Standard IP Access List Logging

The Standard IP Access List Logging feature provides the ability to log messages about packets that are permitted or denied by a standard IP access list. Any packet that matches the access list logs an information message about the packet at the device console.

This module provides information about standard IP access list logging.

Restrictions for Standard IP Access List Logging

IP access list logging is supported only for routed interfaces or router access control lists (ACLs).

Information About Standard IP Access List Logging

Standard IP Access List Logging

The Standard IP Access List Logging feature provides the ability to log messages about packets that are permitted or denied by a standard IP access list. Any packet that matches the access list causes an information log message about the packet to be sent to the device console. The log level of messages that are printed to the device console is controlled by the **logging console** command.

The first packet that the access list inspects triggers the access list to log a message at the device console. Subsequent packets are collected over 5-minute intervals before they are displayed or logged. Log messages include information about the access list number, the source IP address of packets, the number of packets from the same source that were permitted or denied in the previous 5-minute interval, and whether a packet was permitted or denied. You can also monitor the number of packets that are permitted or denied by a particular access list, including the source address of each packet.

How to Configure Standard IP Access List Logging

Creating a Standard IP Access List Using Numbers

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **access-list** *access-list-number* {**deny** | **permit**} **host** *address* [**log**]
4. **access-list** *access-list-number* {**deny** | **permit**} **any** [**log**]
5. **interface** *type number*
6. **ip access-group** *access-list-number* {**in** | **out**}
7. **end**

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	**access-list** *access-list-number* {**deny** | **permit**} **host** *address* [**log**] **Example:** `Device(config)# access-list 1 permit host 10.1.1.1 log`	Defines a standard numbered IP access list using a source address and wildcard, and configures the logging of informational messages about packets that match the access list entry at the device console.
Step 4	**access-list** *access-list-number* {**deny** | **permit**} **any** [**log**] **Example:** `Device(config)# access-list 1 permit any log`	Defines a standard numbered IP access list by using an abbreviation for the source and source mask 0.0.0.0 255.255.255.255.
Step 5	**interface** *type number* **Example:**	Configures an interface and enters interface configuration mode.
Step 6	**ip access-group** *access-list-number* {**in** | **out**} **Example:** `Device(config-if)# ip access-group 1 in`	Applies the specified numbered access list to the incoming or outgoing interface. • When you filter based on source addresses, you typically apply the access list to an incoming interface.

	Command or Action	Purpose
Step 7	**end** **Example:** `Device(config-if)# end`	Exits interface configuration mode and enters privileged EXEC mode.

Creating a Standard IP Access List Using Names

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ip access-list standard** *name*
4. {**deny** | **permit**} {**host** *address* | **any**} **log**
5. **exit**
6. **interface** *type number*
7. **ip access-group** *access-list-name* {**in** | **out**}
8. **end**

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	**ip access-list standard** *name* **Example:** `Device(config)# ip access-list standard acl1`	Defines a standard IP access list and enters standard named access list configuration mode.
Step 4	{**deny** | **permit**} {**host** *address* | **any**} **log** **Example:** `Device(config-std-nacl)# permit host 10.1.1.1 log`	Sets conditions in a named IP access list that will deny packets from entering a network or permit packets to enter a network, and configures the logging of informational messages about packets that match the access list entry at the device console.
Step 5	**exit** **Example:** `Device(config-std-nacl)# exit`	Exits standard named access list configuration mode and enters global configuration mode.
Step 6	**interface** *type number* **Example:**	Configures an interface and enters interface configuration mode.

	Command or Action	Purpose
Step 7	**ip access-group** *access-list-name* {**in** | **out**} **Example:** `Device(config-if)# ip access-group acl1 in`	Applies the specified access list to the incoming or outgoing interface. • When you filter based on source addresses, you typically apply the access list to an incoming interface.
Step 8	**end** **Example:** `Device(config-if)# end`	Exits interface configuration mode and enters privileged EXEC mode.

Configuration Examples for Standard IP Access List Logging

Example: Creating a Standard IP Access List Using Numbers

```
Device# configure terminal
Device(config)# access-list 1 permit host 10.1.1.1 log
Device(config)# access-list 1 permit any log

Device(config-if)# ip access-group 1 in
```

Example: Creating a Standard IP Access List Using Names

```
Device# configure terminal
Device(config)# ip access-list standard acl1
Device(config-std-nacl)# permit host 10.1.1.1 log
Device(config-std-nacl)# exit

Device(config-if)# ip access-group acl1 in
```

Example: Limiting Debug Output

The following sample configuration uses an access list to limit the **debug** command output. Limiting the **debug** output restricts the volume of data to what you are interested in, saving you time and resources.

```
Device(config)# ip access-list acl1
Device(config-std-nacl)# remark Displays only advertisements for LDP peer in acl1
Device(config-std-nacl)# permit host 10.0.0.44

Device# debug mpls ldp advertisements peer-acl acl1

tagcon: peer 10.0.0.44:0 (pp 0x60E105BC): advertise 172.17.0.33
tagcon: peer 10.0.0.44:0 (pp 0x60E105BC): advertise 172.16.0.31
tagcon: peer 10.0.0.44:0 (pp 0x60E105BC): advertise 172.22.0.33
tagcon: peer 10.0.0.44:0 (pp 0x60E105BC): advertise 192.168.0.1
tagcon: peer 10.0.0.44:0 (pp 0x60E105BC): advertise 192.168.0.3
tagcon: peer 10.0.0.44:0 (pp 0x60E105BC): advertise 192.168.1.33
```

Additional References for Standard IP Access List Logging

Related Documents

Related Topic	Document Title
Security commands	• Cisco IOS Security Command Reference: Commands A to C • Cisco IOS Security Command Reference: Commands D to L • Cisco IOS Security Command Reference: Commands M to R • Cisco IOS Security Command Reference: Commands S to Z

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 Standard IP Access List Logging

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.

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.

Table 1: Feature Information for Standard IP Access List Logging

Feature Name	Releases	Feature Information
Standard IP Access List Logging		The Standard IP Access List Logging feature provides the ability to log messages about packets that are permitted or denied by a standard IP access list. Any packet that matches the access list logs an information message about the packet at the device console.