



# Release Notes for Cisco IP Solution Center, 6.0.1

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Cisco IP Solution Center (ISC) 6.0.1 is a maintenance release that additionally has new features to be added to ISC 6.0.

All documentation, including this *Release Notes for Cisco IP Solution Center, 6.0.1* document and any or all parts of the ISC 6.0 and 6.0.1 documentation sets, *might* be upgraded over time. Therefore, we recommend you access the ISC 6.0 and ISC 6.0.1 documentation sets at: <http://www.cisco.com/go/isc>. You can also navigate to this documentation set by clicking **Help** on the Home Page of the ISC product. The “**Related Documentation**” section on page 26 gives the URL for the most current version of each manual to be used with ISC 6.0.1.

The information in this *Release Notes for Cisco IP Solution Center, 6.0.1* document gives you an overview of this release and helps you understand what has changed since ISC 6.0. Please read this document prior to reading any other manual for ISC.

## Contents

The information in this document is organized into the following sections:

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# Introduction

ISC 6.0.1 has new functionality added and changed since ISC 6.0 (see the [“New and Changed Information for ISC 6.0.1”](#) section on page 4) and fixes to problems (see the [“Problems Fixed in ISC 6.0.1”](#) section on page 21).

The system recommendations for ISC 6.0.1 (see the [“System Recommendations”](#) section on page 2) are based on those for ISC 6.0. The new devices and platforms supported in addition to those supported in ISC 6.0 are listed in the [“New and Changed Information for ISC 6.0.1”](#) section on page 4.

Steps for installing ISC 6.0.1 are found in the [“Installation Notes”](#) section on page 22 and other important information is found in the [“Known Caveats in Cisco IP Solution Center 6.0.1”](#) section on page 26. For problems that were found and might still exist in ISC 6.0.1, see the URL in the [“Known Caveats in Cisco IP Solution Center 6.0.1”](#) section on page 26.

URLs for base information about ISC 6.0.1 and an overview and suggested reading order of these documents is given in the *Cisco IP Solution Center Getting Started and Documentation Guide, 6.0* ([http://www.cisco.com/en/US/docs/net\\_mgmt/ip\\_solution\\_center/6.0/roadmap/docguide.html](http://www.cisco.com/en/US/docs/net_mgmt/ip_solution_center/6.0/roadmap/docguide.html)).

The ISC 6.0.1 documentation set includes ISC 6.0 documents and updated information for ISC 6.0.1 found in this *Release Notes for Cisco IP Solution Center, 6.0.1*. The entire documentation set is available in the [“Related Documentation”](#) section on page 26.

## System Recommendations

The system recommendations and requirements are listed in Chapter 1, “System Recommendations” of the *Cisco IP Solution Center Installation Guide, 6.0*. This chapter also includes the network devices and related software supported with ISC 6.0.

The recommendation is to thoroughly review this list before even planning your installation, to be sure you have all the hardware and software needed for a successful installation.

Additionally, the new devices and platforms supported are explained in the [“New Device and Platform Support”](#) section on page 2.

## New Device and Platform Support

New supported devices and platforms are as follows:

**Table 1** Platform Certification Added in ISC 6.0.1

Platform	IOS/XR Target	L3	L2	TE	MDE
CISCO 3925	15.0(1)M1	Yes (NPE, MVRFCE)	not supported in ISC	Yes	Yes
CISCO 1921	15.0(1)M4	Yes (NPE, MVRFCE)	not supported in ISC	Yes	Yes

**Table 1 Platform Certification Added in ISC 6.0.1 (Continued)**

Platform	IOS/XR Target	L3	L2	TE	MDE
ME3600X-24FS, ME3600X-24TS -M, ME3800X-24FS	12.2(52)EY	Yes (NPE, MVRFCE, UPE, PE-AGG)	Yes (NPE, UPE, PE-AGG) For NPE  Only FlexUNI supported (Pseudowire and Local Connect)	Yes	Yes
CISCO 7600	15.0(1)S	Yes (PE)	Yes (PE)	Yes	Yes
ASR1k	CISCO IOS-XE-3.1	Yes (PE)	Yes (PE)  VPLS not supported	Yes	Yes
CISCO 12K GSR	CISCO IOS-XR 4.0.1	Yes (PE)	Yes (PE)	Yes	Yes
CRS-1	CISCO IOS-XR 4.0.1	Yes (PE)	Yes (PE)	Yes	Yes
CISCO ASR9K	CISCO IOS-XR 4.0.1	Yes (PE)	Yes (PE)	Yes	Yes
CRS-3	CISCO IOS-XR 4.0.1	Yes (PE)	Yes (PE)	Yes*	Yes*

\* 20x10GBE and 1x100GBE support added.

**Table 2 Platform Certification Added in ISC 5.2.2.1**

Platform	IOS/XR Target	L3	L2	TE	MDE
CGR-2010	15.1(1)T	Yes (NPE, MVRFCE)	not supported in ISC	Yes	Yes
CISCO 2911	15.1(1)T	Yes (NPE, MVRFCE)	not supported in ISC	Yes	Yes
IE-3000	12.2(50)SE2	Yes (UPE)	Yes (UPE)	not supported in ISC	not supported in ISC
CGS-2520-24T	12.2(0.0.95)E X	Yes (UPE)	Yes (UPE)	not supported in ISC	not supported in ISC

**Table 3** Platform Certification Added in ISC 6.0.0.4

Platform	IOS/XR Target	L3	L2	TE	MDE
CISCO 12K GSR	CISCO IOS-XR 3.9.2	Yes (PE)	Yes (PE)	Yes	Yes
CSR-1	CISCO IOS-XR 3.9.2	Yes (PE)	Yes (PE)	Yes	Yes
CISCO ASR9K	CISCO IOS-XR 3.9.2	Yes (PE)	Yes (PE)	Yes	Yes

## New and Changed Information for ISC 6.0.1

This section lists the new and changed functionality that was added or updated since ISC 6.0 to this ISC 6.0.1 release. The problems fixed are listed in the [“Problems Fixed in ISC 6.0.1” section on page 21](#), and the new device and platforms supported are listed in the [“New Device and Platform Support” section on page 2](#).

The categories in this section are:

- [Common Infrastructure New Features, page 4](#)
- [L2VPN and Carrier Ethernet New Features, page 5](#)
- [MPLS/L3VPN New Features, page 15](#)

## Common Infrastructure New Features

All common infrastructure features are explained in the [Cisco IP Solution Center Infrastructure Reference, 6.0](#).

The following infrastructure enhancements were added in ISC 6.0.1:

- [New Template Variables Support in ISC 6.0.1, page 4](#)
- [Changed Behavior for Negate Templates and Data Files, page 5](#)

## New Template Variables Support in ISC 6.0.1

In addition to the previously supported template variables, found in Chapter 6, Service Design, of the [Cisco IP Solution Center Infrastructure Reference, 6.0](#), new attributes introduced in this release are also supported as template variables. Discussion of these are found in sections of this release note covering new features for this release.

**Table 4** *MPLS Template Variables Added in ISC 6.0.1*

Template Variable Name	Value Returned
\$ADVR_ROUTES_VRF_LABEL	VRF label value of the advertised static route for IPv4 address family
\$ADVR_ROUTES_VRF_LABEL_IPV6	VRF label value of the advertised static route for IPv6 address family

## Changed Behavior for Negate Templates and Data Files

When a service request is decommissioned, or a link within a service request is removed, or a template association is removed or a template is disabled, if that template has a negate template, the negate template will be applied.

If the negate template has no valid data file, either because there is no data file under the negate template with the same name as that of the main template or there is no data file at all, an error is raised during service request deployment. Previously ISC in such cases raised no errors and acted as if the negate template was not present.

If there is a single data file for the negate template with a name that does not match that of the data file, then deployment will fail with errors and the service request will be moved to the INVALID state. Previously that data file would have been selected, even though its name did not match.

In case of multiple data files, only data files with names that match negate template names are chosen .

## L2VPN and Carrier Ethernet New Features

This release includes the following three FlexUNI/EVC features:

- [Encapsulation Commands on ATM Interface, page 5](#)
- [Timer and Cell Packing Commands on ATM Interface, page 10](#)
- [Link Media Attribute, page 13](#)
- [Default Encapsulation Supported for FlexUNI/EVC Services, page 14](#)
- [Outer VLAN Ranges, page 14](#)

### Encapsulation Commands on ATM Interface

Support for Transport Mode type VC is added in this release for IOS XR to support encapsulation commands.

The Transport Mode type VC has been added in the Link Attributes window under Service Requests. By selecting VC mode, the VCI, VPI and VCD options are shown along in the encapsulation options. When the encapsulation type is set to non editable in the policy, it will not be displayed in the Service Requests window. Only the encapsulation options supported by the IOS XR device version will be displayed here.

#### Sample CLI Configlet (no PseudoWire class selected)

```
interface ATM0/2/0/0.100 point-to-point
 pvc 200/300
```

```

    encapsulation aal5snap
    !
    !
l2vpn
xconnect group ISC
  p2p cl-test-12-12404-2--111
    interface ATM0/2/0/0.100
      neighbor 192.169.105.60 pw-id 111
    !
  !
  !
  !
end

```

### Sample XML Configlet (no PseudoWire class selected)

```

<?xml version="1.0" encoding="UTF-8"?>
<Request MajorVersion="1" MinorVersion="0">
  <Set>
    <Configuration Source="CurrentConfig">
      <InterfaceConfigurationTable>
        <InterfaceConfiguration>
          <Naming>
            <InterfaceName>ATM0/2/0/0.100</InterfaceName>
            <Active>act</Active>
          </Naming>
          <InterfaceModeNonPhysical>PointToPoint</InterfaceModeNonPhysical>
          <ATM>
            <PVCTable>
              <PVC>
                <Naming>
                  <VPI>200</VPI>
                  <VCI>300</VCI>
                  <PVCType>Data</PVCType>
                </Naming>
                <Enable>>true</Enable>
                <Encapsulation>SNAP</Encapsulation>
              </PVC>
            </PVCTable>
          </ATM>
        </InterfaceConfiguration>
      </InterfaceConfigurationTable>
    </L2VPN>
    <Database>
      <XConnectGroupTable>
        <XConnectGroup>
          <Naming>
            <Name>ISC</Name>
          </Naming>
          <Enable>>true</Enable>
          <P2PXConnectTable>
            <P2PXConnect>
              <Naming>
                <Name>cl-test-12-12404-2--111</Name>
              </Naming>
              <Enable>>true</Enable>
            </P2PXConnect>
          <AttachmentCircuitTable>
            <AttachmentCircuit>
              <Naming>
                <Name>ATM0/2/0/0.100</Name>
              </Naming>
            </AttachmentCircuit>
          </AttachmentCircuitTable>
        </XConnectGroup>
      </XConnectGroupTable>
    </Database>
  </Set>
</Request>

```

```

        <Enable>true</Enable>
      </AttachmentCircuit>
    </AttachmentCircuitTable>
    <PseudowireTable>
      <Pseudowire>
        <Naming>
          <Neighbor>192.169.105.60</Neighbor>
          <PseudowireID>111</PseudowireID>
        </Naming>
        <Enable>true</Enable>
      </Pseudowire>
    </PseudowireTable>
  </P2PXConnect>
</P2PXConnectTable>
</XConnectGroup>
</XConnectGroupTable>
</Database>
</L2VPN>
</Configuration>
</Set>
<Commit/>
</Request>

```

## NBI Support for L2VPN Policy

Below are three XML examples for the the new encapsulation type support for L2VPN policy.

XML example for encapsulation type option **AAL5SNAP**:

```

<item xsi:type="ns1:CIMProperty">
  <name xsi:type="xsd:string">PE_Encap</name>
  <value xsi:type="xsd:string">AAL5SNAP</value>
  <qualifier xsi:type="ns1:CIMQualifier">
    <name xsi:type="xsd:string">editable</name>
    <value xsi:type="xsd:string">true</value>
  </qualifier>
</item>

```

XML example for encapsulation type option **AAL5NLPID**:

```

<item xsi:type="ns1:CIMProperty">
  <name xsi:type="xsd:string">PE_Encap</name>
  <value xsi:type="xsd:string">AAL5NLPID</value>
  <qualifier xsi:type="ns1:CIMQualifier">
    <name xsi:type="xsd:string">editable</name>
    <value xsi:type="xsd:string">true</value>
  </qualifier>
</item>

```

XML example for encapsulation type option **AAL5MUX**:

```

<item xsi:type="ns1:CIMProperty">
  <name xsi:type="xsd:string">PE_Encap</name>
  <value xsi:type="xsd:string">AAL5MUX</value>
  <qualifier xsi:type="ns1:CIMQualifier">
    <name xsi:type="xsd:string">editable</name>
    <value xsi:type="xsd:string">true</value>
  </qualifier>
</item>

```

## NBI Support for L2VPN Service Requests

Below are three XML examples for the the new encapsulation type support for L2VPN service requests.

XML example for encapsulation type option **AAL5SNAP**:

```
<item xsi:type="ns1:CIMProperty">
  <name xsi:type="xsd:string">PE_Encap</name>
  <value xsi:type="xsd:string">AAL5SNAP</value>
  <qualifier xsi:type="ns1:CIMQualifier">
    <name xsi:type="xsd:string">editable</name>
    <value xsi:type="xsd:string">>true</value>
  </qualifier>
</item>
```

XML example for encapsulation type option **AAL5NLPID**:

```
<item xsi:type="ns1:CIMProperty">
  <name xsi:type="xsd:string">PE_Encap</name>
  <value xsi:type="xsd:string">AAL5NLPID</value>
  <qualifier xsi:type="ns1:CIMQualifier">
    <name xsi:type="xsd:string">editable</name>
    <value xsi:type="xsd:string">>true</value>
  </qualifier>
</item>
```

XML example for encapsulation type option **AAL5MUX**:

```
<item xsi:type="ns1:CIMProperty">
  <name xsi:type="xsd:string">PE_Encap</name>
  <value xsi:type="xsd:string">AAL5MUX</value>
  <qualifier xsi:type="ns1:CIMQualifier">
    <name xsi:type="xsd:string">editable</name>
    <value xsi:type="xsd:string">>true</value>
  </qualifier>
</item>
```

## Protocol and Sequencing Commands

To support protocol and sequencing commands in ISC, two new attributes, **Protocol** and **Sequencing**, have been added to the **PseudoWire** class.

The **Protocol** attribute has a single option, **LDP**, and **Sequencing** has three options **BOTH**, **TRANSMIT** and **RECEIVE**.

The options are displayed in the Create PseudoWireClass window.

When an L2VPN service request (with transport mode type VC) is deployed with a PseudoWireClass selected, the two new commands will be added under the **l2vpn group name** command.

## Sample CLI Configlets (with PseudoWire class selected)

```
interface ATM0/2/0/0.100 point-to-point
  pvc 200/300
    encapsulation aal5snap
  !
!
l2vpn
pw-class pw1
```



```

encapsulation mpls
protocol ldp
  transport-mode ethernet
  sequencing both
!
!
xconnect group ISC
p2p cl-test-12-12404-2--111
  interface ATM0/2/0/0.100
  neighbor 192.169.105.60 pw-id 111
!
!
!
end

```

### Sample XML Configlet (with PseudoWire class selected)

```

<?xml version="1.0" encoding="UTF-8"?>
<Request MajorVersion="1" MinorVersion="0">
  <Set>
    <Configuration Source="CurrentConfig">
      <InterfaceConfigurationTable>
        <InterfaceConfiguration>
          <Naming>
            <InterfaceName>ATM0/2/0/0.100</InterfaceName>
            <Active>act</Active>
          </Naming>
          <InterfaceModeNonPhysical>PointToPoint</InterfaceModeNonPhysical>
          <ATM>
            <PVCTable>
              <PVC>
                <Naming>
                  <VPI>200</VPI>
                  <VCI>300</VCI>
                  <PVCType>Data</PVCType>
                </Naming>
                <Enable>>true</Enable>
                <Encapsulation>SNAP</Encapsulation>
              </PVC>
            </PVCTable>
          </ATM>
        </InterfaceConfiguration>
      </InterfaceConfigurationTable>
      <L2VPN>
        <Database>
          <PseudowireClassTable>
            <PseudowireClass>
              <Naming>
                <Name>pw</Name>
              </Naming>
              <Enable>true</Enable>
              <MPLSEncapsulation>
                <Enable>true</Enable>
                <SignalingProtocol>LDP</SignalingProtocol>
                <TransportMode>Ethernet</TransportMode>
                <Sequencing>
                  <Sequencing>Both</Sequencing>
                </Sequencing>
              </MPLSEncapsulation>
            </PseudowireClass>
          </Database>
        </L2VPN>
      </Configuration>
    </Set>
  </Request>

```

```

</PseudowireClassTable>
<XConnectGroupTable>
  <XConnectGroup>
    <Naming>
      <Name>ISC</Name>
    </Naming>
    <Enable>true</Enable>
    <P2PXConnectTable>
      <P2PXConnect>
        <Naming>
          <Name>cl-test-12-12404-2--111</Name>
        </Naming>
        <Enable>true</Enable>
        <AttachmentCircuitTable>
          <AttachmentCircuit>
            <Naming>
              <Name>ATM0/2/0/0.100</Name>
            </Naming>
            <Enable>true</Enable>
          </AttachmentCircuit>
        </AttachmentCircuitTable>
        <PseudowireTable>
          <Pseudowire>
            <Naming>
              <Neighbor>192.169.105.60</Neighbor>
              <PseudowireID>111</PseudowireID>
            </Naming>
            <Enable>true</Enable>
          </Pseudowire>
        </PseudowireTable>
      </P2PXConnect>
    </P2PXConnectTable>
  </XConnectGroup>
</XConnectGroupTable>
</Database>
</L2VPN>
</Configuration>
</Set>
<Commit/>
</Request>

```

## Timer and Cell Packing Commands on ATM Interface

Support has been added for the **Timer** and **Cell Packing** commands for L2VPN service requests when Transport Mode type **PORT** is selected.

Five new attributes has been added to the **Link Attributes** page under L2VPN service requests.

Three attributes, **Timer1**, **Timer2**, and **Timer3** are used to add timer values. The permissible range of values for the three is 50 to 4095.

Two attributes, **Maximum no. of cells to be packed** and **Cell packing timer**, have been added for cell-packing.

This is supported only for N-PE as a UNI device.

If you do not select the **Show MCPT timers** and **Show cellpacking** options, the **Timer** and **Cell Packing** commands will not be deployed as part of the service request.

## Sample CLI Configlet (without PseudoWire class selected)

```
interface ATM0/2/0/0
  atm mcpt-timers 102 202 302
  l2transport
    cell-packing 12 2
  !
  !
  l2vpn
    xconnect group ISC
    p2p c1-test-l2-12404-2--111
      interface ATM0/2/0/0
        neighbor 192.169.105.60 pw-id 111
      !
    !
  !
end
```

## Sample XML Configlet (without PseudoWire class selected)

```
<?xml version="1.0" encoding="UTF-8"?>
<Request MajorVersion="1" MinorVersion="0">
<Set>
  <Configuration Source="CurrentConfig">
<InterfaceConfigurationTable>
  <InterfaceConfiguration>
    <Naming>
      <InterfaceName>ATM0/2/0/0</InterfaceName>
      <Active>act</Active>
    </Naming>
    <L2Transport>
      <Enabled>>true</Enabled>
    </L2Transport>
    <ATM>
      <MaximumCellPackingTimers>
        <CellPackingTimer1>102</CellPackingTimer1>
        <CellPackingTimer2>202</CellPackingTimer2>
        <CellPackingTimer3>302</CellPackingTimer3>
      </MaximumCellPackingTimers>
    </ATM>
    <L2Transport>
      <ATMPortModeParameters>
        <CellPacking>
          <MaximumCellsPacked>12</MaximumCellsPacked>
          <CellPackingTimerID>2</CellPackingTimerID>
        </CellPacking>
      </ATMPortModeParameters>
      <Enabled>true</Enabled>
    </L2Transport>
    </InterfaceConfiguration>
  </InterfaceConfigurationTable>
<L2VPN>
  <Database>
    <XConnectGroupTable>
      <XConnectGroup>
        <Naming>
          <Name>ISC</Name>
        </Naming>
        <Enable>true</Enable>
```

```

    <P2PXConnectTable>
      <P2PXConnect>
        <Naming>
          <Name>cl-test-12-12404-2--111</Name>
        </Naming>
        <Enable>true</Enable>
    </P2PXConnectTable>
  <AttachmentCircuitTable>
    <AttachmentCircuit>
      <Naming>
        <Name>ATM0/2/0/0</Name>
      </Naming>
      <Enable>true</Enable>
    </AttachmentCircuit>
  </AttachmentCircuitTable>
</PseudowireTable>
<PseudowireTable>
  <Pseudowire>
    <Naming>
      <Neighbor>192.169.105.60</Neighbor>
      <PseudowireID>111</PseudowireID>
    </Naming>
    <Enable>true</Enable>
  </Pseudowire>
</PseudowireTable>
</P2PXConnect>
</P2PXConnectTable>
</XConnectGroup>
</XConnectGroupTable>
</Database>
</L2VPN>
</Configuration>
</Set>
<Commit/>
</Request>

```

## NBI

### MCPT timers:

```

<item xsi:type="ns1:CIMProperty">
  <name xsi:type="xsd:string">USE_TIMERS</name>
  <value xsi:type="xsd:string">>true</value>
</item>
<item xsi:type="ns1:CIMProperty">
  <name xsi:type="xsd:string">TIMER1</name>
  <value xsi:type="xsd:string">100</value>
</item>
<item xsi:type="ns1:CIMProperty">
  <name xsi:type="xsd:string">TIMER2</name>
  <value xsi:type="xsd:string">200</value>
</item>
<item xsi:type="ns1:CIMProperty">
  <name xsi:type="xsd:string">TIMER3</name>
  <value xsi:type="xsd:string">300</value>
</item>

```

### Cell-packing:

```

<item xsi:type="ns1:CIMProperty">
  <name xsi:type="xsd:string">USE_CELL_PACKING</name>
  <value xsi:type="xsd:string">>true</value>
</item>

```

```

<item xsi:type="ns1:CIMProperty">
  <name xsi:type="xsd:string">MAX_CELLS</name>
  <value xsi:type="xsd:string">64</value>
</item>
<item xsi:type="ns1:CIMProperty">
  <name xsi:type="xsd:string">TIMER</name>
  <value xsi:type="xsd:string">1</value>
</item>

```

## Link Media Attribute

A new attribute Link Media has been introduced for the FlexUNI/EVC service to support the provision of media type in the UNI interface. This will be supported for all three service types (PW, Local, and VPLS).

This will be supported from both the GUI and the NBI.

Note that this attribute is only supported for the ME-3400-CS platform.

Where two ports correspond to one interface in the configuration and the two ports have different media types (one optical SFP (not sjp) the other copper rj45), it needs to be specified which port type will be used when the interface is configured.

The following values are supported for the media type attribute.

- None
- auto-select
- rj45
- sjp

**None** is the default value for the new attribute, though no configlets will be generated for the selection **None**. Choose this option in case of any routers or switches where there is a 1 to 1 mapping of interfaces to ports and the media type is not selected.

## GUI

The new **Link Media** drop-down field under Speed and Duplex Information has been updated in the following windows:

- EVC Policy Editor
- Standard UNI Details

## NBI

A new attribute has been added to support the Media Type feature:

NBI Attribute Name: Uni\_Media

Values: None, auto-select, rj45, and sjp

## Sample Configlet

In the following configlet, the interface is configured with the Media Type value **rj45**.

```

!
interface FastEthernet1/0/24
switchport trunk allowed vlan 1192
switchport mode trunk

```

```
no keepalive
media-type rj45
speed 1000
duplex full
!
```

## Default Encapsulation Supported for FlexUNI/EVC Services

EVC has a provision to configure the default value for the encapsulation type. In the earlier implementation of ISC there was a limitation and the encapsulation type could only be DOT1Q.

To provide the default option for encapsulation type to the Standard UNI Details window, the label has been replaced with a drop-down field with the options **DOT1Q** and **Default**. The **Default** value is a catch-all that represents everything that is not matched by any other service instance on the port.

This applies only when the customer connects directly to the 7600 interface.

## GUI and NBI Support

Both GUI and NBI support is provided for this enhancement. No new attribute is added for this command. The existing attribute EncapsulationType supports can still be used with the DEFAULT value.

## Sample Configlet

The following configlet configures the Default attribute.

```
!
interface GigabitEthernet7/0/17
service instance 845 ethernet
encapsulation default
bridge-domain 556
!
```

## Outer VLAN Ranges

The following are the changes done to incorporate the range values for Outer VLAN ID. The functionality is provided from both the GUI and the NBI.

## Policy

- A new option, **Outer VLAN Ranges**, is added as part of the FlexUNI/EVC attributes window (the EVC Policy Editor window).
- This option is used to specify that the Outer VLAN ID can contain range values. To enable that option, the corresponding check box has to be selected by the user.
- In the EVC Policy Editor window, the **Outer VLAN Ranges** option which was enabled by selecting the check box is available.

## Service Request

This functionality is also provided from both the GUI and the NBI.

## GUI Changes

The **Outer VLAN Ranges** option has been added in the service requests area to provide range values for **Outer VLAN ID**.

The Outer VLAN ID can be provided with the range values specified in the FlexUNI(EVC) Details window or it can be provided with normal integer values within the range.

The **Match Inner and Outer Tags** option will not be disabled here. The value of **Match Inner and Outer Tags** depends on the **Both Tags** value from the policy.

## NBI Changes

The new NBI attribute added to provide range values for VLAN is **OUTER\_VLAN\_RANGES**.

The following values can be provided:

- true—to enable **OUTER\_VLAN\_RANGES**
- false—to disable **OUTER\_VLAN\_RANGES**

## Sample Configlets

In the following, the range provided is 2000-2010.

Configuration generated on NPE:

```
!  
interface GigabitEthernet7/0/11  
service instance 452 ethernet  
encapsulation dot1q 2000-2010  
bridge-domain 342  
!
```

Configuration generated on UPE:

```
!  
Vlan 2000-2010  
!  
interface FastEthernet1/0/24  
no spanning-tree bpdufilter enable  
no ip address  
switchport trunk allowed vlan add 2000,2001,2002,2003,2004,2005,2006,2007,2008,2009,2010  
!  
interface FastEthernet1/0/25  
switchport trunk allowed vlan add 2000,2001,2002,2003,2004,2005,2006,2007,2008,2009,2010  
!
```

## MPLS/L3VPN New Features

The following MPLS/L3VPN features are supposed in this release:

- [L3VPN Interface Encapsulation Configuration, page 16](#)
- [Support for the VRF Label Command When Using the Static Routing Protocol, page 17](#)
- [L3VPN service requests goes to Failed Audit state for IOS XR 3.9.0 under load conditions, page 19](#)
- [Access Ring Termination on Two Different N-PEs, page 20](#)

## L3VPN Interface Encapsulation Configuration

Support has been added for the following two encapsulation commands on ATM interfaces for IOS XR devices only. **Aal5snap** is already supported in ISC.

- Aal5nlpid
- Aal5mux ipv4

## GUI

The following three encapsulation options appears in the **Encapsulation** drop-down box in the MPLS Policy Editor - Interface window:

- AAL5MUX
- AAL5NLPID
- AAL5SNAP

## NBI

### Policy Creation

The following shows how these options are used in the NBI XML request for encapsulation when creating policies.

For the encapsulation type option **AAL5NLPID**:

```
<objectPath xsi:type="ns1:CIMObjectPath">
  <className xsi:type="xsd:string">ServiceDefinitionDetails</className>
  <properties xsi:type="ns1:CIMPropertyList"
    soapenc:arrayType="ns1:CIMProperty[]">
    <item xsi:type="ns1:CIMProperty">
      <name xsi:type="xsd:string"> PE_Encap </name>
      <value xsi:type="xsd:string"> AAL5NLPID </value>
      <qualifier xsi:type="ns1:CIMQualifier">
        <name xsi:type="xsd:string">editable</name>
        <value xsi:type="xsd:string">true</value>
      </qualifier>
    </item>
  </properties>
</objectPath>
```

### Service Request Creation

The following shows how these options are used in the NBI XML request for encapsulation when creating service requests.

```
<objectPath xsi:type="ns1:CIMObjectPath">
  <className xsi:type="xsd:string">LinkAttrs</className>
  <properties xsi:type="ns1:CIMPropertyList"
    soapenc:arrayType="ns1:CIMProperty[]">
    <item xsi:type="ns1:CIMProperty">
      <name xsi:type="xsd:string"> PE_Encap </name>
      <value xsi:type="xsd:string"> AAL5NLPID </value>
    </item>
  </properties>
</objectPath>
```



## Sample configlet

```
interface ATM0/4/3/0.8877 point-to-point
description ATM0/4/3/0.8877 atm pvc vpi=56 vci=766. By VPNSC: Job Id# = 132
pvc 56/766
encapsulation aal5snap
vrf V13:aug27-vpn3
ipv4 address 88.10.10.141 255.255.255.240
ipv6 address 7345::6822/128
```

## Support for the VRF Label Command When Using the Static Routing Protocol

The VRF Label command is now supported for three new Next Hop Option values for IOS XR devices only.

This feature is supported at the MPLS service request level. VRF Label command support is available for the PE\_CE and PE\_NO\_CE "STATIC" routing protocol and can only be configured on a PE device.

## GUI

A VRF Label column has been added under MPLS service requests in the Advertised Routes pop-up window (IPv4 and IPv6). As in the columns IP Address/Mask and Metric, the permissible range is specified (for VRF Label, 0-4294967295).

## NBI

The following is an example of a NBI XML request for specifying the VRF label attribute for IPv4 and IPv6 services when creating service orders.

```
<objectPath xsi:type="ns1:CIMObjectPath">
  <className xsi:type="xsd:string">LinkAttrs</className>
  <properties xsi:type="ns1:CIMPropertyList"
    soapenc:arrayType="ns1:CIMProperty[]">
    <item xsi:type="ns1:CIMProperty">
      <name xsi:type="xsd:string">PE_Intf_Name</name>
      <value xsi:type="xsd:string">GigabitEthernet0/15/1/2</value>
    </item>
    <item xsi:type="ns1:CIMProperty">
      <name xsi:type="xsd:string">PE_Vlan_ID</name>
      <value xsi:type="xsd:string">1154</value>
    </item>
    <item xsi:type="ns1:CIMProperty">
      <name xsi:type="xsd:string">Auto_Assign_IP_Address</name>
      <value xsi:type="xsd:string">>false</value>
    </item>
    <item xsi:type="ns1:CIMProperty">
      <name xsi:type="xsd:string">Autopick_Vlan_ID</name>
      <value xsi:type="xsd:string">>false</value>
    </item>
    <item xsi:type="ns1:CIMProperty">
      <name xsi:type="xsd:string">PE_Intf_Address</name>
      <value xsi:type="xsd:string">156.2.2.7/28</value>
    </item >
    <item xsi:type="ns1:CIMProperty">
      <name xsi:type="xsd:string">PE_Intf_Address_IPV6</name>
      <value xsi:type="xsd:string">678:34:47:59::/112</value>
```

```

    </item>
    <item xsi:type="ns1:CIMProperty">
      <name xsi:type="xsd:string">PE_CE_Routing_Protocol</name>
      <value xsi:type="xsd:string">STATIC</value>
    </item>
    <item xsi:type="ns1:CIMProperty">
      <name xsi:type="xsd:string">Static_Next_Hop_Option</name>
      <value xsi:type="xsd:string">OUTGOING_INTF_NAME</value>
    </item>
  <item xsi:type="ns1:CIMProperty">
    <name xsi:type="xsd:string">STATIC_VRF_LABEL</name>
    <value xsi:type="xsd:string">4294967295 </value>
  </item>
  <item xsi:type="ns1:CIMProperty">
    <name xsi:type="xsd:string">PE_CE_IPV6_Routing_Protocol</name>
    <value xsi:type="xsd:string">STATIC</value>
  </item>
  <item xsi:type="ns1:CIMProperty">
    <name xsi:type="xsd:string">Static_Next_Hop_Option_IPV6</name>
    <value xsi:type="xsd:string">OUTGOING_INTF_NAME</value>
  </item>

  <item xsi:type="ns1:CIMProperty">
    <name xsi:type="xsd:string">STATIC_VRF_LABEL_IPV6</name>
    <value xsi:type="xsd:string">0 </value>
  </item>
</properties>
</objectPath>

```

## Sample CLI configlet

```

router static
vrf V13:aug27-vpn3
address-family ipv4 unicast
 10.10.10.21/32 ATM0/4/3/0.8877 88.10.10.142 210 vrflabel 12222
!
address-family ipv6 unicast
1234::345/128 ATM0/4/3/0.8877 222 vrflabel 111

```

## Sample XML Configlet

```

<VRF>
  <Naming>
    <VRFName>V13:aug27-vpn3</VRFName>
  </Naming>
  <AddressFamily>
    <VRFIPV4>
      <VRFUnicast>
        <VRFPrefixTable>
          <VRFPrefix>
            <Naming>
              <Prefix>
                <IPV4Address>10.10.10.21</IPV4Address>
              </Prefix>
              <PrefixLength>32</PrefixLength>
            </Naming>
          <VRFRoute>
            <VRFNextHopTable>
              <VRFNextHop>

```

```

        <Naming>
        <InterfaceName>ATM0/4/3/0.8877</InterfaceName>
        <NextHopAddress>
        <IPV4Address>88.10.10.142</IPV4Address>
        </NextHopAddress>
        </Naming>
        <Metric>210</Metric>
        <VRFLablel>12222</VRFLablel>
        </VRFNextHop>
    </VRFNextHopTable>
</VRFRoute>
</VRFPrefix>
</VRFPrefixTable>
</VRFUnicast>
</VRFIPV4>
</AddressFamily>
<AddressFamily>
    <VRFIPV6>
        <VRFUnicast>
            <VRFPrefixTable>
                <VRFPrefix>
                    <Naming>
                        <Prefix>
                            <IPV6Address>1234::345</IPV6Address>
                        </Prefix>
                        <PrefixLength>128</PrefixLength>
                    </Naming>
                <VRFRoute>
                    <VRFNextHopTable>
                        <VRFNextHop>
                            <Naming>
                                <InterfaceName>ATM0/4/3/0.8877</InterfaceName>
                            </Naming>
                            <Metric>222</Metric>
                            <VRFLablel>111</VRFLablel>
                        </VRFNextHop>
                    </VRFNextHopTable>
                </VRFRoute>
            </VRFPrefix>
        </VRFPrefixTable>
    </VRFUnicast>
</VRFIPV6>
</AddressFamily>

```

## L3VPN service requests goes to Failed Audit state for IOS XR 3.9.0 under load conditions

While running the L3VPN performance test, some service requests will go to Failed Audit state due to incorrect device output. This issue occurs randomly under load conditions for IOS XR 3.9.0 but has not been seen in the IOS XR 3.8.1 version.



### Note

Using this command could cause increased memory consumption.

The following type of error message is produced for this error:

```

Audit Error on link ID 294868 at PE device: isc12012-11 [frame-relay interface-dlci: not found]
Audit Error on link ID 294868 at PE device: isc12012-11 [interface xxx: vrf V42073:vpn-23-s; not found]

```

```
Audit Error on link ID 294868 at PE device: isc12012-11 [interface xxx: ipv4 address
190.10.3.133 255.255.255.252; not found]
Audit Error on link ID 294868 at PE device: isc12012-11 [shutdown: not found]
```

As a workaround, use the following CLI command to configure the iterator to a very large number (for example, 50,000 kilobytes) and issue your request query:

```
xml agent tty iteration on size 50000

RP/0/0/CPU0:enxr(config)#xml agent tty iteration on size 50000
RP/0/0/CPU0:enxr(config)#commit Mon Sep  6 12:43:19.941 PDT RP/0/0/CPU0:Sep  6
12:43:20.078 : config[68952]: %MGBL-CONFIG-6-DB_COMMIT :
Configuration committed by user 'UNKNOWN'. Use 'show configuration commit changes
1000000008' to view the changes.
RP/0/0/CPU0:enxr(config)#
```

## Access Ring Termination on Two Different N-PEs

Network topologies supported for access ring termination on two different N-PEs are now supported for MPLS just like it is for L2VPN.

See the corresponding section [Terminating an Access Ring on Two N-PEs](#) in the *Cisco IP Solution Center L2VPN and Carrier Ethernet User Guide, 6.0*.

### Usage Notes

- The service is configured on both N-PEs of the access ring in the PE\_NO\_PE case. However, in the PE\_CE case, the service request is configured on the primary N-PE of the access ring.
- Though there are two different N-PEs, only one access link is consumed.
- You can modify the configuration-redundant N-PEs before or after deploying the service request. Modified configlets will be generated according to the changes made in the service request.
- The destined N-PE device on the NPC used in the service request is treated as the primary N-PE. The other N-PE on the same ring is treated as the secondary N-PE.
- To change the primary N-PE, delete and recreate the NPC, provided the NPC is not associated with any service requests.  
To change the secondary N-PE, you have to modify the secondary N-PE at the ring level.
- During MPLS service request creation using the PE\_NO\_CE policy, the secondary NPE device can be configured through the second link. Separate link attributes such as VLAN ID, PE Interface Address/Mask, VPN and RD and others can be configured separately for both primary and secondary NPEs. This way you can manually add a different IP address on primary and secondary NPEs. UNI device information will be available only in the link of the primary NPE.
- During MPLS service request creation using the PE-CE policy, only one MPLS VPN link would be created even though the selected NPC has two NPEs. Service can be associated only to the primary NPE, no additional link will be provided for the secondary NPE. Configlets will be generated and pushed to all the devices in the ring except the secondary NPE.
- VPNs and VRF objects are supported for MPLS service requests using access ring termination on two N-PEs.

# Problems Fixed in ISC 6.0.1

Customer-found problems that have been fixed in the ISC 6.0.1 release are indicated in [Table 5](#). This includes ISC 5.2.2.1, 5.2.2.2, 5.2.2.3, 5.2.2.5, 5.2.2.6, 5.2.2.8, 6.0.0.1, 6.0.0.4, and 6.0.0.5.

**Table 5** Customer-found Problems Fixed in ISC 6.0.1

<b>CDETS Number</b>	<b>Subject</b>
<b>Infrastructure</b>	
CSCtc91450	ISC 4.1.2.4: Service request filter error.
CSCtg74018	Meta.xml file contains attributes that cannot be queried.
CSCth25906	Cannot create a VPN as RBAC with L2 role.
CSCth25971	RBAC user needs to uncheck “default cerc” to create VPN for L2 service requests.
CSCtj33599	ISC allowing devices with same management IP.
<b>GUI</b>	
CSCtf34377	ISC 5.0.4: Service request list and sorting with "Customer" is incorrect.
CSCsw32953	ISC Internal Error - Invalid timestamp format.
<b>MPLS</b>	
CSCte40730	ISC does not support L3VPN access from L2VPN.
CSCti83440	Encapsulation and VRF label commands need to be supported in ISC.
CSCtj59387	VRF And RD Overwrite grayed out after the service request goes to deployed state.
CSCtd94241	Force Modify Shared Multipath Attributes option is not available.
CSCtd94264	VRF filed in the service request creation should only be mandatory.
CSCte40699	MPLS service request with redistribute static and template enabled going Failed_audit.
CSCte40714	Unable to distinguish between VRFs with the same name and different RDs.
CSCtc98210	ISC 5.2: Service requests that does not contain a link cannot be decommissioned.
CSCtj57093	ISC 5.2.2: Service request stays in REQUESTED state when trying to deploy a VRF with a template.
CSCtk47631	UNI port security parameters are not visible in service request.
<b>L2VPN</b>	
CSCsl76498	Changing UNI Port type from Trunk to Access for L2VPN causes deployment failure.
CSCte40724	Modifying encapsulation at UNI on UPE, service request goes to INVALID.
CSCtg88296	ME3400: Storm control settings cannot be enabled without activating port security commands. In addition, modification and redeployment of ME3400 port with storm control and port security attributes fails.
CSCtg97420	Switchport Trunk Encapsulation on 6548 card: The deployment of a DOT1Q service fails.
CSCtg97468	Port Security, Storm Sontrol not configured on WS-X6548-GE-TX on 6500.
CSCtg97493	“MAC access group” command not supported in SXF IOS version.
CSCti28254	ISC VPLS service request for a connection over Ethernet core fails.
CSCti83978	Encapsulation, MCPT TIMERS, CELL PACKING commands not supported.

**Table 5 Customer-found Problems Fixed in ISC 6.0.1 (Continued)**

<b>CDETS Number</b>	<b>Subject</b>
CSCtj45793	Port Duplex setting not configured on WS-X6548-GE-TX on 6500.
CSCtk34295	Port Duplex setting not configured on WS-X4424-GB-RJ45 card on 4503.
<b>FlexUNI</b>	
CSCtg97449	Twice the expected license keys are consumed by FlexUNI(EVC) service requests.
CSCth62660	For FlexUNI/EVC, the duplex command is not generated by ISC for media type rj45, speed 1000.
CSCtd94186	The PE/UNI "description" is not set by ISC.
CSCtd94209	Default encapsulation is not supported in FlexUNI/EVC service requests.
CSCtd94227	The "Encapsulation dot1q 10-20" command is not supported.
CSCte40710	Multiple services on a single U-PE port goes FAILED_AUDIT except the last one.
CSCti37522	L2VPN MTU: Incorrect behavior when configuring UNI as a dot1q-tunnel on the U-PE.
CSCtj48461	For FlexUNI/EVC, SR Details under PE Devices are not displayed as it is for MPLS and L2VPN.
CSCtj48490	FlexUNI/EVC service requests do not show links info under "Status".
CSCtd94245	Customer name with spaces breaks FlexUNI/EVC provisioning.
CSCtj58913	FlexUNI/EVC: 2:1 VLAN translation outer VLAN ID not displaying with Oracle.
CSCtj61667	ISC6.0: Service request fails after ring modification.
CSCti54698	FlexUNI/EVC: Shared UNI task failsfails for EVC service requests.
<b>TEM</b>	
CSCti37519	Complicated rules for creating negate template in case of non-existent data file or multiple data files.
CSCti58919	ISC 5.2.1.6: Force deploy template also deploys negate templates.

## Installation Notes

This section contains the following information:

- [Version Supported, page 22](#)
- [Upgrade Paths, page 23](#)
- [Uninstall, page 25](#).

## Version Supported

You can upgrade directly to ISC 6.0.1 from ISC 6.0, ISC 6.0.0.1, ISC 6.0.0.4, or ISC 6.0.0.5. If you are upgrading from earlier releases, you need to first upgrade to ISC 6.0. The procedure for upgrading from earlier releases is documented in the [Cisco IP Solution Center Installation Guide, 6.0](#).

# Upgrade Paths

Whether you are installing ISC for the first time or are upgrading from an earlier ISC installation, use the following steps as they pertain to your situation.

This section includes the following:

- [Common Installation Steps, page 23](#)
- [ISC 6.0.1 Patch Installation, page 24](#)
- [Upgrade Repository to ISC 6.0.1, page 25](#)

## Common Installation Steps

If you have an ISC 6.0 use this upgrade procedure independent of whether your repository is a Sybase or an Oracle repository



**Note**

A repository can be upgraded only once. If any issues arise during the upgrade, a new copy of the backed up repository is needed for subsequent upgrade attempts.



**Note**

See the appendix Backup and Restore of ISC Repository and Standby System in the [Cisco IP Solution Center Installation Guide, 6.0](#) before upgrading your repository.

To upgrade your repository to 6.0.1, follow these steps:

**Step 1** If you are installing ISC for the first time, first install ISC 6.0 as documented in the [Cisco IP Solution Center Installation Guide, 6.0](#).



**Note**

The ISC-6.0.1 upgrade tool should not run while upgrading from ISC 6.0 to ISC 6.0.1.



**Note**

To perform ISC 6.0.1 patch installation, you need ISC 6.0, ISC 6.0.0.1, ISC 6.0.0.4, or ISC 6.0.0.5 patch.

**Step 2** If an existing ISC installation is running, enter the **stopall** command using these steps:

```
cd $ISC_HOME/bin/
```

```
source vpnenv.sh
```

```
./stopall
```

**Step 3** Install the ISC 6.0.1 patch using the steps outlined in [ISC 6.0.1 Patch Installation, page 24](#).

**Step 4** Then run the upgrade tool using the steps outlined in [Upgrade Repository to ISC 6.0.1, page 25](#).

## ISC 6.0.1 Patch Installation

To install the ISC 6.0.1 maintenance patch, follow these steps:



### Note

Prior to installing ISC 6.0.1, if you are moving a repository from one machine to another, the schema upgrade fails unless the repository has been initialized on the new machine. This requires that you successfully run **initdb.sh** on the repository to update the host entry.

- 
- Step 1** Before upgrading to this ISC 6.0.1 Maintenance Release, complete the discovery workflow. Otherwise, when you upgrade these previously initiated discovery workflows, the data discovered during that process might be lost.
- Step 2** Before proceeding to install the ISC 6.0.1 Maintenance Release, be sure to back up your repository, as explained in Appendix C of the *Cisco IP Solution Center Installation Guide, 6.0* ([http://www.cisco.com/en/US/docs/net\\_mgmt/ip\\_solution\\_center/6.0/installation/guide/installation.html](http://www.cisco.com/en/US/docs/net_mgmt/ip_solution_center/6.0/installation/guide/installation.html)).
- Step 3** Retrieve the ISC 6.0.1 Maintenance Release (**isc-6.0.1-patch.tar.gz**) from [here](#).



### Note

If you have difficulties accessing the software from this location, please go to Cisco.com and choose Support->Download Software->Network Management->Routing and Switching Management->Cisco IP Solution Center Products.

- 
- Step 4** Prior to installing the ISC 6.0.1 maintenance release, verify that you have 100 MB of free space in the **\$ISC\_HOME** directory and that you are logged in with the same username as the owner of your supported version of ISC.
- Step 5** Source the ISC environment file in the **\$ISC\_HOME/bin** directory:  
For **sh** and variant shells: **.\$ISC\_HOME/bin/vpnenv.sh**  
For **csh**, **ksh** and variant shells: **source \$ISC\_HOME/bin/vpnenv.csh**
- Step 6** Navigate to a directory other than **\$ISC\_HOME**.
- Step 7** Use the following command to untar and unzip the **isc-6.0.1-patch.tar.gz** file:  
**gunzip -c isc-6.0.1-patch.tar.gz | tar xf -**
- Step 8** If ISC is running, use the following command to stop the database, name server, and WatchDog on the machine on which it is running:  
**\$ stopall**
- Step 9** Use the following command to run the patch installation script:  
**\$./iscpatchinstall**
- When you run this script, you are asked to ensure that you have followed the equivalent of [Step 8](#), and as part of the installation, you are asked to confirm the equivalent of [Step 4](#).
  - To accept the default value for a prompt indicated in [ ], for example, [n] or [y], press **Enter**. To terminate the installer at any time, press **Ctrl-C**. Specifically, you are asked to enter a new path or press **Enter** for the default [*<ISC\_OWNER\_HOME\_DIR>/isc-6.0.1*].
  - At the end of the installation, you receive a message that the patch installation is complete.



- Step 10** Navigate to `$ISC_HOME/bin`.
- Step 11** Enter the `startwd` command to restart ISC.
- 

## Upgrade Repository to ISC 6.0.1

This procedure uses the example of upgrading an ISC 6.0 repository to ISC 6.0.1. You can upgrade the ISC repository directly to ISC 6.0.1 from ISC 6.0.

When upgrading your repository from ISC 6.0 or an earlier version, see [Uninstall, page 25](#) and then use the same procedure as the following:

- 
- Step 1** Get the upgrade package `ISC601_UpgradeTool.tar.gz` and place it on the ISC Master machine in a directory where you can access the ISC environment:
- ```
cp -p /cdrom/cdrom0/ISC601_UpgradeTool.tar.gz /opt/isc-6.0.1
```
- Step 2** Untar the upgrade tool tar file.
- ```
gzip -d < ISC601_UpgradeTool.tar.gz | tar xvf -
```
- Step 3** Source the ISC environment files.
- If `sh` shell: `.$ISC_HOME/bin/vpnenv.sh`
- If `csh` or `ksh` shell: `source $ISC_HOME/bin/vpnenv.csh`
- Step 4** Stop ISC:
- ```
stopall
```
- Step 5** Run the upgrade script.
- ```
cd ISC601_UpgradeTool
./upgradeISCSchema.sh <ISC home>
```
- where: `<ISC home>` is the full pathname of the ISC home directory.
- Step 6** Check for a success or error message.



### Note

After upgrading between ISC versions, ensure that the cache of the ISC client browser has been cleared or that your browser does not use the cache. This will ensure that the latest ISC images and pages are returned.

---

## Uninstall

To uninstall the ISC 6.0.1 maintenance release that was successfully installed by following the steps in the [“Upgrade Paths” section on page 23](#), follow these steps:



### Note

To retain your repository data, you will need to restore a previous ISC 5.2 backup as the uninstall script below does not roll back the 6.0.1 repository.

---

- 
- Step 1** Log in with the same username as the owner of ISC.
- Step 2** If ISC 6.0.1 is running, navigate to the directory `$ISC_HOME/patch/isc6.0.1-patch`, where all the files replaced by the ISC 6.0.1 maintenance release were stored.
- Step 3** Source the ISC environment file in the `$ISC_HOME/bin` directory:  
For **sh**, **ksh**, and variant shells: `.$ISC_HOME/bin/vpnenv.sh`  
For **csh** and variant shells: `source $ISC_HOME/bin/vpnenv.csh`
- Step 4** Use the following command to stop the database, name server, and WatchDog on the machine on which it is running:  
**\$ stopall**
- Step 5** Use the following command to run the patch script to uninstall:  
**\$ ./iscpatchrollback**
- When you run this script, you are asked to ensure that you have followed the equivalent of [Step 1](#) and [Step 2](#).
  - To accept the default value for a prompt indicated in [ ], for example, [n] or [y], press **Enter**. To terminate the installer at any time, press **Ctrl-C**.
  - At the end of the uninstall, you receive a message that the patch rollback is complete.
- Step 6** Navigate to `$ISC_HOME/bin`.
- Step 7** Enter the **startwd** command to restart ISC.
- 

## Known Caveats in Cisco IP Solution Center 6.0.1

To find known problems in Cisco IP Solution Center, use the following URL:

<http://tools.cisco.com/Support/BugToolKit>

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.

The results display bug ID and title, found-in version, fixed-in version, and status. The bug ID is a hyperlink 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

The entire documentation set for Cisco IP Solution Center, 6.0.1 can be accessed at:

[http://www.cisco.com/en/US/products/sw/netmgmtsw/ps4748/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/products/sw/netmgmtsw/ps4748/tsd_products_support_series_home.html)

or at:

<http://www.cisco.com/go/isc>



Tip

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To copy and paste a two-line URL into the address field of your browser, you must copy and paste each line separately to get the entire URL without a break.

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The following documents comprise the ISC 6.0.1 documentation set:

**General documentation (in suggested reading order)**

- *Cisco IP Solution Center Getting Started and Documentation Guide, 6.0.*  
[http://www.cisco.com/en/US/docs/net\\_mgmt/ip\\_solution\\_center/6.0/roadmap/docguide.html](http://www.cisco.com/en/US/docs/net_mgmt/ip_solution_center/6.0/roadmap/docguide.html)
- *Release Notes for Cisco IP Solution Center, 6.0.*  
[http://www.cisco.com/en/US/docs/net\\_mgmt/ip\\_solution\\_center/6.0/release/notes/reInotes.html](http://www.cisco.com/en/US/docs/net_mgmt/ip_solution_center/6.0/release/notes/reInotes.html)
- *Cisco IP Solution Center Installation Guide, 6.0.*  
[http://www.cisco.com/en/US/docs/net\\_mgmt/ip\\_solution\\_center/6.0/installation/guide/installation.html](http://www.cisco.com/en/US/docs/net_mgmt/ip_solution_center/6.0/installation/guide/installation.html)
- *Cisco IP Solution Center Infrastructure Reference, 6.0.*  
[http://www.cisco.com/en/US/docs/net\\_mgmt/ip\\_solution\\_center/6.0/infrastructure/reference/guide/infrastructure.html](http://www.cisco.com/en/US/docs/net_mgmt/ip_solution_center/6.0/infrastructure/reference/guide/infrastructure.html)
- *Cisco IP Solution Center System Error Messages, 6.0.*  
[http://www.cisco.com/en/US/docs/net\\_mgmt/ip\\_solution\\_center/6.0/system/messages/messages.html](http://www.cisco.com/en/US/docs/net_mgmt/ip_solution_center/6.0/system/messages/messages.html)
- *Cisco IP Solution Center Third Party and Open Source Copyrights, 6.0.*  
[http://www.cisco.com/en/US/docs/net\\_mgmt/ip\\_solution\\_center/6.0/third\\_party/open\\_source/copyright/ISC\\_Third\\_Party\\_and\\_Open\\_Source\\_Copyrights60.html](http://www.cisco.com/en/US/docs/net_mgmt/ip_solution_center/6.0/third_party/open_source/copyright/ISC_Third_Party_and_Open_Source_Copyrights60.html)

**Application and technology documentation (listed alphabetically)**

- *Cisco IP Solution Center L2VPN and Carrier Ethernet User Guide, 6.0.*  
[http://www.cisco.com/en/US/docs/net\\_mgmt/ip\\_solution\\_center/6.0/l2vpn/user/guide/l2vpn60book.html](http://www.cisco.com/en/US/docs/net_mgmt/ip_solution_center/6.0/l2vpn/user/guide/l2vpn60book.html)
- *Cisco IP Solution Center MPLS Diagnostics Expert Failure Scenarios Guide, 6.0.*  
[http://www.cisco.com/en/US/docs/net\\_mgmt/ip\\_solution\\_center/6.0/mpls\\_failure\\_scenarios/user/guide/mdefs.html](http://www.cisco.com/en/US/docs/net_mgmt/ip_solution_center/6.0/mpls_failure_scenarios/user/guide/mdefs.html)
- *Cisco IP Solution Center MPLS Diagnostics Expert User Guide, 6.0.*  
[http://www.cisco.com/en/US/docs/net\\_mgmt/ip\\_solution\\_center/6.0/mpls\\_diagnostics/user/guide/mdeuser.html](http://www.cisco.com/en/US/docs/net_mgmt/ip_solution_center/6.0/mpls_diagnostics/user/guide/mdeuser.html)
- *Cisco IP Solution Center MPLS VPN User Guide, 6.0.*  
[http://www.cisco.com/en/US/docs/net\\_mgmt/ip\\_solution\\_center/6.0/mpls\\_vpn/user/guide/mps60book.html](http://www.cisco.com/en/US/docs/net_mgmt/ip_solution_center/6.0/mpls_vpn/user/guide/mps60book.html)
- *Cisco IP Solution Center Traffic Engineering Management User Guide, 6.0.*  
[http://www.cisco.com/en/US/docs/net\\_mgmt/ip\\_solution\\_center/6.0/traffic\\_management/user/guide/tem.html](http://www.cisco.com/en/US/docs/net_mgmt/ip_solution_center/6.0/traffic_management/user/guide/tem.html)

**API Documentation**

- *Cisco IP Solution Center API Programmer Guide, 6.0.*

[http://www.cisco.com/en/US/docs/net\\_mgmt/ip\\_solution\\_center/6.0/developer/guide/api\\_gd.html](http://www.cisco.com/en/US/docs/net_mgmt/ip_solution_center/6.0/developer/guide/api_gd.html)

- *Cisco IP Solution Center API Programmer Reference, 6.0.*

[http://www.cisco.com/en/US/docs/net\\_mgmt/ip\\_solution\\_center/6.0/developer/reference/xmlapi.zip](http://www.cisco.com/en/US/docs/net_mgmt/ip_solution_center/6.0/developer/reference/xmlapi.zip)



**Note**

All documentation *might* be upgraded over time. All upgraded documentation will be available at the same URLs specified in this document.

## Obtaining Documentation, Obtaining Support, and Security Guidelines

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

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