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## Introducción

Este documento describe el nexo 5500 clases planas de la protección del control (CoPP) y que corresponden con el tipo de tráfico a cada clase.

## Antecedentes

CoPP fue introducido en el nexo 5500 vía la versión NX-OS 5.1(3). CoPP se implementa en el nexo 55xx solamente. No está disponible en el nexo 50x0.

## Nexo 5500 clases de CoPP y sus tipos de tráfico

El nexo 5500 proporciona el control muy limitado sobre CoPP comparó al nexo 7000. La directiva de CoPP del nexo 5500 no puede ser quitada totalmente. Un usuario puede elegir entre tres directivas predefinidas, o puede crear una directiva personalizada dado que las clases de CoPP no se pueden quitar del directiva-mapa. Solamente la tarifa/el tamaño de ráfaga de la Velocidad de información comprometida (CIR) puede ser editada. Tampoco nuevo CoPP class-maps no puede ser definido.

Las correspondencias de políticas posibles de CoPP son:

- copp-sistema-directiva-valor por defecto
- copp-system-policy-scaled-l2
- copp-system-policy-scaled-l3
- copp-sistema-directiva-personalice

los nombres del Directiva-mapa son que se explica por sí mismo. Solamente uno de las cuatro directivas puede ser aplicado en un solo rato. El retiro de cualquier directiva aplica automáticamente la política predeterminada.

Copp-sistema-directiva-personalizado solamente puede ser editado. Si usted intenta editar las primeras tres directivas, se vuelve un error:

```
Switch(config)# policy-map type control-plane copp-system-policy-scaled-l2  
ERROR: Only copp-system-policy-customized can be modified  
Switch(config)#
```

## Clases de CoPP

Todo el uso class-maps las sentencias de protocolo de la coincidencia.

El class-maps no aparece en la configuración corriente. La única configuración CoPP-relacionada que muestra en los ejecutar-config es el config personalizado no valor por defecto del directiva-mapa. Por ejemplo:

```
Switch# sh run copp
!Command: show running-config copp
!Time: Tue Apr 30 20:20:00 2013

version 5.2(1)N1(2)
logging level copp 4
policy-map type control-plane copp-system-policy-customized
  class copp-system-class-arp
    police cir 5000 kbps bc 3600000 bytes
  class copp-system-class-default
    police cir 2048 kbps bc 6400000 bytes
control-plane
  service-policy input copp-system-policy-customized
```

Switch#

CoPP class-maps se puede marcar con la **controle de plano del tipo del clase-mapa de la demostración** o la **controle de plano del show policy-map interface**. Una descripción se proporciona al lado de cada declaración de coincidencia:

```
Switch# show policy-map interface control-plane | i class-map|match      class-map copp-system-
class-igmp (match-any)
  match protocol igmp --> Matches on IGMP IP protocol number (2)
class-map copp-system-class-pim-hello (match-any)
  match protocol pim --> Matches on PIM IP protocol number (103)
class-map copp-system-class-bridging (match-any)
  match protocol bridging --> Matches on STP BPDUs
class-map copp-system-class-arp (match-any)
  match protocol arp --> Matches on ARP Ethertype (0x806)
class-map copp-system-class-dhcp (match-any)
  match protocol dhcp --> Matches on DHCP UDP port number (67, 68)
class-map copp-system-class-mgmt (match-any)
  match protocol mgmt. --> Matches on Telnet, SSH, HTTP, SNMP, FTP,
  NTP using their well-known ports
class-map copp-system-class-lacp (match-any)
  match protocol lacp --> Matches LACP BPDUs address and Ethertype
  (01-80-C2-00-00-02, 078809)
class-map copp-system-class-lldp (match-any)
  match protocol lldp_dcx --> Matches on LLDP ethertype (0x88CC)
class-map copp-system-class-udld (match-any)
  match protocol udld --> Matches on UDLD destination address
class-map copp-system-class-isis (match-any)
  match protocol isis_dce --> Matches on ISIS Ethertype
class-map copp-system-class-msdp (match-any)
  match protocol msdp --> Matches on MSDP TCP port (639)
class-map copp-system-class-cdp (match-any)
  match protocol cdp --> Matches on CDP destination address 0100.0ccc.cccc
class-map copp-system-class-fip (match-any)
  match protocol fip --> Matches on FIP ethertype (0x8914)
class-map copp-system-class-bgp (match-any)
  match protocol bgp --> Matches on BGP TCP port number (179)
class-map copp-system-class-eigrp (match-any)
  match protocol eigrp --> Matches on EIGRP IP Protocol number (88)
class-map copp-system-class-exception (match-any)
```

```

    match protocol exception --> IP options, Martian packets (same src and dst addresses)
class-map copp-system-class-glean (match-any)
    match protocol glean --> Matches on Adjacency lookup miss
class-map copp-system-class-hsrp-vrrp (match-any)
    match protocol hsrp_vrrp --> Matches on HSRP & VRRP Destination IP
class-map copp-system-class-icmp-echo (match-any)
    match protocol icmp_echo --> Matches on ICMP type for echo
class-map copp-system-class-ospf (match-any)
    match protocol ospf --> Matches on OSPF IP Protocol number (89)
class-map copp-system-class-pim-register (match-any)
    match protocol reg --> Matches on PIM register packets
class-map copp-system-class-rip (match-any)
    match protocol rip --> Matches on RIP UDP Port (520)
class-map copp-system-class-l3dest-miss (match-any)
    match protocol unicast --> Miss in UFIB Lookup
class-map copp-system-class-mcast-miss (match-any)
    match protocol multicast --> Miss in MFIB Lookup
class-map copp-system-class-excp-ip-frag (match-any)
    match protocol ip_frag --> Matches on MTU-exceeded traffic
class-map copp-system-class-excp-same-if (match-any)
    match protocol same-if --> Matches traffic to be sent via same ingress interface
class-map copp-system-class-excp-ttl (match-any)
    match protocol ttl --> Matches on TTL=0/1
class-map copp-system-class-default (match-any)
    match protocol default --> Matches packets not matched by previous classes

```

Switch#

CoPP class-maps se ha aumentado en la versión 5.2 para hacer juego en las contrapartes de los paquetes de control del IPv6:

```

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class-map copp-system-class-excp-ttl (match-any)
    match protocol ttl --> Matches on TTL=0/1
class-map copp-system-class-default (match-any)
    match protocol default --> Matches packets not matched by previous classes
Switch#
```