

Configuring Traffic Storm Control

This chapter describes how to configure traffic storm control on the Cisco NX-OS device.

There is no Control Plane Policing (CoPP) implemented in the Cisco Nexus® 3550-T switches hardware. Storm-Control can be used to control the amount of traffic to CPU from each port. Storm-control feature on the Cisco Nexus® 3550-T switches does not provide any traffic classification.

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Licensing Requirements for Traffic Storm Control

The following table shows the licensing requirements for this feature:

Product	License Requirement
Cisco NX-OS	Traffic storm control requires no license. Any feature not included in a license package is bundled with the nx-os image and is provided at no extra charge to you. For an explanation of the Cisco NX-OS licensing scheme, see the *Cisco NX-OS Licensing Guide*.

Guidelines and Limitations for Traffic Storm Control

Traffic storm control has the following configuration guidelines and limitations:

- Cisco Nexus® 3550-T switches support setting the maximum allowed traffic frame rate per interface.

  This is provided through the CLI via the following command:

  ```
  storm-control-cpu all <rate>
  ```

- The pps range can be from 0 to 250000000.
- The default value is 2000.
- Storm control is applicable for physical interfaces, both L2 and L3.
- It is supported on port-channels.

The following limitations apply to Cisco Nexus® 3550-T switches:

- This rate limiting applies for all traffic types i.e., no protocol/pkt-type based throttling.
  - Due to the above limitation, it is possible that control packets such as CDP, LACP, ARP, OSPF can be lost when there are a number of software forwarded data packets, cache-misses or mac-learn notifications.

Configuration Examples for Traffic Storm Control

The following example shows how to configure traffic storm control:

```
module-1# show hardware internal exbl hw port_dump 46
port 46:
  unknown mcast      : false   l3 mcast           : false
  dst nat            : false   src nat            : false
  in meta            : false   out meta           : false
  mux mode           : false   access mode        : true
  default route      : false   forwarding         : true
  bridge (l2)        : true    ucast fail to sw   : false
  dst acl            : false   src acl            : false
  vrrp               : false

  rate burst size    : 255
  rate delay (cycles): 125000
<snip>
```

```
switch(config)# sh run int e1/47
!Command: show running-config interface Ethernet1/47
!Running configuration last done at: Thu Jan 31 01:10:45 2008
!Time: Thu Jan 31 19:01:15 2008

version 10.1(2t)E1(0) Bios:version 3.2

interface Ethernet1/47
  switchport
  no shutdown
```

```
module-1# show hardware internal exbl hw port_dump 46
port 46:
  unknown mcast      : false   l3 mcast           : false
  dst nat            : false   src nat            : false
  in meta            : false   out meta           : false
  mux mode           : false   access mode        : true
  default route      : false   forwarding         : true
  bridge (l2)        : true    ucast fail to sw   : false
  dst acl            : false   src acl            : false
  vrrp               : false

  rate burst size    : 255
  rate delay (cycles): 50000
<snip>
```

```
switch(config)# sh run int e1/47
!Command: show running-config interface Ethernet1/47
!Running configuration last done at: Thu Jan 31 01:10:45 2008
!Time: Thu Jan 31 19:01:15 2008

version 10.1(2t)E1(0) Bios:version 3.2

interface Ethernet1/47
```

```
  switchport
  storm-control-cpu all 5000
  no shutdown

module-1# show hardware internal exbl hw port_dump 46
port 46:
  unknown mcast      : false   l3 mcast           : false
  dst nat            : false   src nat            : false
  in meta            : false   out meta           : false
  mux mode           : false   access mode        : true
  default route      : false   forwarding         : true
  bridge (l2)        : true    ucast fail to sw   : false
  dst acl            : false   src acl            : false
  vrrp               : false

  rate burst size    : 255
  rate delay (cycles): 1
<snip>

switch(config)# sh run int e1/47
!Command: show running-config interface Ethernet1/47
!Running configuration last done at: Thu Jan 31 01:10:45 2008
!Time: Thu Jan 31 19:01:15 2008

version 10.1(2t)E1(0) Bios:version 3.2

interface Ethernet1/47
  switchport
  storm-control-cpu all 250000000
  no shutdown

module-1# show hardware internal exbl hw port_dump 46
port 46:
  unknown mcast      : false   l3 mcast           : false
  dst nat            : false   src nat            : false
  in meta            : false   out meta           : false
  mux mode           : false   access mode        : true
  default route      : false   forwarding         : true
  bridge (l2)        : true    ucast fail to sw   : false
  dst acl            : false   src acl            : false
  vrrp               : false

  rate burst size    : 255
  rate delay (cycles): 0  --□ Drops all packtes to host/CPU from this port
<snip>

switch(config)# sh run int e1/47
!Command: show running-config interface Ethernet1/47
!Running configuration last done at: Thu Jan 31 01:10:45 2008
!Time: Thu Jan 31 19:01:15 2008

version 10.1(2t)E1(0) Bios:version 3.2

interface Ethernet1/47
  switchport
  storm-control-cpu all 0
  no shutdown

module-1# show hardware internal exbl hw port_dump 46
port 46:
  unknown mcast      : false   l3 mcast           : false
  dst nat            : false   src nat            : false
  in meta            : false   out meta           : false
  mux mode           : false   access mode        : true
  default route      : false   forwarding         : true
  bridge (l2)        : true    ucast fail to sw   : false
```

```
  dst acl            : false   src acl            : false
  vrrp               : false

  rate burst size    : 255
  rate delay (cycles): 0  --□ Drops all packtes to host/CPU from this port
<snip>
```

```
switch(config)# sh run int e1/47
!Command: show running-config interface Ethernet1/47
!Running configuration last done at: Thu Jan 31 01:10:45 2008
!Time: Thu Jan 31 19:01:15 2008

version 10.1(2t)E1(0) Bios:version 3.2

interface Ethernet1/47
  switchport
  storm-control-cpu all 0
  no shutdown
```

Additional References for Traffic Storm Control

This section includes additional information related to implementing traffic storm control.

Related Documents

Related Topic	Document Title
Cisco NX-OS licensing	*Cisco NX-OS Licensing Guide*