



Packet Drops

This document provides information about Packet Drops on the Cisco ASR 1000 Series Aggregation Services Routers.

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Information About Packet Drops

High Level Packet Flow

Cisco ASR 1000 Series Router comprises the following functional elements in the system:

- Cisco ASR 1000 Series Route Processor (RP)
- Cisco ASR 1000 Series Embedded Services Processor (ESP)
- Cisco ASR 1000 Series SPA Interface Processor (SIP) or Modular Interface Processor

The Cisco ASR 1000 Series Routers introduce the Cisco Quantum Flow Processor (QFP) as their hardware architecture. In the QFP based architecture, all packets are forwarded through ESP, so, if a problem occurs in ESP, the forwarding stops.

Viewing Packet Drops

From Cisco IOS XE 17.6, you can run the [show drops](#) command to troubleshoot the root cause of packet drops.

With the **show drops** command, you can identify the following:

- The root cause of the drop based on the feature or the protocol.
- The history of the QFP Drops.

Viewing Packet Drop Information

Perform the following steps to view and filter the packet drop information for your instance based on the interface, protocol, or feature:

SUMMARY STEPS

1. **enable**
2. **show drops**
3. **show drops { bqs | crypto| firewall| interface| ip-all| nat| punt| qfp| qos|history}**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables the privileged EXEC mode. Enter your password, if prompted.
Step 2	show drops Example: Router# show drops	Displays the drop statistics.
Step 3	show drops { bqs crypto firewall interface ip-all nat punt qfp qos history} Example: Router# show drops qfp	Displays the drop statistics and the summary for the interface or the protocol that you choose. Note From Cisco IOS XE 17.13.1a, a new keyword option history is added to the show drops command. The show drops history qfp command will allow the user to view the history of the QFP drops.

Example

Example for Viewing Packet Drop Information: Sample Output

The following is a sample output of the show drops command. This sample output displays the **packet drops** information related to the Quantum Flow Processor (QFP).

```
Router#show drops
bqs BQS related drops
crypto IPSEC related drops
firewall Firewall related drops
history History of drops
interface Interface drop statistics
ip-all IP related drops
nat NAT related drops
punt Punt path related drops
qfp QFP drop statistics
qos QoS related drops
| Output modifiers
<cr> <cr>
```

```

Router# show drops qfp
----- show platform hardware qfp active statistics drop detail
Last clearing of QFP drops statistics : Fri Feb 18 08:02:37 2022
(6d 23h 54m 29s ago)
-----
ID Global Drop Stats Packets
Octets
-----
319 BFDoffload 9
1350
61 Icmp 84
3780
53 IpFragErr 32136
48718168
244 IpLispHashLkupFailed 3
213
56 IpsecInput 18
4654
23 TailDrop 26713208
10952799454
216 UnconfiguredIpv6Fia 241788
26596680
----- show platform hardware qfp active interface all
statistics drop_summary
-----
Drop Stats Summary:
note: 1) these drop stats are only updated when PAL
reads the interface stats.
2) the interface stats include the subinterface
Interface Rx Pkts Tx Pkts
-----
GigabitEthernet1 60547 0
GigabitEthernet2 60782 27769658
GigabitEthernet3 60581 0
GigabitEthernet4 60502 1323990
Tunnel14095001 0 1990214
Tunnel14095002 0 3883238
Tunnel14095003 0 3879243
Tunnel14095004 0 2018866
Tunnel14095005 0 3875972
Tunnel14095006 0 3991497
Tunnel14095007 0 4107743
Tunnel14095008 0 3990601

```

Verifying Packet Information

This section shows examples of command output to verify packet information.

In order to display statistics of drops for all interfaces in Packet Processor Engine (PPE), use the command **show drops qfp**.



Note The wrapper command **show drops qfp** is the shorthand notation for the original **show platform hardware qfp active statistics drop** command.

```

Router#show drops qfp
-----
Global Drop Stats Octets

```

```
Packets
-----
AttnInvalidSpid 0 0
BadDistFifo 0 0
BadIpChecksum 0 0
```

In order to display the history of QFP drops for all interfaces in Packet Processor Engine (PPE), use the command **show drops history qfp**. This command can also track the number of packet drops in the last 1-min, 5-min and 30-min time period.



Note The wrapper command **show drops history qfp** is the shorthand notation for the original **show platform hardware qfp active statistics drop history** command.



Note The wrapper command **show drops history qfp** is not available on Catalyst 8500L Edge Platform.

```
Router# show drops history qfp
Last clearing of QFP drops statistics : Mon Jun 26 07:29:14
2023
(21s ago)
-----
Global Drop Stats 1-Min
5-Min 30-Min All
-----
Ipv4NoAdj 0
0 0 99818
Ipv4NoRoute 0
0 0 99853
```