



## Preface

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## Audience

This guide is intended primarily for data center administrators with responsibilities and expertise in one or more of the following:

- Virtual machine installation and administration
- Server administration
- Switch and network administration
- Cloud administration

## New and Changed Information

The following table provides an overview of the significant changes to the organization and features in this guide up to this current release. The table does not provide an exhaustive list of all changes made to the guide or of the new features up to this release.

**Table 1: New Features and Changed Behavior in Cisco APIC Release 4.0(1)**

Feature or Change	Description	Where Documented
Advertise Host Route configuration	Support for advertising host route configuration on a border leaf	<a href="#">Routed Connectivity to External Networks</a>
Disable dataplane IP learning per VRF	Allows IP learning through the dataplane to be disabled on a VRF.	<a href="#">Dataplane IP Learning per VRF</a>

Feature or Change	Description	Where Documented
Remote Leaf: WAN bandwidth usage improvement and reduced dependency on ACI main DC.	Maintain data paths when main data center is unreachable. Reduced WAN bandwidth used by services.	<a href="#">Remote Leaf Switches</a>
New QoS class levels	QoS now supports new levels 4, 5, and 6 configured under global policies, EPG, L3out, custom QoS, and contracts.	<a href="#">L3Outs QoS</a>
Fabric RP	Enables you to configure an RP on any leafs within the fabric. This is necessary for supporting inter-VRF multicast.	<a href="#">About Rendezvous Points</a>
Inter-VRF Multicast	Inter-VRF multicast enables reverse path forwarding (RPF) lookup for a multicast route in the receiver VRF to be carried out in the source VRF.	<a href="#">About Inter-VRF Multicast</a>
Configure a QoS class or create a customizable QoS policy	You can now configure a QoS class or create a custom QoS policy to apply on an L3Out interface.	<a href="#">L3Outs QoS</a>

## Document Conventions

Command descriptions use the following conventions:

Convention	Description
<b>bold</b>	Bold text indicates the commands and keywords that you enter literally as shown.
<i>Italic</i>	Italic text indicates arguments for which the user supplies the values.
[x]	Square brackets enclose an optional element (keyword or argument).
[x   y]	Square brackets enclosing keywords or arguments separated by a vertical bar indicate an optional choice.
{x   y}	Braces enclosing keywords or arguments separated by a vertical bar indicate a required choice.
[x {y   z}]	Nested set of square brackets or braces indicate optional or required choices within optional or required elements. Braces and a vertical bar within square brackets indicate a required choice within an optional element.
variable	Indicates a variable for which you supply values, in context where italics cannot be used.

Convention	Description
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.

Examples use the following conventions:

Convention	Description
screen font	Terminal sessions and information the switch displays are in screen font.
<b>boldface screen font</b>	Information you must enter is in boldface screen font.
<i>italic screen font</i>	Arguments for which you supply values are in italic screen font.
< >	Nonprinting characters, such as passwords, are in angle brackets.
[ ]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

This document uses the following conventions:



**Note** Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the manual.



**Caution** Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.



**Warning** IMPORTANT SAFETY INSTRUCTIONS

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device.

SAVE THESE INSTRUCTIONS

## Related Documentation

### Application Policy Infrastructure Controller (APIC) Documentation

The following companion guides provide documentation for APIC:

- *Cisco APIC Getting Started Guide*
- *Cisco APIC Basic Configuration Guide*

- *Cisco ACI Fundamentals*
- *Cisco APIC Layer 2 Networking Configuration Guide*
- *Cisco APIC Layer 3 Networking Configuration Guide*
- *Cisco APIC NX-OS Style Command-Line Interface Configuration Guide*
- *Cisco APIC REST API Configuration Guide*
- *Cisco APIC Layer 4 to Layer 7 Services Deployment Guide*
- *Cisco ACI Virtualization Guide*
- *Cisco Application Centric Infrastructure Best Practices Guide*

All these documents are available at the following URL: <http://www.cisco.com/c/en/us/support/cloud-systems-management/application-policy-infrastructure-controller-apic/tsd-products-support-series-home.html>

### **Cisco Application Centric Infrastructure (ACI) Documentation**

The broader ACI documentation is available at the following URL: <http://www.cisco.com/c/en/us/support/cloud-systems-management/application-policy-infrastructure-controller-apic/tsd-products-support-series-home.html>.

### **Cisco Application Centric Infrastructure (ACI) Simulator Documentation**

The Cisco ACI Simulator documentation is available at <http://www.cisco.com/c/en/us/support/cloud-systems-management/application-centric-infrastructure-simulator/tsd-products-support-series-home.html>.

### **Cisco Nexus 9000 Series Switches Documentation**

The Cisco Nexus 9000 Series Switches documentation is available at <http://www.cisco.com/c/en/us/support/switches/nexus-9000-series-switches/tsd-products-support-series-home.html>.

### **Cisco Application Virtual Switch Documentation**

The Cisco Application Virtual Switch (AVS) documentation is available at <http://www.cisco.com/c/en/us/support/switches/application-virtual-switch/tsd-products-support-series-home.html>.

### **Cisco Application Centric Infrastructure (ACI) Integration with OpenStack Documentation**

Cisco ACI integration with OpenStack documentation is available at <http://www.cisco.com/c/en/us/support/cloud-systems-management/application-policy-infrastructure-controller-apic/tsd-products-support-series-home.html>.

## Documentation Feedback

To provide technical feedback on this document, or to report an error or omission, please send your comments to [apic-docfeedback@cisco.com](mailto:apic-docfeedback@cisco.com). We appreciate your feedback.