section summarizes features that were added to enhance EVC services in Prime Provisioning 7.1.

Supporting Pseudowire Interface for EVC-Pseudowire Policies

From this release, Prime Provisioning supports new CLI that define pseudowire interface and cross connect between the service instance to the Pseudowire interface.

In new XE versions you can use both, old and new CLIs and support is provided only for ASR902 and ASR 903 devices and applicable only for EVC-Pseudowire policies.

ASR902 and ASR 903 supports only flex in Prime Provisioning and this feature is applicable only for flex services.

You can create an EVC Service Request (SR) with Use Pseudowire Interface feature for ASR 902 and ASR 903 devices. If the selected device is other than ASR 902 and ASR 903 devices, and when you try to create an EVC SR by enabling Use Pseudowire Interface, Prime Provisioning will report an error message.

For more information, see the section in the Prime Provisioning 7.1 User Guide.

Note Prime Provisioning does not support enabling the following attributes together at a time:
“Use Pseudowire Interface' and 'Configure Bridge Domain'
“Use Pseudowire Interface” and “Use Pseudowire Class”
Also, the minimum allowed direct link should be 2.

Supporting Bridge Group in L2 EVC Services in VFI Management

From Prime Provisioning 7.1, auto pick bridge group shows “bridge group <VFI-NAME>” only for EVC VPLS core types, when DCPL property (Provisioning\Service\mpls\bridgeDomainName) is 'true' and Autopick bridgeGroupName is checked.

L3VPN/MPLS Services Features

This section summarizes features that were added to enhance L3VPN/MPLS services in Prime Provisioning 7.1.

Supporting BGP Additional Multipaths for ASR902 and ASR 903 Devices

Prime Provisioning allows you to create MPLS services with BGP additional path configuration CLI for Install or Select backup.

Supporting IP Helper Addresses for ASR 902 and ASR 903 Devices

You can provide DHCP Helper IP parameters for ASR902 and ASR 903 devices, while creating MPLS service requests for the selected PE interface type you can view the IP helper address details of a server, VRF, GRT, MTU in CLI under the interface node.

Supporting Autopick Bridge Domain Name for L3 Services

Prime Provisioning supports L3 services with Autopick Bridge Domain Name with new format L3-X.

Create L3 services with autopick bridge domain name, with the format of L3-X, where X will be the range between 1 to 60000 for the newly created service request.For example, "bridge-domain L3-40001".

As soon as the starting range value is set through the DCPL property as (Provisioning\Service\mpls\bridgeDomainName) for the first service request, Prime Provisioning will consider the set value as a starting range value for autopick bridge domain name automatically, and for the next service request onwards the value is incremented with +1.

If the default value for bridgeDomainName property is zero, the existing behavior will not change..

EFP-Trunk Support

Trunk EFP supports ASR902 and ASR903 IOS devices in Prime Provisioning.

Device Picker Filter Option for Hub and Backup Hub

Prime Provisioning supports device filter option for HUB & BACKUP HUB device picker for HVPLS and ETree policy services. If you want to select Hub devices:

- In the EVC Service Request Editor window, in the Direct Connect Links area, Click **Add** to Select **Device** and **UNI**.
- Check the **Edit** check box, and then choose the SPOKE option. The Hub and Backup Hub Device Selection window appears. You can use toggle picker and choose the Hub device names using the quick filters in the **Device Selection** window.

Supporting Bridge Group in L3 EVC Services in VFI Management

From Prime Provisioning 7.1, auto pick BG takes VRF name instead of provider name (for example, bridge group VRFtest1), when auto pick bridge group name is checked and DCPL property (Provisioning\Service\mpls\bridgeGroupName) is set to 'true'. If VRF name contains special character(. , : , <Space>) you can replace with "_" in the VRF user name.

Supporting Bundle Interface

Bundle interface is supported for IOS-XR devices. When you create a MPLS SR using bundle interface, a new CLI, ' bundle load-balancing hash auto' is generated in the configlets.

Features Introduced in Prime Provisioning 7.2

This release contains the following new and enhancements feature under different service blades and infrastructure.

L2 EVC Features

This section summarizes features that were added to enhance EVC services in Prime Provisioning 7.2.

Supporting EFP-Trunk for L2EVC

From this release, Prime Provisioning supports BridgeDomain/VLAN ID and AutoPick Bridge Domain/VLAN ID fields for EVC(UNI) checked links.

For more information, see the section in the Prime Provisioning 7.2 User Guide.

L3VPN/MPLS Services Features

This section summarizes features that were added to enhance L3VPN/MPLS services in Prime Provisioning 7.2.

Supporting IPv4 address allocation from VPN and Customer pool

From this release, Prime Provisioning supports IPv4 address allocation from VPN and Customer pool. From Prime Provisioning 7.2, IP Address Pool can be associated with VPN and Customer pools apart from Region pool.

Supporting BVI ID auto-allocation from BVI Resource pool

From this release, Prime Provisioning 7.2 supports a new pool type called BVI that supports the range between 1-65535. Prime Provisioning supports BVI ID auto-allocation from BVI resource pool for IOS-XR devices.

Web Browser Support

- Prime Provisioning 7.1 GUI is supported by the following browsers:
  - Internet Explorer 9, 10, and 11.
  - Firefox browser standard version 30, 31, 37 and 55.
  - Firefox browser version ESR 24, 31, 52.

Version Supported

You can install Prime Provisioning 7.2 on Prime Provisioning 6.8.2.5/7.0.0.2/7.1.0.2. Schema upgrade is supported from 6.8.2, 7.0, 7.1 to 7.2 migration can only be performed from 6.8.2.5, 7.0, and 7.1. To migrate from earlier releases (prior to 6.8), you must first upgrade to Prime Provisioning 6.8.2.5/7.0.0.2/7.1.0.2 release. See "Upgrading Prime Provisioning" section on page 18 .

The procedure for upgrading from earlier releases is documented in the *Cisco Prime Provisioning Installation Guide 7.2*.

The Linux platform supported by Prime Provisioning includes: Red Hat Enterprise Linux, 64 bit, version 6.7, 6.8, 6.9, 7.0, 7.1 and 7.4. End of support by Redhat version 6.5 and 7.2.

Upgrading Prime Provisioning

If you want to migrate from an existing installation to Prime Provisioning 7.2, your upgrade path depends on which release you are upgrading from. This process is explained in detail in Chapter 4, "Upgrading Prime Provisioning" of the *Cisco Prime Provisioning Installation Guide 7.2.*

Upgrade Matrix

The various possible upgrade paths are described in Table 1.

Table 1 Upgrade Path to Prime Provisioning 7.2

Current Prime Provisioning Version	Procedure	Steps to Upgrade to Prime Provisioning 7.0 (run in order stated)	Supported Oracle Database	Supported OS
• 6.8.2.5 • 7.0.0.2 • 7.1.0.2	Direct	<Prime Provisioning installation directory>/upgradeTool	Enterprise Oracle 12C	Linux (Red Hat)
• 6.8	Upgrade to 6.8.2.5 and then to 7.2	<Prime Provisioning installation directory>/upgradeTool	Enterprise Oracle 12C	Linux (Red Hat)
• 6.6	Upgrade to 6.6.1.8 and then to 6.8.2.5 and then follow steps to upgrade to 7.2	<Prime Provisioning installation directory>/upgradeTool	Enterprise Oracle 12C	Linux (Red Hat)
• 6.5	Upgrade to 6.5.0.9 and then to 6.7.1, then to 6.8 and then to 6.8.2.5 and follow steps to upgrade to 7.2	<Prime Provisioning installation directory>/upgradeTool	Enterprise Oracle 12C	Linux (Red Hat)
• Prior to 4.2.5		E-mail isc-mktg@cisco.com for upgrade instructions	Enterprise Oracle 12C	Linux (Red Hat)

Prime Provisioning 7.2 Resolved and Open Bugs

Resolved Bugs

The following bugs were resolved in Prime Provisioning 7.2:

Bug	Description
CSCvq69103	EFP trunk field is not getting displayed for Direct links (903/920 devices)
CSCvq68540	"Not able to deploy MPLS SR with BVI Id as autopick, BVI interface not supporting VRF"
CSCvq66445	L2 : Use Pseudowire Interface - is getting unchecked during modify
CSCvq64928	After selecting ipv4 address as autopick the default ipv4 address pool should be region pool
CSCvq63695	Getting Exception while saving SR with autopick BVI ID
CSCvq61159	PP Is not generating l3 evc configlets after enabling evc for new device(NCS540)
CSCvq59524	Getting error Unable to allocate IP address from /31 customer pool while saving the Mpls SR
CSCvq57657	Exception is thrown while saving the Mpls SR with autopick Ipv4 address from customer pool
CSCvq57477	Getting Internal error while editing evc attributes for IOS_XR device
CSCvq46289	PP should support XR-7.X version for all XR platforms
CSCvp89095	SQL exception thrown while saving Mpls Sr
CSCvp78967	PP Is not generating l3 evc configlets after enabling evc for new device(NCS5500)
CSCvo35044	Error message while setting DCPL property (BridgeDomainName)
CSCvo15155	'Rd auto' gets associaed with IOS device even though not configured
CSCvn52810	Modification of DHR SR throws java SQL syntax error exception
CSCvn52791	DHR Ring scenarios decomission throws java SQL syntax error exception
CSCvn49092	EVC inner vlan range throws inner vlan id can't be null error
CSCvj37148	PP should truncate trailing zeroes for flag 'bridgeDomainName'
CSCvn79967	Link state shows pending for a deployed EVC SR in Status-->Links
CSCvm67619	Error while saving EVC OUTER VLAN Pool
CSCvm59730	EVC-PW : Outer VLAN ID showing as single value to range
CSCvm19274	Rehoming IOS XR to IOS(MPLS) with autopick option gives error
CSCve79423	Decommission of SR fails to remove l2-vfi command from device(DHR)
CSCvj37549	Decommission of EVC_HVPLS/VPLS DHR ends in throwing SQL command not ended properly error message
CSCva27704	Not able to modify Autopick Innervlan & not releasing pool after decomm
CSCvp34864	Service instance range for ASR903 device displayed wrongly in GUI.
CSCvp50928	RT creation - Edit Route target name causing error and Auto-pick route target values is unchecked

Bug	Description
CSCvj37118	MPLS with BD-autopick:PP should throw errorwhen special symbol(Full point) is given as BD name
CSCvq27170	Template config is not generated while role is NPE for ASR9k devices
CSCvq10259	Neighbour commands are not generating for L2 links in Dual homed ring
CSCvq05011	Unable to save VRF after Modification when RD Autopick is enabled
CSCvk70578	Sql Exception after enabling EVC in Modification
CSCvk73624	Evc-Non-Flex Scenario automatically enabled the Enable Trunk EFP check box
CSCvn54801	MPLS SR deployment fails for IOS-XR devices with special characters on a VPN name.
CSCvo01439	MPLS SR is not retrieving loopback Ip address for ASR920 device
CSCvq70011	The BVI Id is not relesed back to the BVI resource pool even after decommission of SR
CSCvq70025	The SR is Failing to deploy when BVI id is manually entered
CSCvp78919	SHR/DHR SR goes to failed deploy when GigabitEthernet interface used on NCS5500 device
CSCvn64630	Multiple Vulnerabilities in dom4j

Open Bugs

The following open bugs apply to Prime Provisioning 7.2.

Bug	Description
CSCvq70104	Not able to uncheck the autopick BVI id checkbox while trying to modifying SR
CSCvq61346	RT: Modify Route Target RT1/RT2 with boundary value resulting "Stack Trace Exception"
CSCvq61299	Unable to install PP with oracle DB in linux 6.9 and 6.10 Servers
CSCvq00313	SHR/DHR -negate configlets are not generated for asr920 device(as UPE) while preview decommission
CSCvq00292	EVC-PW : Able to save SR without entering Bridge Domain/Vlan ID value (Ring Scenarios)
CSCvn64628	Multiple Vulnerabilities in cxf
CSCuy71334	MPLS-PE:Incorrect config wen Multicast IPV4 is changed to Multicast IPV6
CSCuu82795	Error when Second PwClass is modified when SR is in REQUESTED state

Finding Known Problems in Prime Provisioning 7.2

To find known problems in Prime Provisioning 7.2, use the following URL:

https://tools.cisco.com/bugsearch/search

You must log into Cisco.com.

You can search for specific bugs or search for a range by product name. This tool enables you to query for keywords, severity, range, or version.

Use the following search criteria to locate bugs for Prime Provisioning 7.2:

- Product category: **Cloud and Systems Management > Routing and Switching Management > Fulfillment Products.**
- Product: **Cisco Prime Provisioning (6.3 to 7.2).**

The results display bug ID and title, found-in version, fixed-in version, and status. The bug ID is a hyper link to detailed information for the bug ID's product, component, severity, first found-in, and release notes. The results could be displayed in a feature matrix or spreadsheet.

Related Documentation

See the *Cisco Prime Provisioning 7.2 Documentation Overview* for a list of all Prime Provisioning guides.

We sometimes update the documentation after original publication. Therefore, you should also review the documentation on Cisco.com for any updates.

Other Cisco Prime Product Documentation

If you are deploying Prime Provisioning as part of the Prime Carrier Management suite, then see also the documentation for the other suite components:

- *Cisco Prime Central 2.0*
- *Cisco Prime Network 5.1*
- *Cisco Prime Optical 10.7*
- *Cisco Prime Performance Manager 1.7*

Accessibility Features in Prime Provisioning

For a list of accessibility features in Prime Provisioning, visit Cisco's Voluntary Product Accessibility Template (VPAT) website, or contact accessibility@cisco.com.

- All product documents are accessible except for images, graphics and some charts. If you would like to receive the product documentation in audio format, braille, or large print, contact accessibility@cisco.com.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation*.

To receive new and revised Cisco technical content directly to your desktop, you can subscribe to the What's New in Cisco Product Documentation RSS feed. The RSS feeds are a free service.
