

Troubleshooting Packet Flow Issues

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Packet Flow Issues

Packets could be dropped for the following reasons:

- Software-switched packets could be dropped because of Control Plane Policing (CoPP).
- Hardware-switched packets could be dropped by the hardware because of a bandwidth limitation.

Beginning with Cisco NX-OS Release 10.3.(1)F, the following CLIs are supported on Cisco Nexus 9300 and 9500 Cloud Scale switches.

- **show hardware internal statistics module-all all**: Displays the statistics of active modules.
- **show hardware internal statistics module <module-no> all**: Displays the statistics of a particular active module from supervisor.

Packets Dropped Because of Rate Limits

Use the **show hardware rate-limit** command to determine if packets are being dropped because of a rate limit.

```
switch(config)# show hardware rate-limit module 1

Units for Config: packets per second
Allowed, Dropped & Total: aggregated since last clear counters

Rate Limiter Class                      Parameters
------------------------------------------------------------
access-list-log                        Config    : 100
                                       Allowed   : 0
                                       Dropped   : 0
                                       Total     : 0
```

Packets Dropped Because of CoPP

Use the **show policy-map interface control-plane** command to determine if packets are being dropped because of CoPP.

```
switch# show policy-map interface control-plane
   class-map copp-system-p-class-exception (match-any)
      match exception ip option
      match exception ip icmp unreachable
      match exception ttl-failure
      match exception ipv6 option
      match exception ipv6 icmp unreachable
      match exception mtu-failure
      set cos 1
      police cir 200 pps , bc 32 packets

      module 27 :
        transmitted 0 packets;
        dropped 0 packets;

      module 28 :
        transmitted 0 packets;
        dropped 0 packets;
```