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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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.

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.

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

	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. • 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*
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
	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

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**.