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.

Finding Feature Information

Your software release may not support all the features that are documented in this module. For the latest feature information and caveats, see the release notes for your platform and software release. The Feature Information Table at the end of this document provides information about the documented features and lists the releases in which each feature is supported.

Contents

Hardware Compatibility Matrix for the Cisco cBR Series Routers

Note The hardware components that are introduced in a given Cisco IOS-XE Release are supported in all subsequent releases unless otherwise specified.

Table 1: Hardware Compatibility Matrix for the Cisco cBR Series Routers

Cisco CMTS Platform	Processor Engine	Interface Cards
Cisco cBR-8 Converged Broadband Router	**Cisco IOS-XE Release 16.5.1 and Later Releases** Cisco cBR-8 Supervisor: • PID—CBR-SUP-250G • PID—CBR-CCAP-SUP-160G	**Cisco IOS-XE Release 16.5.1 and Later Releases** Cisco cBR-8 CCAP Line Cards: • PID—CBR-LC-8D30-16U30 • PID—CBR-LC-8D31-16U30 • PID—CBR-RF-PIC • PID—CBR-RF-PROT-PIC • PID—CBR-CCAP-LC-40G • PID—CBR-CCAP-LC-40G-R • PID—CBR-CCAP-LC-G2-R • PID—CBR-SUP-8X10G-PIC • PID—CBR-2X100G-PIC Digital PICs: • PID—CBR-DPIC-8X10G • PID—CBR-DPIC-2X100G Cisco cBR-8 Downstream PHY Module: • PID—CBR-D31-DS-MOD Cisco cBR-8 Upstream PHY Modules: • PID—CBR-D31-US-MOD

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.

	Command or Action	Purpose
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*
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 Template ACL

Use Cisco Feature Navigator to find information about the platform support and software image support. Cisco Feature Navigator enables you to determine which software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to the https://cfnng.cisco.com/ link. An account on the Cisco.com page is not required.

The following table lists the software release in which a given feature is introduced. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Table 2: Feature Information for IPv6 Template ACL

Feature Name	Releases	Feature Information
IPv6 Access Lists	Cisco IOS XE Fuji 16.7.1	This feature was integrated into Cisco IOS XE Fuji 16.7.1 on theCisco cBR Series Converged Broadband Routers.