Contenu

Introduction

Ce document décrit les classes de Control Plane Protection du Nexus 5500 (CoPP) et que le type de trafic est apparié à chaque classe.

Informations générales

CoPP a été introduit sur le Nexus 5500 par l'intermédiaire de la version NX-OS 5.1(3). CoPP est mis en application sur le Nexus 55xx seulement. Il n'est pas disponible sur le Nexus 50x0.

Classes de CoPP du Nexus 5500 et leurs types de trafic

Le Nexus 5500 fournit le contrôle très limité de CoPP a comparé au Nexus 7000. La stratégie de CoPP du Nexus 5500 ne peut pas être complètement enlevée. Un utilisateur peut choisir entre trois stratégies de prédéfinis, ou peut créer une stratégie personnalisée étant donné que des classes de CoPP ne peuvent pas être enlevées du policy-map. Seulement le débit du débit de données garanti (CIR)/taille de rafale peut être édité. Également aucun nouveau class-map de CoPP ne peut être défini.

Les policy-map possibles de CoPP sont :

- copp-système-stratégie-par défaut
- copp-system-policy-scaled-l2
- copp-system-policy-scaled-l3
- copp-système-stratégie-personnalisez

Les noms de policy-map sont explicites. Seulement un des quatre stratégies peut être appliqué à un seul temps. La suppression de n'importe quelle stratégie applique automatiquement la stratégie par défaut.

Seulement copp-système-stratégie-personnalisé peut être édité. Si vous tentez d'éditer les trois premières stratégies, une erreur est retournée :

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

Classes de CoPP

Tous les class-map utilisent les déclarations de match protocol.

Les class-map n'apparaissent pas en configuration en cours. La seule configuration liée CoPP qui affiche dans le running-config est le config de policy-map personnalisé parpar défaut. Exemple :

```
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#
```

Des class-map de CoPP peuvent être vérifiés avec le **show class-map type control-plane** ou le contrôle-**avion de show policy-map interface**. Une description est fournie à côté de chaque déclaration de correspondance :

```
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 BPDU address and Ethertype
     (01-80-C2-00-00-02, 0?8809)
   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#
```

Des class-map de CoPP ont été augmentés dans la version 5.2 pour s'assortir sur les homologues de paquets de contrôle d'IPv6 :

```
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