

Nexus 7000 OSPF-probleemoplossing bij problemen

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Inleiding

Dit document behandelt verschillende gebruikelijke scenario's die zijn aangetroffen waar de OSPF-buurman (Open Shortest Path First) niet online komt zoals verwacht. Om dit type onverwacht gedrag op Cisco Nexus 7000 Series-switches te voorkomen, dient u de richtlijnen en beperkingen van Layer 3 (L3) en Virtual Port Channel (vPC) te volgen.

Achtergrondinformatie

Zorg ervoor dat de richtlijnen en beperkingen worden nageleefd voordat u problemen met uw probleemoplossing oplost. Raadpleeg de [Design and Configuration Guide: Best Practices for Virtual Port Channel \(vPC\) op Cisco Nexus 7000 Series-switches](#) voor meer informatie over L3 en vPC.

De procedure die wordt gebruikt om problemen op te lossen in verband met de nabijheid OSPF op de Nexus 7000 is gelijk aan de procedures voor Cisco IOS[®], maar Nexus 7000 heeft meer ingebouwde gereedschappen en filters om de kwestie gemakkelijk te identificeren.

OSPF-nabijheid is niet online

Er zijn tijden wanneer de OSPF nabijheid niet online komt. De **show ip ospf buurbevel** toont de buur niet.

```
R3#show ip ospf neighbor
```

```
R3#
```

Dit probleem kan worden veroorzaakt door:

- L2/L3-aansluitingsprobleem
- OSPF niet ingeschakeld op de interface
- Interface wordt gedefinieerd als passief
- Misbruik nevenmasker
- Niet afgesloten hallo/dode interval
- Niet-afgesloten verificatiesleutel
- Gebieden-id niet afgesloten
- Niet-gematchte optie voor transit/stub/Not-So-Stubby Area (NSSA)

Om het probleem te onderzoeken, controleert u de connectiviteit, configuratie en toegangscontrolelijst (ACL)/besturingsplane (CoPP).

Connectiviteit met L2/L3 controleren

1. Controleer de eenastverbinding met pingelen.

Als er een aansluitingsprobleem is, ontdek dan of dit te wijten is aan de L2 Internet Service Provider (ISP), een fysieke poort, een Gigabit Interface Converter (GBIC) of een kabel. Opmerking: Stel dat er geen ACL/CoPP is die het verkeer blokkeert. Als het probleem veroorzaakt is door defecte hardware of een kabel, vervang de software dan of verplaats de poort naar een andere poort om een oplossing te vinden.

2. Controleer de multicast connectiviteit met pingelen.

```
N7K1-RP# ping multicast 224.0.0.5 interface vlan 5
PING 224.0.0.5 (224.0.0.5): 56 data bytes
64 bytes from 5.5.5.2: icmp_seq=0 ttl=254 time=1.739 ms
64 bytes from 5.5.5.2: icmp_seq=1 ttl=254 time=1.253 ms
64 bytes from 5.5.5.2: icmp_seq=2 ttl=254 time=0.866 ms
64 bytes from 5.5.5.2: icmp_seq=3 ttl=254 time=1.045 ms
64 bytes from 5.5.5.2: icmp_seq=4 ttl=254 time=1.89 ms

--- 224.0.0.5 ping multicast statistics ---
5 packets transmitted,
From member 5.5.5.2: 5 packets received, 0.00% packet loss
--- in total, 1 group member responded ---
N7K1-RP#
```

Controleer dat de interface schoon is en dat er geen druppels of fouten zijn met de opdracht **tonen in Ethernet 1/1**.

```
N7K1-RP# show int ethernet 1/20 | section RX|TX
RX
 340213 unicast packets  368092 multicast packets  2 broadcast packets
 708307 input packets  233094927 bytes
 0 jumbo packets  0 storm suppression packets
 0 runs  0 giants  0 CRC/FCS  0 no buffer
 0 input error  0 short frame  0 overrun  0 underrun  0 ignored
 0 watchdog  0 bad etype drop  0 bad proto drop  0 if down drop
 0 input with dribble  0 input discard
 0 Rx pause

TX
 1374131 unicast packets  324752 multicast packets  3 broadcast packets
 1698886 output packets  196282264 bytes
 0 jumbo packets
 0 output error  0 collision  0 deferred  0 late collision
```

```
0 lost carrier 0 no carrier 0 babble 0 output discard
0 Tx pause
N7K1-RP#
```

3. Bepaal of deze functies pakketten op de inkomende lijnkaart, interface of CPU neerzetten.

- ACL - inkomende/uitgaande van de interface
- QoS-kwaliteit (Quality of Service) - op de interface
- CoPP

QoS

```
N7K1-RP# show policy-map interface ethernet 1/20
```

```
Global statistics status : enabled
```

```
Ethernet1/20
```

```
Service-policy (queuing) input: default-in-policy
SNMP Policy Index: 301989913
```

```
Class-map (queuing): in-q1 (match-any)
queue-limit percent 50
bandwidth percent 80
queue dropped pkts : 0
```

```
Class-map (queuing): in-q-default (match-any)
queue-limit percent 50
bandwidth percent 20
queue dropped pkts : 0
```

```
Service-policy (queuing) output: default-out-policy
SNMP Policy Index: 301989922
```

```
Class-map (queuing): out-pq1 (match-any)
priority level 1
queue-limit percent 16
queue dropped pkts : 0
```

```
Class-map (queuing): out-q2 (match-any)
queue-limit percent 1
queue dropped pkts : 0
```

```
Class-map (queuing): out-q3 (match-any)
queue-limit percent 1
queue dropped pkts : 0
```

```
Class-map (queuing): out-q-default (match-any)
queue-limit percent 82
bandwidth remaining percent 25
queue dropped pkts : 0
```

CoPP

```
show policy-map interface control-plane class test1-copp-class-critical
```

```
Control Plane
```

```

service-policy input test1-copp-policy-lenient

class-map test1-copp-class-critical (match-any)
  match access-group name test1-copp-acl-bgp
  match access-group name test1-copp-acl-pim
  match access-group name test1-copp-acl-rip
  match access-group name test1-copp-acl-vpc
  match access-group name test1-copp-acl-bgp6
  match access-group name test1-copp-acl-igmp
  match access-group name test1-copp-acl-lisp
  match access-group name test1-copp-acl-msdp
  match access-group name test1-copp-acl-ospf
  match access-group name test1-copp-acl-pim6
  match access-group name test1-copp-acl-rip6
  match access-group name test1-copp-acl-rise
  match access-group name test1-copp-acl-eigrp
  match access-group name test1-copp-acl-lisp6
  match access-group name test1-copp-acl-ospf6
  match access-group name test1-copp-acl-rise6
  match access-group name test1-copp-acl-eigrp6
  match access-group name test1-copp-acl-otv-as
  match access-group name test1-copp-acl-mac-l2pt
  match access-group name test1-copp-acl-mpls-ldp
  match access-group name test1-copp-acl-mpls-oam
  match access-group name test1-copp-acl-mpls-rsvp
  match access-group name test1-copp-acl-mac-l3-isis
  match access-group name test1-copp-acl-mac-otv-isis
  match access-group name test1-copp-acl-mac-fabricpath-isis
  match protocol mpls router-alert
  match protocol mpls exp 6
  set cos 7
  police cir 39600 kbps bc 375 ms
    conform action: transmit
    violate action: drop
  module 1:
    conformed 539964945 bytes,
      5-min offered rate 5093 bytes/sec
      peak rate 5213 bytes/sec
    violated 0 bytes,
      5-min violate rate 0 bytes/sec
  module 2:
    conformed 784228080 bytes,
      5-min offered rate 5848 bytes/sec
      peak rate 7692 bytes/sec
    violated 0 bytes,
      5-min violate rate 0 bytes/sec
  module 3:
    conformed 5114206 bytes,
      5-min offered rate 41 bytes/sec
      peak rate 6656 bytes/sec
    violated 0 bytes,
      5-min violate rate 0 bytes/sec

```

N7K1#

Controleer de OSPF-configuratie

Gebruik deze opdrachten om de OSPF-configuratie te controleren (net, hallo/dood-interval, gebied-ID, gebiedstype, authenticatiesleutel (indien aanwezig) en niet-passief) en om ervoor te zorgen dat deze aan beide kanten overeenkomt.

1. Toon run ospf
2. ip ospf 5 tonen raakvlak

3. ip ospf 5 tonen

Hier is een voorbeeld van de eerste opdracht:

```
N7K1-RP# show run ospf
```

```
!Command: show running-config ospf
!Time: Thu May 16 11:27:24 2013
```

```
version 6.2(2)
feature ospf
```

```
logging level ospf 7
```

```
router ospf 5
router-id 5.5.0.1
```

```
interface Vlan5
ip router ospf 5 area 0.0.0.0
```

```
interface loopback5
ip router ospf 5 area 0.0.0.0
```

```
N7K1-RP#
```

Hier is een voorbeeld van de tweede opdracht:

```
N7K1-RP# show ip ospf 5 interface
```

```
Vlan5 is up, line protocol is up
  IP address 5.5.5.1/24, Process ID 5 VRF default, area 0.0.0.0
  Enabled by interface configuration
  State DR, Network type BROADCAST, cost 40
  Index 2, Transmit delay 1 sec, Router Priority 1
  Designated Router ID: 5.5.0.1, address: 5.5.5.1
  Backup Designated Router ID: 5.5.0.2, address: 5.5.5.2
  1 Neighbors, flooding to 1, adjacent with 1
  Timer intervals: Hello 10, Dead 40, Wait 40, Retransmit 5
    Hello timer due in 00:00:00
  No authentication
  Number of opaque link LSAs: 0, checksum sum 0
loopback5 is up, line protocol is up
  IP address 5.5.0.1/32, Process ID 5 VRF default, area 0.0.0.0
  Enabled by interface configuration
  State LOOPBACK, Network type LOOPBACK, cost 1
  Index 1
```

```
N7K1-RP#
```

Hier is een voorbeeld van de derde opdracht:

```
N7K1-RP# show ip ospf 5
```

```
Routing Process 5 with ID 5.5.0.1 VRF default
Routing Process Instance Number 3
Stateful High Availability enabled
Graceful-restart is configured
  Grace period: 60 state: Inactive
  Last graceful restart exit status: None
Supports only single TOS(TOS0) routes
Supports opaque LSA
Administrative distance 110
```

```

Reference Bandwidth is 40000 Mbps
SPF throttling delay time of 200.000 msecs,
  SPF throttling hold time of 1000.000 msecs,
  SPF throttling maximum wait time of 5000.000 msecs
LSA throttling start time of 0.000 msecs,
  LSA throttling hold interval of 5000.000 msecs,
  LSA throttling maximum wait time of 5000.000 msecs
Minimum LSA arrival 1000.000 msec
LSA group pacing timer 10 secs
Maximum paths to destination 8
Number of external LSAs 0, checksum sum 0
Number of opaque AS LSAs 0, checksum sum 0
Number of areas is 1, 1 normal, 0 stub, 0 nssa
Number of active areas is 1, 1 normal, 0 stub, 0 nssa
Install discard route for summarized external routes.
Install discard route for summarized internal routes.
Area BACKBONE(0.0.0.0)
  Area has existed for 1d10h
  Interfaces in this area: 2 Active interfaces: 2
  Passive interfaces: 0 Loopback interfaces: 1
  No authentication available
  SPF calculation has run 47 times
  Last SPF ran for 0.000542s
  Area ranges are
  Number of LSAs: 3, checksum sum 0x84d4

```

N7K1-RP#

Controleer de OSPF-berichten

Voer de opdracht van de nabijheid van **show ip ospf in** om te verifiëren dat de debug berichten worden verzonden en ontvangen door het OPSF proces.

Opmerking: De laatste berichten verschijnen bovenaan.

De output toont alle OSPF nabijheidsberichten die tussen OSPF burens worden uitgewisseld. Wanneer een nabijheid OSPF wordt gevormd, gaat een router door verscheidene staatsveranderingen alvorens zij volledig bij zijn buurman aangrenst. Deze output laat alle veranderingen van de staat en de onderhandelingen zien. Als er een probleem is (Max. Transition Unit (MTU), aansluitingsproblemen, pakketdaling), dan wordt dit in de uitvoer aangegeven.

N7K1-RP# **show ip ospf 5 event-history adjacency**

```

Adjacency events for OSPF Process "ospf-5"
2013 May 16 10:50:58.121128 ospf 5 [9386]: : mtu 1600, opts: 0x42, ddbits:
0, seq: 0x6f40fde4
2013 May 16 10:50:58.121124 ospf 5 [9386]: : Sent DBD with 0 entries to 5.5.5.2
on Vlan5
2013 May 16 10:50:58.121114 ospf 5 [9386]: : Sending DBD to 5.5.5.2 on Vlan5
2013 May 16 10:50:58.118030 ospf 5 [9386]: : Nbr 5.5.5.2: LOADING --> FULL,
event LDDONE
2013 May 16 10:50:58.115840 ospf 5 [9386]: : Built LS Request packet for 5.5.5.2
with 1 entries
2013 May 16 10:50:58.115835 ospf 5 [9386]: : Add 5.5.0.2(0x1)5.5.0.2
(0x8000104e)(0x7ef8) (156) to LSR
2013 May 16 10:50:58.115823 ospf 5 [9386]: : Building LS Request packet to
5.5.5.2
2013 May 16 10:50:58.112201 ospf 5 [9386]: : Nbr 5.5.5.2: EXCHANGE --> LOADING,
event EXCHDONE
2013 May 16 10:50:58.112026 ospf 5 [9386]: : seqnr 0x6f40fde4, ddbits 0x1,

```

mtu 1600, options 0x42
2013 May 16 10:50:58.112022 ospf 5 [9386]: : Got DBD from 5.5.5.2 with 0 entries
2013 May 16 10:50:58.111988 ospf 5 [9386]: : seqnr 0x6f40fde4, dbdbits 0x1,
mtu 1600, options 0x42
2013 May 16 10:50:58.111984 ospf 5 [9386]: : Got DBD from 5.5.5.2 with 0 entries
2013 May 16 10:50:58.110169 ospf 5 [9386]: : mtu 1600, opts: 0x42, ddbits: 0,
seq: 0x6f40fde3
2013 May 16 10:50:58.110165 ospf 5 [9386]: : Sent DBD with 0 entries to 5.5.5.2
on Vlan5
2013 May 16 10:50:58.110155 ospf 5 [9386]: : Sending DBD to 5.5.5.2 on Vlan5
2013 May 16 10:50:58.106609 ospf 5 [9386]: : Added 1 out of 1 LSAs to
request list
2013 May 16 10:50:58.106606 ospf 5 [9386]: : Added 5.5.0.2(0x1)5.5.0.2
(0x8000104e) (0x7ef8) (156) to request list
2013 May 16 10:50:58.106586 ospf 5 [9386]: : seqnr 0x6f40fde3, dbdbits 0x3,
mtu 1600, options 0x42
2013 May 16 10:50:58.106582 ospf 5 [9386]: : Got DBD from 5.5.5.2 with 1 entries
2013 May 16 10:50:58.106537 ospf 5 [9386]: : seqnr 0x6f40fde3, dbdbits 0x3,
mtu 1600, options 0x42
2013 May 16 10:50:58.106532 ospf 5 [9386]: : Got DBD from 5.5.5.2 with 1 entries
2013 May 16 10:50:58.104462 ospf 5 [9386]: : Built reply LSU with 2 LSAs for
5.5.5.2 128 bytes
2013 May 16 10:50:58.104439 ospf 5 [9386]: : Added 5.5.5.2(0x2)5.5.0.2
(0x80000045) (0xaf32) (156)
2013 May 16 10:50:58.104431 ospf 5 [9386]: : Added 5.5.0.1(0x1)5.5.0.1
(0x80000ecf) (0xd834) (8)(0)
2013 May 16 10:50:58.104408 ospf 5 [9386]: : Building reply LSU to 5.5.5.2
2013 May 16 10:50:58.104404 ospf 5 [9386]: : 2 requests in LSR (2 left)
2013 May 16 10:50:58.104370 ospf 5 [9386]: : Answering LSR from 5.5.5.2
2013 May 16 10:50:58.100790 ospf 5 [9386]: : Recv LSR from Nbr 5.5.5.2
2013 May 16 10:50:58.099055 ospf 5 [9386]: : mtu 1600, opts: 0x42, ddbits:
0x2, seq: 0x6f40fde2
2013 May 16 10:50:58.099051 ospf 5 [9386]: : Sent DBD with 3 entries to 5.5.5.2
on Vlan5
2013 May 16 10:50:58.099038 ospf 5 [9386]: : Sending DBD to 5.5.5.2 on Vlan5
2013 May 16 10:50:58.095072 ospf 5 [9386]: : seqnr 0x6f40fde2, dbdbits 0x7,
mtu 1600, options 0x42
2013 May 16 10:50:58.095068 ospf 5 [9386]: : Got DBD from 5.5.5.2 with 0 entries
2013 May 16 10:50:58.095024 ospf 5 [9386]: : Nbr 5.5.5.2: EXSTART --> EXCHANGE,
event NEGDONE
2013 May 16 10:50:58.094895 ospf 5 [9386]: : We are SLAVE, 5.5.5.2 is master
2013 May 16 10:50:58.094890 ospf 5 [9386]: : seqnr 0x6f40fde2, dbdbits 0x7,
mtu 1600, options 0x42
2013 May 16 10:50:58.094886 ospf 5 [9386]: : Got DBD from 5.5.5.2 with 0 entries
2013 May 16 10:50:58.093037 ospf 5 [9386]: : mtu 1600, opts: 0x42, ddbits: 0x7,
seq: 0x7273409a
2013 May 16 10:50:58.093033 ospf 5 [9386]: : Sent DBD with 0 entries to 5.5.5.2
on Vlan5
2013 May 16 10:50:58.093029 ospf 5 [9386]: : Sending DBD to 5.5.5.2 on Vlan5
2013 May 16 10:50:58.092915 ospf 5 [9386]: : Nbr 5.5.5.2: INIT --> EXSTART,
event TWOWAYRCVD
2013 May 16 10:50:58.092862 ospf 5 [9386]: : Nbr 5.5.5.2: TWOWAY --> EXSTART,
event ADJOK
2013 May 16 10:50:58.092763 ospf 5 [9386]: [9446]: Interface Vlan5 ---> BDR
2013 May 16 10:50:58.092757 ospf 5 [9386]: [9446]: Elected 5.5.0.2 as DR,
5.5.0.1 as BDR
2013 May 16 10:50:58.092690 ospf 5 [9386]: [9446]: This nbr 5.5.5.2 promoted
to current dr
2013 May 16 10:50:58.092687 ospf 5 [9386]: [9446]: Walking neighbor 5.5.5.2
(0x93e3524), state TWOWAY
2013 May 16 10:50:58.092683 ospf 5 [9386]: [9446]: Neighbor not declared DR,
ignoring
2013 May 16 10:50:58.092680 ospf 5 [9386]: [9446]: Walking neighbor 5.5.5.1
(0xaclf7514), state SELF

```

2013 May 16 10:50:58.092676 ospf 5 [9386]: [9446]: DR election starting
2013 May 16 10:50:58.092673 ospf 5 [9386]: [9446]: This neighbor is greater
than 2way
2013 May 16 10:50:58.092670 ospf 5 [9386]: [9446]: Walking neighbor 5.5.5.2
(0x93e3524), state TWOWAY
2013 May 16 10:50:58.092666 ospf 5 [9386]: [9446]: Compare done, new current
bdr 5.5.5.1
2013 May 16 10:50:58.092663 ospf 5 [9386]: [9446]: Current BDR set to this
neighbor
2013 May 16 10:50:58.092660 ospf 5 [9386]: [9446]: This neighbor is in
consideration for bdr
2013 May 16 10:50:58.092657 ospf 5 [9386]: [9446]: This neighbor is greater
than 2way
2013 May 16 10:50:58.092654 ospf 5 [9386]: [9446]: Walking neighbor 5.5.5.1
(0xaclf7514), state SELF
2013 May 16 10:50:58.092650 ospf 5 [9386]: [9446]: BDR election starting
2013 May 16 10:50:58.092647 ospf 5 [9386]: [9446]: DR/BDR Status of this router
changed, new election run
2013 May 16 10:50:58.092643 ospf 5 [9386]: [9446]: This nbr 5.5.5.2 promoted
to current dr
2013 May 16 10:50:58.092639 ospf 5 [9386]: [9446]: Walking neighbor 5.5.5.2
(0x93e3524), state TWOWAY
2013 May 16 10:50:58.092635 ospf 5 [9386]: [9446]: Neighbor not declared DR,
ignoring
2013 May 16 10:50:58.092632 ospf 5 [9386]: [9446]: Walking neighbor 5.5.5.1
(0xaclf7514), state SELF
2013 May 16 10:50:58.092628 ospf 5 [9386]: [9446]: DR election starting
2013 May 16 10:50:58.092625 ospf 5 [9386]: [9446]: This neighbor is greater
than 2way
2013 May 16 10:50:58.092622 ospf 5 [9386]: [9446]: Walking neighbor 5.5.5.2
(0x93e3524), state TWOWAY
2013 May 16 10:50:58.092618 ospf 5 [9386]: [9446]: Compare done, new current
bdr 5.5.5.1
2013 May 16 10:50:58.092613 ospf 5 [9386]: [9446]: Current BDR set to this
neighbor
2013 May 16 10:50:58.092610 ospf 5 [9386]: [9446]: This neighbor is in
consideration for bdr
2013 May 16 10:50:58.092607 ospf 5 [9386]: [9446]: This neighbor is greater
than 2way
2013 May 16 10:50:58.092604 ospf 5 [9386]: [9446]: Walking neighbor 5.5.5.1
(0xaclf7514), state SELF
2013 May 16 10:50:58.092597 ospf 5 [9386]: [9446]: BDR election starting
2013 May 16 10:50:58.092573 ospf 5 [9386]: [9446]: Current 0.0.0.0 as DR,
0.0.0.0 as BDR
2013 May 16 10:50:58.092567 ospf 5 [9386]: [9446]: Begin OSPF DR election on
Vlan5
2013 May 16 10:50:58.092432 ospf 5 [9386]: : Nbr 5.5.5.2: DOWN --> INIT,
event HELLORCVD

```

Problemen oplossen

Als het onderzoek van de L2/3 connectiviteit, openen de configuratie, en het OSPF-toegestane verkeer het probleem niet en tonen de buurman in de lijst, open een case van Cisco Technical Assistance Center (TAC). Voer deze opdrachten in en geef TAC de informatie over de beide burens output:

- Weergeven
- Technologische ondersteuning tonen

OSPF-buurtwand in de initialisatie-toestand (INIT)

Er zijn tijden dat de buur vast zit in de INIT-toestand, wat aangeeft dat Nexus 7000 hello-pakketten van de buur ziet, maar zijn router-ID niet in het hello-pakket ziet om naar de volgende staat van tweewegs te verhuizen.

```
router2#show ip ospf neighbor
```

Neighbor ID	Pri	State	Dead Time	Address	Interface
170.170.5.1	1	INIT/-	00:00:34	170.170.1.1	ethernet 1/1

```
router-2#
```

Dit probleem kan worden veroorzaakt door:

- Een kant blokkeert het hello pakket met ACL.
- Eén kant is het vertalen, met Network Address Translation (NAT), de hello van OSPF.
- De multicast capaciteit van één zijde is gebroken (L2).

Voltooi deze stappen om de kwestie te onderzoeken:

1. Controleer dat het IP Multicast-besturingsplane werkt.

```
N7K4# ping multicast 224.0.0.5 interface Ethernet 1/1
```

Als u het IP-adres van de burens niet op de ping-resultaten ziet, is er een probleem. Controleer dit aan beide zijden.

2. Controleer dat de pakketten HELLO van de buur worden ontvangen.

```
N7K4# show ip ospf 5 event-history adjacency
```

Opmerking: Uitgaande hello-pakketten worden niet weergegeven.

3. Schakel de OSPF-nabijheid in op elke interface en controleer of hello-pakketten worden verzonden.

```
N7K4# debug logfile debug-ospf size 10000
N7K4# debug-filter ip ospf 5 interface Ethernet 1/1
N7K4# debug ip ospf 5 adjacency detail
```

Opmerking: Vergeet niet apparaten uit te schakelen.

```
N7K4# undebug all
N7K4# no debug-filter all
N7K4# clear debug logfile debug-ospf
```

4. Controleer dat de pakketten door OSPF naar 224.0.0.5 worden verzonden.

```
N7K4# debug logfile ospf_vj
N7K4# debug-filter ip mpacket interface e1/5
N7K4# debug-filter ip mpacket direction outbound
N7K4# debug-filter ip mpacket dest 224.0.0.5
N7K4# debug ip ospf 5 hello

N7K4# show debug logfile ospf_vj
```

```

N7K1-RP# show debug logfile ospf_vj
2013 May 16 11:18:55.202270 ospf: 5 [9386] (default) LAN hello in, ivl 10/40,
options 0x02, mask /24, prio 1, dr 5.5.5.1, bdr 5.5.5
.2 on Vlan5 from 5.5.5.2
2013 May 16 11:19:00.527640 ospf: 5 [9386] (default) LAN hello out, ivl 10/40,
options 0x02, mask /24, prio 1, dr 5.5.5.1, bdr 5.5.
5.2 nbrs 1 on Vlan5 (area 0.0.0.0)
2013 May 16 11:19:03.500785 ospf: 5 [9386] (default) LAN hello in, ivl 10/40,
options 0x02, mask /24, prio 1, dr 5.5.5.1, bdr 5.5.5
.2 on Vlan5 from 5.5.5.2
2013 May 16 11:19:09.515150 ospf: 5 [9386] (default) LAN hello out, ivl 10/40,
options 0x02, mask /24, prio 1, dr 5.5.5.1, bdr 5.5.
5.2 nbrs 1 on Vlan5 (area 0.0.0.0)
2013 May 16 11:19:10.406800 ospf: 5 [9386] (default) LAN hello in, ivl 10/40,
options 0x02, mask /24, prio 1, dr 0.0.0.0, bdr 0.0.0
.0 on Vlan5 from 5.5.5.2
2013 May 16 11:19:10.417602 ospf: 5 [9386] (default) LAN hello in, ivl 10/40,
options 0x02, mask /24, prio 1, dr 0.0.0.0, bdr 0.0.0
.0 on Vlan5 from 5.5.5.2
N7K1-RP#

```

Opmerking: Vergeet niet apparaten uit te schakelen.

```

N7K4# clear debug logfile ospf_vj
N7K4# undebug all
N7K4# no debug-fil all
no debug-filter ip mpacket interface Ethernet1/5
no debug-filter ip mpacket direction outbound
no debug-filter ip mpacket dest 224.0.0.5
N7K4#

```

5. Controleer of de verpakking op de analyseapparatuur staat.

```

N7K4# ethanalyzer local interface inband capture-filter "ip proto \ospf"

N7K1# ethanalyzer local interface inband capture-filter "ip proto \ospf"
Capturing on inband
50 packets captured
2013-05-16 11:06:34.387196      5.5.5.2 -> 224.0.0.5      OSPF Hello Packet
2013-05-16 11:06:34.397553      5.5.5.2 -> 224.0.0.5      OSPF Hello Packet
2013-05-16 11:06:38.895343      5.5.5.1 -> 224.0.0.5      OSPF Hello Packet

```

Opmerking: Er moet één in de Default Virtual Devices Context (VDC) zijn.

Problemen oplossen

Als het onderzoek van de L2/3 connectiviteit, de configuratie, en het OSPF-toegestane verkeer het probleem niet onthullen en tonen dat de buur VOLLEDIG wordt, open een TAC zaak. Voer deze opdrachten in en geef TAC de informatie over de beide burens output:

- Weergeven
- Technologische ondersteuning tonen

OSPF-buurtwand in een tweevoudige toestand

Er zijn tijden wanneer de OSPF-buurman in een tweevoudige staat zit. Dit scenario is normaal bij uitzendnetwerktypes en beperkt de hoeveelheid overstrooming op de draad. Dit scenario vindt ook plaats als alle routers zijn geconfigureerd met een prioriteit die gelijk is aan nul.

Opmerking: Alleen lage routers moeten met een prioriteit van nul worden geconfigureerd, zodat ze niet deelnemen aan selectie van de aangewezen router (DR).

Raadpleeg [waarom de show ip ospf buurland commandobors in tweevoudige staat vastlegt?](#) artikel voor meer informatie .

OSPF-buurtwinstel in extensie/uitwisseling

Er zijn tijden wanneer de OSPF buurman in de staat van de Uitgang/van de Wisseling zit.

Als er MTU mismatch is tussen de interfaces van de OSPF-buren of als ze niet in staat zijn elkaar te pingelen met de pakketgrootte van de geconfigureerde MTU door transmissiemedia, zit de OSPF-buurman vast in de uitloop-/uitwisselingsstaat.

```
router-6# show ip ospf neighbor
```

Neighbor ID	Pri	State	Dead Time	Address	Interface
170.170.11.7	1	EXCHANGE/ -	00:00:36	170.170.11.7	Serial2.7

```
router-6#
```

```
router-7# show ip ospf neighbor
```

Neighbor ID	Pri	State	Dead Time	Address	Interface
170.170.11.6	1	EXSTART/ -	00:00:33	170.170.11.6	Serial0.6

```
router-7#
```

Dit probleem kan worden veroorzaakt door:

- MTU mismatch - EXCHANGE op een router en EXSTART op de andere router
Opmerking: U kunt configureren met de opdracht **ip ospf mtu-negeren**.
- De buurrouter ID (RID) is hetzelfde als de buurman - EXSTART
- Unicast is kapot - WISSELEN Het probleem van de MTU - kan niet over met meer dan een pakket van bepaalde lengte pingelenACL-blokkering (unicast) - nadat tweevoudige OSPF-pakketsnelheid bereikt is, behalve point-to-point (P2P) linksNAT vertaalt eenastpakket

Voltooi deze stappen om de kwestie te onderzoeken:

1. Controleer het normale pingelen met een bit (Don't Fragment (DF))-bit op en met de maximale IP-MTU op de interface.

```
N7K4# ping 10.10.12.2 df-bit packet-size 1472
```

Opmerking: In Cisco IOS, wanneer u de **ping x.x.x.x grootte <size>** invoert, verwijst de grootte naar de IP-pakketgrootte. In Linux specificeert u de lading van het Internet Control Message Protocol (ICMP) van de ping in plaats van de IP-pakketgrootte te specificeren zoals in Cisco IOS. Zoals je misschien al weet, is Nexus gebouwd op Linux. MTU is nog steeds ingesteld op 1.500 bytes - 20 van deze bytes zijn de IP-header en nog eens 8 bytes zijn de

ICMP-header. $1,500 - 20 - 8 = 1,472$ bytes van de lading. Daarom is de eigenlijke IP-datagramgrootte dezelfde als op Cisco IOS, dat 1.500 bytes is.

2. Controleer of pakketten op de inkomende interfaces worden gedropt, met de opdracht **show in Ethernet 1/1**.

```
N7K1-RP# show int ethernet 1/20 | section RX|TX
RX
 340213 unicast packets  368092 multicast packets  2 broadcast packets
 708307 input packets  233094927 bytes
 0 jumbo packets  0 storm suppression packets
 0 runs  0 giants  0 CRC/FCS  0 no buffer
 0 input error  0 short frame  0 overrun  0 underrun  0 ignored
 0 watchdog  0 bad etype drop  0 bad proto drop  0 if down drop
 0 input with dribble  0 input discard
 0 Rx pause
TX
 1374131 unicast packets  324752 multicast packets  3 broadcast packets
 1698886 output packets  196282264 bytes
 0 jumbo packets
 0 output error  0 collision  0 deferred  0 late collision
 0 lost carrier  0 no carrier  0 babble  0 output discard
 0 Tx pause
N7K1-RP#
```

3. Controleer of CoPP het OSPF-pakket laat vallen met de **show beleid-map interface control-plane class test1-copp-class-kritische** opdracht.

```
Control Plane
 service-policy input test1-copp-policy-lenient

class-map test1-copp-class-critical (match-any)
 match access-group name test1-copp-acl-bgp
 match access-group name test1-copp-acl-pim
 match access-group name test1-copp-acl-rip
 match access-group name test1-copp-acl-vpc
 match access-group name test1-copp-acl-bgp6
 match access-group name test1-copp-acl-igmp
 match access-group name test1-copp-acl-lisp
 match access-group name test1-copp-acl-msdp
 match access-group name test1-copp-acl-ospf
 match access-group name test1-copp-acl-pim6
 match access-group name test1-copp-acl-rip6
 match access-group name test1-copp-acl-rise
 match access-group name test1-copp-acl-eigrp
 match access-group name test1-copp-acl-lisp6
 match access-group name test1-copp-acl-ospf6
 match access-group name test1-copp-acl-rise6
 match access-group name test1-copp-acl-eigrp6
 match access-group name test1-copp-acl-otv-as
 match access-group name test1-copp-acl-mac-l2pt
 match access-group name test1-copp-acl-mpls-ldp
 match access-group name test1-copp-acl-mpls-oam
 match access-group name test1-copp-acl-mpls-rsvp
 match access-group name test1-copp-acl-mac-l3-isis
 match access-group name test1-copp-acl-mac-otv-isis
 match access-group name test1-copp-acl-mac-fabricpath-isis
 match protocol mpls router-alert
 match protocol mpls exp 6
```

```

set cos 7
police cir 39600 kbps bc 375 ms
  conform action: transmit
  violate action: drop
module 1:
  conformed 539964945 bytes,
    5-min offered rate 5093 bytes/sec
    peak rate 5213 bytes/sec
  violated 0 bytes,
    5-min violate rate 0 bytes/sec
module 2:
  conformed 784228080 bytes,
    5-min offered rate 5848 bytes/sec
    peak rate 7692 bytes/sec
  violated 0 bytes,
    5-min violate rate 0 bytes/sec
module 3:
  conformed 5114206 bytes,
    5-min offered rate 41 bytes/sec
    peak rate 6656 bytes/sec
  violated 0 bytes,
    5-min violate rate 0 bytes/sec

```

N7K1#

4. Controleer de OSPF Database Descriptor (DBD) uitwisseling met de **show ip ospf 5 gebeurtenis-historie nabijheidsopdracht** of de **debug ip ospf 5 nabijgelegen opdracht**.

```

N7K1-RP# debug logfile debug-ospf size 10000
N7K1-RP# debug-filter ip ospf 5 interface Vlan 5
N7K1-RP# debug ip ospf 5 adjacency detail

```

Hierna volgt een voorbeeld:

```

N7K1-RP# show debug logfile debug-ospf
2013 May 20 05:36:23.414376 ospf: 5 [8325] (default)      Nbr 5.5.5.2 FSM start:
old state FULL, event HELLORCVD
2013 May 20 05:36:23.414424 ospf: 5 [8325] (default)      Nbr 5.5.5.2: FULL -->
FULL, event HELLORCVD
2013 May 20 05:36:23.414438 ospf: 5 [8325] (default)      Nbr 5.5.5.2 FSM start:
old state FULL, event TWOWAYRCVD
2013 May 20 05:36:23.414450 ospf: 5 [8325] (default)      Nbr 5.5.5.2: FULL -->
FULL, event TWOWAYRCVD
2013 May 20 05:36:28.832638 ospf: 5 [8325] (default)      Nbr 5.5.5.2 FSM start:
old state FULL, event HELLORCVD
2013 May 20 05:36:28.832674 ospf: 5 [8325] (default)      Nbr 5.5.5.2: FULL -->
FULL, event HELLORCVD
2013 May 20 05:36:28.832695 ospf: 5 [8325] (default)      Nbr 5.5.5.2: transitioning
to OneWay - did not find ourselves
2013 May 20 05:36:28.832709 ospf: 5 [8325] (default)      Nbr 5.5.5.2 FSM start:
old state FULL, event ONEWAYRCVD
2013 May 20 05:36:28.833073 ospf: 5 [8325] (default)      Nbr 5.5.5.2 FSM state
changed from FULL to INIT, event ONEWAYRCVD
2013 May 20 05:36:28.833120 ospf: 5 [8325]      Begin OSPF DR election on Vlan5
2013 May 20 05:36:28.833140 ospf: 5 [8325]      Current 5.5.0.1 as DR, 5.5.0.2
as BDR
2013 May 20 05:36:28.833177 ospf: 5 [8325]      BDR election starting
2013 May 20 05:36:28.833196 ospf: 5 [8325]      Walking neighbor 5.5.5.1
(0xaec59188),state SELF
2013 May 20 05:36:28.833211 ospf: 5 [8325]      This neighbor is greater

```

```

than 2way
2013 May 20 05:36:28.833235 ospf: 5 [8325] Walking neighbor 5.5.5.2
(0x9777584), state INIT
2013 May 20 05:36:28.833249 ospf: 5 [8325] DR election starting
2013 May 20 05:36:28.833265 ospf: 5 [8325] Walking neighbor 5.5.5.1
(0xaec59188), state SELF
2013 May 20 05:36:28.833281 ospf: 5 [8325] This nbr 5.5.5.1 promoted to
current dr
2013 May 20 05:36:28.833297 ospf: 5 [8325] Walking neighbor 5.5.5.2
(0x9777584), state INIT
2013 May 20 05:36:28.833404 ospf: 5 [8325] Elected 5.5.0.1 as DR,
0.0.0.0 as BDR
2013 May 20 05:36:28.833440 ospf: 5 [8325] Interface Vlan5 ---> DR
2013 May 20 05:36:28.833456 ospf: 5 [8325] (default) Nbr 5.5.5.2 FSM start:
old state INIT, event ADJOK
2013 May 20 05:36:28.833474 ospf: 5 [8325] (default) Nbr 5.5.5.2: INIT -->
INIT, event ADJOK
2013 May 20 05:36:28.833492 ospf: 5 [8325] (default) Nbr 5.5.5.2: FULL -->
INIT, event ONEWAYRCVD
2013 May 20 05:36:28.843309 ospf: 5 [8325] (default) Nbr 5.5.5.2 FSM start:
old state INIT, event HELLORCVD
2013 May 20 05:36:28.843339 ospf: 5 [8325] (default) Nbr 5.5.5.2: INIT -->
INIT, event HELLORCVD
2013 May 20 05:36:28.843357 ospf: 5 [8325] (default) Nbr 5.5.5.2: transitioning
to OneWay - did not find ourselves
2013 May 20 05:36:28.843370 ospf: 5 [8325] (default) Nbr 5.5.5.2 FSM start:
old state INIT, event ONEWAYRCVD
2013 May 20 05:36:28.843386 ospf: 5 [8325] (default) Nbr 5.5.5.2: INIT -->
INIT, event ONEWAYRCVD
2013 May 20 05:36:34.244541 ospf: 5 [8325] (default) Got DBD from 5.5.5.2
with 0 entries
2013 May 20 05:36:34.244567 ospf: 5 [8325] (default) seqnr 0x9247f5e,
dbdbits 0x7, mtu 1600, options 0x42
2013 May 20 05:36:34.244622 ospf: 5 [8325] (default) Nbr 5.5.5.2 FSM start:
old state INIT, event TWOWAYRCVD
2013 May 20 05:36:34.244798 ospf: 5 [8325] (default) Nbr 5.5.5.2 FSM state
changed from INIT to EXSTART, event ADJOK
2013 May 20 05:36:34.244859 ospf: 5 [8325] Begin OSPF DR election on Vlan5
2013 May 20 05:36:34.244880 ospf: 5 [8325] Current 5.5.0.1 as DR, 0.0.0.0
as BDR
2013 May 20 05:36:34.244916 ospf: 5 [8325] BDR election starting
2013 May 20 05:36:34.244935 ospf: 5 [8325] Walking neighbor 5.5.5.1
(0xaec59288), state SELF
2013 May 20 05:36:34.244949 ospf: 5 [8325] This neighbor is greater
than 2way
2013 May 20 05:36:34.244965 ospf: 5 [8325] Walking neighbor 5.5.5.2
(0x9777584), state EXSTART
2013 May 20 05:36:34.244978 ospf: 5 [8325] This neighbor is greater
than 2way
2013 May 20 05:36:34.244991 ospf: 5 [8325] This neighbor is in consideration
for bdr
2013 May 20 05:36:34.245004 ospf: 5 [8325] Current BDR set to this neighbor
2013 May 20 05:36:34.245019 ospf: 5 [8325] Compare done, new current
bdr 5.5.5.2
2013 May 20 05:36:34.245033 ospf: 5 [8325] DR election starting
2013 May 20 05:36:34.245049 ospf: 5 [8325] Walking neighbor 5.5.5.1
(0xaec59288), state SELF
2013 May 20 05:36:34.245065 ospf: 5 [8325] This nbr 5.5.5.1 promoted to
current dr
2013 May 20 05:36:34.245080 ospf: 5 [8325] Walking neighbor 5.5.5.2
(0x9777584), state EXSTART
2013 May 20 05:36:34.245094 ospf: 5 [8325] Neighbor not declared DR,
ignoring
2013 May 20 05:36:34.245202 ospf: 5 [8325] Elected 5.5.0.1 as DR,

```

5.5.0.2 as BDR
2013 May 20 05:36:34.245247 ospf: 5 [8325] Interface Vlan5 ---> DR
2013 May 20 05:36:34.245262 ospf: 5 [8325] (default) Nbr 5.5.5.2 FSM start:
old state EXSTART, event ADJOK
2013 May 20 05:36:34.245299 ospf: 5 [8325] (default) Nbr 5.5.5.2:
EXSTART --> EXSTART, event ADJOK
2013 May 20 05:36:34.245318 ospf: 5 [8325] (default) Nbr 5.5.5.2:
INIT --> EXSTART, event TWOWAYRCVD
2013 May 20 05:36:34.245335 ospf: 5 [8325] (default) We are SLAVE,
5.5.5.2 is master
2013 May 20 05:36:34.245348 ospf: 5 [8325] (default) Nbr 5.5.5.2 FSM start:
old state EXSTART, event NEGDONE
2013 May 20 05:36:34.245366 ospf: 5 [8325] (default) Preparing DBD exchange
for nbr 5.5.5.2, 387/5
2013 May 20 05:36:34.245463 ospf: 5 [8325] (default) Nbr 5.5.5.2 FSM state
changed from EXSTART to EXCHANGE, event NEGDONE
2013 May 20 05:36:34.245483 ospf: 5 [8325] (default) Nbr 5.5.5.2: EXSTART -->
EXCHANGE, event NEGDONE
2013 May 20 05:36:34.245843 ospf: 5 [8325] (default) Got DBD from 5.5.5.2
with 0 entries
2013 May 20 05:36:34.245862 ospf: 5 [8325] (default) seqnr 0x9247f5e,
dbdbits 0x7, mtu 1600, options 0x42
2013 May 20 05:36:34.245997 ospf: 5 [8325] (default) Sending DBD to
5.5.5.2 on Vlan5
2013 May 20 05:36:34.246031 ospf: 5 [8325] (default) Add 5.5.0.2(0x1)5.5.0.2
(0x80000084) (0x2c26) (109) to DBD
2013 May 20 05:36:34.246062 ospf: 5 [8325] (default) Add 5.5.0.1(0x1)5.5.0.1
(0x8000007f) (0xa3c7) (5)(0) to DBD
2013 May 20 05:36:34.246078 ospf: 5 [8325] (default) Filled DBD to 5.5.5.2
with 2 entries
2013 May 20 05:36:34.246111 ospf: 5 [8325] (default) Sent DBD with 2 entries to
5.5.5.2 on Vlan5
2013 May 20 05:36:34.246128 ospf: 5 [8325] (default) mtu 1600, opts: 0x42,
ddbbits: 0x2, seq: 0x9247f5e
2013 May 20 05:36:34.258616 ospf: 5 [8325] (default) Recv LSR from Nbr 5.5.5.2
2013 May 20 05:36:34.258634 ospf: 5 [8325] (default) schedule flood
2013 May 20 05:36:34.258674 ospf: 5 [8325] (default) Answering LSR from 5.5.5.2
2013 May 20 05:36:34.258690 ospf: 5 [8325] (default) 1 requests in LSR (1 left)
2013 May 20 05:36:34.258707 ospf: 5 [8325] (default) Building reply LSU to 5.5.5.2
2013 May 20 05:36:34.258726 ospf: 5 [8325] (default) Found requested LSA
5.5.0.1(1)5.5.0.1 for 5.5.5.2
2013 May 20 05:36:34.258791 ospf: 5 [8325] (default) Added 5.5.0.1(0x1)
5.5.0.1 (0x8000007f) (0xa3c7) (5)(0)
2013 May 20 05:36:34.258872 ospf: 5 [8325] (default) Built reply LSU with 1 LSAs
for 5.5.5.2 96 bytes
2013 May 20 05:36:34.286591 ospf: 5 [8325] (default) Got DBD from 5.5.5.2
with 2 entries
2013 May 20 05:36:34.286615 ospf: 5 [8325] (default) seqnr 0x9247f5f,
dbdbits 0x3, mtu 1600, options 0x42
2013 May 20 05:36:34.286751 ospf: 5 [8325] (default) Got DBD from 5.5.5.2
with 2 entries
2013 May 20 05:36:34.286784 ospf: 5 [8325] (default) seqnr 0x9247f5f,
dbdbits 0x3, mtu 1600, options 0x42
2013 May 20 05:36:34.286804 ospf: 5 [8325] (default) Found 5.5.5.1(0x2)
5.5.0.1 (0x80000004) (0x46de) (111) in DBD
2013 May 20 05:36:34.286870 ospf: 5 [8325] (default) Added 5.5.5.1(0x2)
5.5.0.1 (0x80000004) (0x46de) (111)(DO) to request li
st
2013 May 20 05:36:34.286889 ospf: 5 [8325] (default) Found 5.5.0.2(0x1)
5.5.0.2 (0x80000085) (0x91d0) (5) in DBD
2013 May 20 05:36:34.286917 ospf: 5 [8325] (default) Added 5.5.0.2(0x1)
5.5.0.2 (0x80000084) (0x2c26) (109) to request list
2013 May 20 05:36:34.286932 ospf: 5 [8325] (default) Added 2 out of 2 LSAs
to request list

2013 May 20 05:36:34.287046 ospf: 5 [8325] (default) Sending DBD to
5.5.5.2 on Vlan5
2013 May 20 05:36:34.287066 ospf: 5 [8325] (default) Filled DBD to
5.5.5.2 with 0 entries
2013 May 20 05:36:34.287101 ospf: 5 [8325] (default) Sent DBD with 0 entries to
5.5.5.2 on Vlan5
2013 May 20 05:36:34.287121 ospf: 5 [8325] (default) mtu 1600, opts: 0x42,
ddbits: 0, seq: 0x9247f5f
2013 May 20 05:36:34.291760 ospf: 5 [8325] (default) Got DBD from 5.5.5.2
with 0 entries
2013 May 20 05:36:34.291789 ospf: 5 [8325] (default) seqnr 0x9247f60,
dbdbits 0x1, mtu 1600, options 0x42
2013 May 20 05:36:34.291915 ospf: 5 [8325] (default) Got DBD from 5.5.5.2
with 0 entries
2013 May 20 05:36:34.291934 ospf: 5 [8325] (default) seqnr 0x9247f60,
dbdbits 0x1, mtu 1600, options 0x42
2013 May 20 05:36:34.291953 ospf: 5 [8325] (default) Nbr 5.5.5.2 FSM start:
old state EXCHANGE, event EXCHDONE
2013 May 20 05:36:34.292101 ospf: 5 [8325] (default) Nbr 5.5.5.2 FSM state
changed from EXCHANGE to LOADING, event EXCHDONE
2013 May 20 05:36:34.292124 ospf: 5 [8325] (default) Nbr 5.5.5.2: EXCHANGE -->
LOADING, event EXCHDONE
2013 May 20 05:36:34.293200 ospf: 5 [8325] (default) Building LS Request packet
to 5.5.5.2
2013 May 20 05:36:34.293231 ospf: 5 [8325] (default) Add 5.5.0.2(0x1)
5.5.0.2 (0x80000084) (0x2c26) (110) to LSR
2013 May 20 05:36:34.293262 ospf: 5 [8325] (default) Add 5.5.5.1(0x2)
5.5.0.1 (0x80000004) (0x46de) (111)(DO) to LSR
2013 May 20 05:36:34.293281 ospf: 5 [8325] (default) Built LS Request packet for
5.5.5.2 with 2 entries
2013 May 20 05:36:34.297954 ospf: 5 [8325] (default) Nbr 5.5.5.2 FSM start:
old state LOADING, event LDDONE
2013 May 20 05:36:34.298069 ospf: 5 [8325] (default) Nbr 5.5.5.2 FSM state
changed from LOADING to FULL, event LDDONE
2013 May 20 05:36:34.298206 ospf: 5 [8325] (default) Nbr 5.5.5.2: LOADING -->
FULL, event LDDONE
2013 May 20 05:36:34.299179 ospf: 5 [8325] (default) Sending DBD to 5.5.5.2
on Vlan5
2013 May 20 05:36:34.299199 ospf: 5 [8325] (default) Filled DBD to 5.5.5.2
with 0 entries
2013 May 20 05:36:34.299233 ospf: 5 [8325] (default) Sent DBD with 0 entries to
5.5.5.2 on Vlan5
2013 May 20 05:36:34.299253 ospf: 5 [8325] (default) mtu 1600, opts: 0x42,
ddbits: 0, seq: 0x9247f60
2013 May 20 05:36:38.746942 ospf: 5 [8325] (default) Nbr 5.5.5.2 FSM start:
old state FULL, event HELLORCVD
2013 May 20 05:36:38.747010 ospf: 5 [8325] (default) Nbr 5.5.5.2: FULL -->
FULL, event HELLORCVD
2013 May 20 05:36:38.747024 ospf: 5 [8325] (default) Nbr 5.5.5.2 FSM start:
old state FULL, event TWOWAYRCVD
2013 May 20 05:36:38.747046 ospf: 5 [8325] (default) Nbr 5.5.5.2: FULL -->
FULL, event TWOWAYRCVD
2013 May 20 05:36:38.747073 ospf: 5 [8325] (default) Different BDR in hello,
invoking nbrchange
2013 May 20 05:36:38.747090 ospf: 5 [8325] (default) Neighbor
priority/options/DR/BDR value changed
2013 May 20 05:36:38.747265 ospf: 5 [8325] Begin OSPF DR election on Vlan5
2013 May 20 05:36:38.747288 ospf: 5 [8325] Current 5.5.0.1 as DR,
5.5.0.2 as BDR
2013 May 20 05:36:38.747329 ospf: 5 [8325] BDR election starting
2013 May 20 05:36:38.747348 ospf: 5 [8325] Walking neighbor 5.5.5.1
(0xaec59478), state SELF
2013 May 20 05:36:38.747362 ospf: 5 [8325] This neighbor is greater
than 2way


```

2013 May 20 05:36:38.747648 ospf: 5 [8325] Walking neighbor 5.5.5.2
(0x9777584), state FULL
2013 May 20 05:36:38.747662 ospf: 5 [8325] This neighbor is greater
than 2way
2013 May 20 05:36:38.747676 ospf: 5 [8325] This neighbor is in consideration
for bdr
2013 May 20 05:36:38.747689 ospf: 5 [8325] Current BDR set to this neighbor
2013 May 20 05:36:38.747705 ospf: 5 [8325] Compare done, new current bdr
5.5.5.2
2013 May 20 05:36:38.747733 ospf: 5 [8325] DR election starting
2013 May 20 05:36:38.747750 ospf: 5 [8325] Walking neighbor 5.5.5.1
(0xaec59478), state SELF
2013 May 20 05:36:38.747766 ospf: 5 [8325] This nbr 5.5.5.1 promoted to
current dr
2013 May 20 05:36:38.747782 ospf: 5 [8325] Walking neighbor 5.5.5.2
(0x9777584), state FULL
2013 May 20 05:36:38.747796 ospf: 5 [8325] Neighbor not declared DR,
ignoring
2013 May 20 05:36:38.747948 ospf: 5 [8325] Elected 5.5.0.1 as DR,
5.5.0.2 as BDR
2013 May 20 05:36:38.748004 ospf: 5 [8325] Interface Vlan5 ---> DR

```

Opmerking: Vergeet niet apparaten uit te schakelen.

```

N7K1-RP# clear debug logfile debug-ospf
N7K1-RP# undebug all
N7K1-RP# no debug-fil all

```

Onderzoekstips:

Zoek naar foute MTU berichten. Volg het sequentienummer en zoek een hertransmissie als gevolg van de DBD-daling. Controleer op ontvangst van een onverwacht DBD-sequentienummer.

Problemen oplossen

Als het onderzoek van de L2/3 connectiviteit, openen de configuratie, en het OSPF-toegestane verkeer het probleem niet en tonen dat de buurman online is, een TAC zaak. Voer deze opdrachten in en geef TAC de informatie over de beide burens output:

- Weergeven
- Technologische ondersteuning tonen

OSPF-buurtwachtwoord in een geladen toestand

Er zijn tijden wanneer de OSPF buurman in een ladingsstaat zit.

Dit probleem kan worden veroorzaakt door:

- Er wordt een verzoek van de Link State (LS) ingediend en de buurman verstuurt een slecht pakket of de geheugencorruptie. Voer de **show IP OSPF bad**-opdracht in om de slechte Link State Advertisement (LSA) te zien. De **show** het **logboek** bevel toont het **OSPF-4-BADLTYPE** bericht. Er wordt een LS-verzoek ingediend, en de buurman negeert het verzoek.

Als een router een verouderde, gecorrumpeerde of ontbrekende LSA ontvangt, blijft OSPF in een ladingsstaat, en genereert de **OSPF-4-BADLSA** foutmelding.

Typ deze opdracht om het volgende te onderzoeken:

```
7K1-RP# show ip ospf traffic vlan 5
OSPF Process ID 5 VRF default, Packet Counters (cleared 1d12h ago)
Interface Vlan5, Area 0.0.0.0
Total: 15214 in, 15214 out
LSU transmissions: first 88, rxmit 9(13), for req 0, nbr xmit 289801235
Flooding packets output throttled (IP/tokens): 0 (0/0)
Ignored LSAs: 0, LSAs dropped during SPF: 0
LSAs dropped during graceful restart: 0
Errors: drops in      0, drops out      0, errors in      0,
        errors out    0, hellos in      0, dbds in        0,
        lsreq in      0, lsu in        0, lsacks in      0,
        unknown in    0, unknown out  0, no ospf        0,
        bad version   0, bad crc      0, dup rid        0,
        dup src       0, invalid src   0, invalid dst    0,
        no nbr        0, passive      0, wrong area    0,
        pkt length    0, nbr changed  rid/ip addr  0
        bad auth      0

        hellos      dbds      lsreqs      lsus      acks
In:      14957      42       13        108       94
Out:     14957      46       14        110       87
```

N7K1-RP#

Problemen oplossen

Als het onderzoek van de L2/3 connectiviteit, openden de configuratie, en het OSPF-toegestane verkeer het probleem niet en tonen dat de buurman online is, een TAC zaak. Voer deze opdrachten in en geef TAC de informatie over de beide burens output:

- Logbestand weergeven
- Technologische ondersteuning tonen