Multicast User Authentication and Profile Support

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see Bug Search Tool and the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the feature information table at the end of this module.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Restrictions for Multicast User Authentication and Profile Support

The port, interface, VC, or VLAN ID is the user or subscriber identity. User identity by hostname, user ID, or password is not supported.

Information About Multicast User Authentication and Profile Support

IPv6 Multicast User Authentication and Profile Support

IPv6 multicast by design allows any host in the network to become a receiver or a source for a multicast group. Therefore, multicast access control is needed to control multicast traffic in the network. Access control functionality consists mainly of source access control and accounting, receiver access control and accounting, and provisioning of this access control mechanism.

Multicast access control provides an interface between multicast and authentication, authorization, and accounting (AAA) for provisioning, authorizing, and accounting at the last-hop device, receiver access control functions in multicast, and group or channel disabling capability in multicast.

When you deploy a new multicast service environment, it is necessary to add user authentication and provide a user profile download on a per-interface basis. The use of AAA and IPv6 multicast supports user authentication and downloading of the user profile in a multicast environment.

The event that triggers the download of a multicast access-control profile from the RADIUS server to the access device is arrival of an MLD join on the access device. When this event occurs, a user can cause the authorization cache to time out and request download periodically or use an appropriate multicast clear command to trigger a new download in case of profile changes.

Accounting occurs via RADIUS accounting. Start and stop accounting records are sent to the RADIUS server from the access device. In order for you to track resource consumption on a per-stream basis, these accounting records provide information about the multicast source and group. The start record is sent when the last-hop device receives a new MLD report, and the stop record is sent upon MLD leave or if the group or channel is deleted for any reason.

How to Configure Multicast User Authentication and Profile Support

Enabling AAA Access Control for IPv6 Multicast

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **aaa new-model**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**aaa new-model** **Example:** `Device(config)# aaa new-model`	Enables the AAA access control system.

Specifying Method Lists and Enabling Multicast Accounting

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **aaa authorization multicast default** [*method3* | *method4*
4. **aaa accounting multicast default** [**start-stop** | **stop-only**] [**broadcast**] [*method1*] [*method2*] [*method3*] [*method4*
5. **interface** *type number*
6. **ipv6 multicast aaa account receive** *access-list-name* [**throttle** *throttle-number*

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. • Enter your password if prompted.

	Command or Action	Purpose
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**aaa authorization multicast default** [*method3* | *method4* **Example:** `Device(config)# aaa authorization multicast default`	Enables AAA authorization and sets parameters that restrict user access to an IPv6 multicast network.
Step 4	**aaa accounting multicast default** [**start-stop** | **stop-only**] [**broadcast**] [*method1*] [*method2*] [*method3*] [*method4* **Example:** `Device(config)# aaa accounting multicast default`	Enables AAA accounting of IPv6 multicast services for billing or security purposes when you use RADIUS.
Step 5	**interface** *type number* **Example:** `Device(config)# interface FastEthernet 1/0`	Specifies an interface type and number, and places the device in interface configuration mode.
Step 6	**ipv6 multicast aaa account receive** *access-list-name* [**throttle** *throttle-number* **Example:** `Device(config-if)# ipv6 multicast aaa account receive list1`	Enables AAA accounting on specified groups or channels.

Disabling the Device from Receiving Unauthenticated Multicast Traffic

In some situations, access control may be needed to prevent multicast traffic from being received unless the subscriber is authenticated and the channels are authorized as per access control profiles. That is, there should be no traffic at all unless specified otherwise by access control profiles.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ipv6 multicast group-range** [*access-list-name*]

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**ipv6 multicast group-range** [*access-list-name*] **Example:** `Device(config)# ipv6 multicast group-range`	Disables multicast protocol actions and traffic forwarding for unauthorized groups or channels on all the interfaces in a device.

Configuration Examples for Multicast User Authentication and Profile Support

Example: Enabling AAA Access Control, Specifying Method Lists, and Enabling Multicast Accounting for IPv6

```
Device(config)# aaa new-model
Device(config)# aaa authorization multicast default
Device(config)# aaa accounting multicast default
Device(config)# interface FastEthernet 1/0
Device(config-if)# ipv6 multicast aaa account receive list1
```

Additional References for IPv6 Services: AAAA DNS Lookups

Related Documents

Related Topic	Document Title
IPv6 addressing and connectivity	*IPv6 Configuration Guide*
IPv4 services configuration	*IP Application Services Configuration Guide*

Related Topic	Document Title
Cisco IOS commands	Cisco IOS Master Commands List, All Releases
IPv6 commands	*Cisco IOS IPv6 Command Reference*
Cisco IOS IPv6 features	Cisco IOS IPv6 Feature Mapping

Standards and RFCs

Standard/RFC	Title
RFCs for IPv6	*IPv6 RFCs*

MIBs

MIB	MIBs Link
None.	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

Technical Assistance

Description	Link
The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for Multicast User Authentication and Profile Support

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

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Table 1: Feature Information for User Authentication and Profile Support

Feature Name	Releases	Feature Information
Multicast User Authentication and Profile Support	12.4(4)T Cisco IOS XE Release 3.8S	Multicast access control provides an interface between multicast and AAA for provisioning, authorizing, and accounting at the last-hop router, receiver access control functions in multicast, and group or channel disabling capability in multicast. The following commands were introduced or modified: **aaa accounting multicast default**, **aaa authorization multicast default**, **clear ipv6 multicast aaa authorization**, **ipv6 multicast aaa account receive**.