



Enabling NAT High-Speed Logging per VRF

The Enabling NAT High-Speed Logging Per VRF feature provides the ability to enable and disable Network Address Translation (NAT) high-speed logging (HAL) for virtual routing and forwarding (VRF) instances.

This module provides information about how to enable HSL for VRFs.

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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 Enabling NAT High-Speed Logging per VRF

High-Speed Logging for NAT

Network Address Translation (NAT) supports high-speed logging (HSL) for upto 4 destinations. When HSL is configured, NAT provides a log of the packets flowing through the routing devices (similar to the Version 9 NetFlow-like records) to an external collector. Records are sent for each binding (binding is the address binding between the local address and the global address to which the local address is translated) and when sessions are created and destroyed. Session records contain the full 5-tuple of information (the source IP address, destination IP address, source port, destination port, and protocol). A tuple is an ordered list of elements. NAT also sends an HSL message when a NAT pool runs out of addresses (also called *pool exhaustion*). Because the pool exhaustion messages are rate limited, each packet that hits the pool exhaustion condition does not trigger an HSL message.

The table below describes the templates for HSL bind and session create or destroy.

Table 1: Template for HSL Bind and Session Create or Destroy

| Field | Format | ID | Value |
|---|--------------|-----|--|
| Source IP address | IPv4 address | 8 | varies |
| Translated source IP address | IPv4 address | 225 | varies |
| Destination IP address | IPv4 address | 12 | varies |
| Translated destination IP address | IPv4 address | 226 | varies |
| Original source port | 16-bit port | 7 | varies |
| Translated source port | 16-bit port | 227 | varies |
| Original destination port | 16-bit port | 11 | varies |
| Translated destination port | 16-bit port | 228 | varies |
| Virtual routing and forwarding (VRF) ID | 32-bit ID | 234 | varies |
| Protocol | 8-bit value | 4 | varies |
| Event | 8-bit value | 230 | 0-Invalid 1-Adds event 2-Deletes event |
| Unix timestamp in milliseconds | 64-bit value | 323 | varies Note Based on your release version, this field will be available. |

The table below describes the HSL pool exhaustion templates.

Table 2: Template for HSL Pool Exhaustion

| Field | Format | ID | Values |
|-------------|--------------|-----|----------------|
| NAT pool ID | 32-bit value | 283 | varies |
| NAT event | 8-bit value | 230 | 3-Pool exhaust |

How to Configure Enabling NAT High-Speed Logging per VRF

Enabling High-Speed Logging of NAT Translations

You can enable or disable high-speed logging (HSL) of all Network Address Translation (NAT) translations or only translations for specific VPNs.

You must first use the **ip nat log translations flow-export v9 udp destination** command to enable HSL for all VPN and non-VPN translations. . VPN translations are also known as Virtual Routing and Forwarding (VRF) translations.

After you enable HSL for all NAT translations, you can then use the **ip nat log translations flow-export v9 vrf-name** command to enable or disable translations for specific VPNs. When you use this command, HSL is disabled for all VPNs, except for the ones the command is explicitly enabled.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ip nat log translations flow-export v9 udp destination source** *interface type interface-number*
4. **ip nat log translations flow-export v9** {*vrf-name* | **global-on**}
5. **exit**

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 nat log translations flow-export v9 udp destination source <i>interface type interface-number</i> Example: This example shows how to enable high-speed logging using an IPv4 address Device(config)# ip nat log translations flow-export v9 udp destination 10.10.0.1 1020 source GigabitEthernet 0/0/0 | |
| Step 4 | ip nat log translations flow-export v9 { <i>vrf-name</i> global-on } Example: | Enables or disables the high-speed logging of specific NAT VPN translations. |

| | Command or Action | Purpose |
|---------------|---|---|
| | Device(config)# ip nat log translations flow-export v9 VPN-18 | |
| Step 5 | exit Example: Device(config)# exit | (Optional) Exits global configuration mode and enters privileged EXEC mode. |

Configuration Examples for Enabling NAT High-Speed Logging per VRF

Example: Enabling High-Speed Logging of NAT Translations

```

Device# configure terminal
Device(config)# ip nat log translations flow-export v9 udp destination 10.10.0.1 1020 source
GigabitEthernet 0/0/0
Device(config)# ip nat log translations flow-export v9 VPN-18
Device(config)# exit

```

Additional References for Enabling NAT High-Speed Logging per VRF

Related Documents

| Related Topic | Document Title |
|--------------------|--|
| Cisco IOS commands | Cisco IOS Master Command List, All Releases |
| NAT commands | Cisco IOS IP Addressing Services Command Reference |

Standards and RFCs

| Standard/RFC | Title |
|--------------|-------|
| | |
| | |

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 Enabling NAT High-Speed Logging per VRF

Table 3: Feature Information for Enabling NAT High-Speed Logging per VRF

| Feature Name | Releases | Feature Information |
|---|---------------------------|--|
| Enabling NAT High-Speed Logging per VRF | Cisco IOS XE Release 3.1S | <p>The Enabling NAT High-Speed Logging per VRF feature provides the ability to enable and disable Network Address Translation (NAT) high-speed logging (HAL) for virtual routing and forwarding (VRF) instances.</p> <p>The following commands were introduced or modified: ip nat log translations flow-export.</p> |

