

IPv6 Template ACL

When user profiles are configured using vendor-specific attribute (VSA) Cisco AV-pairs, similar per-user IPv6 ACLs may be replaced by a single template ACL. That is, one ACL represents many similar ACLs. By using IPv6 template ACLs, you can increase the total number of per-user ACLs while minimizing the memory and Ternary Content Addressable Memory (TCAM) resources needed to support the ACLs.

The IPv6 Template ACL feature can create templates using the following ACL fields:

- IPv6 source and destination addresses
- TCP and UDP, including all associated ports (0 through 65535)
- ICMP neighbor discovery advertisements and solicitations
- IPv6 DSCP with specified DSCP values

ACL names are dynamically generated by this feature; for example:

- 6Temp_#152875854573--Example of a dynamically generated template name for a template ACL parent
- Virtual-Access2.32135#152875854573--Example of a child ACL or an ACL that has not yet been made part of a template.

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Information About IPv6 ACL—Template ACL

IPv6 Template ACL

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How to Enable IPv6 ACL—Template ACL

Enabling IPv6 Template Processing

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **access-list template** [*number-of-rules*]
4. **exit**
5. **show access-list template** {**summary** | *aclname* | **exceed** *number* | **tree**}

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**access-list template** [*number-of-rules*] **Example:** `Router(config)# access-list template 50`	Enables template ACL processing. • The example in this task specifies that ACLs with 50 or fewer rules will be considered for template ACL status.

	Command or Action	Purpose
		• The *number-of-rules* argument default is 100.
Step 4	**exit** **Example:** `Router(config)# exit`	Exits global configuration mode and places the router in privileged EXEC mode.
Step 5	**show access-list template** {**summary** | *aclname* | **exceed** *number* | **tree**} **Example:** `Router# show access-list template summary`	Displays information about ACL templates.

Configuration Examples for IPv6 ACL—Template ACL

Example: IPv6 Template ACL Processing

In this example, the contents of ACL1 and ACL2 are the same, but the names are different:

```
ipv6 access-list extended ACL1 (PeerIP: 2001:1::1/64)
permit igmp any                 2003:1::1/64
permit icmp 2002:5::B/64        any
permit udp  any                 host 2004:1::5
permit udp  any                 host 2002:2BC::a
permit icmp host 2001:BC::7     host 2003:3::7
ipv6 access-list extended ACL2 (PeerIP: 2007:2::7/64)
permit igmp any                 2003:1::1/64
permit icmp 2002:5::B/64        any
permit udp  any                 host 2004:1::5
permit udp  any                 host 2002:2BC::a
permit icmp host 2001:BC::7     host 2003:3::7
```

The template for these ACLs is as follows:

```
ipv6 access-list extended Template_1
permit igmp any                 2003:1::1/64
permit icmp 2002:5::B/64        any
permit udp  any                 host 2004:1::5
permit udp  any                 host 2002:2BC::a
permit icmp host 2001:BC::7     host 2003:3::7
```

Additional References

Related Documents

Related Topic	Document Title
IPv6 addressing and connectivity	*IPv6 Configuration Guide*
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

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 IPv6 ACL—Template ACL

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 IPv6 ACL—Template ACL

Feature Name	Releases	Feature Information
IPv6 ACL—Template ACL	Cisco IOS XE Release 3.2S	This feature allows similar per-user IPv6 ACLs to be replaced by a single template ACL. The following commands were introduced or modified: **access-list template**, **show access-list template**.