

# Dépannage des problèmes de contiguïté OSPF du Nexus 7000

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## Introduction

Ce document traite de plusieurs scénarios courants rencontrés où le voisin OSPF (Open Shortest Path First) ne se connecte pas comme prévu. Afin d'éviter ce type de comportement inattendu sur les commutateurs de la gamme Cisco Nexus 7000, veillez à respecter les consignes et restrictions relatives aux couches 3 (L3) et vPC (Virtual Port Channel).

## Informations générales

Avant de résoudre les problèmes, assurez-vous que les directives et les restrictions sont respectées. Reportez-vous au [Guide de conception et de configuration : Meilleures pratiques pour les canaux de port virtuel \(vPC\) sur les commutateurs de la gamme Cisco Nexus 7000](#) pour plus d'informations sur L3 et vPC.

La procédure utilisée pour résoudre les problèmes de contiguïté OSPF sur le Nexus 7000 est similaire aux procédures de Cisco IOS<sup>®</sup>, mais Nexus 7000 dispose d'outils et de filtres plus intégrés afin d'identifier facilement le problème.

## La contiguïté OSPF ne se met pas en ligne

Il arrive que la contiguïté OSPF ne se connecte pas. La commande `show ip ospf neighbor` n'affiche pas le voisin.

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

```
R3#
```

Ce problème peut être causé par :

- Problème de connectivité L2/L3
- OSPF non activé sur l'interface
- L'interface est définie comme passive
- Masque de sous-réseau incorrect
- Intervalle Hello/Dead inégal
- Clé d'authentification incorrecte
- ID de zone non concordante
- Option de transit/stub/Not-So-Stubby Area (NSSA) non correspondante

Afin d'enquêter sur le problème, vérifiez la connectivité, la configuration et la liste de contrôle d'accès (ACL)/ Control Plane Policing (CoPP).

## Vérifier la connectivité L2/L3

1. Vérifiez la connectivité de monodiffusion à l'aide de la commande ping.

En cas de problème de connectivité, découvrez s'il est dû au fournisseur d'accès Internet de couche 2 (ISP), à un port physique, à un convertisseur d'interface Gigabit (GBIC) ou à un câble.

**Note:** Supposez qu'il n'y a aucune liste de contrôle d'accès/CoPP bloquant le trafic. Si le problème est dû à un matériel défectueux ou à un câble, remplacez-le ou déplacez-le sur un autre port afin de résoudre le problème.

2. Vérifiez la connectivité de multidiffusion avec la commande ping.

```
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#
```

Vérifiez que l'interface est propre et qu'il n'y a aucune perte ou erreur avec la commande **show int 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. Déterminez si ces fonctions abandonnent des paquets sur la carte de ligne, l'interface ou le processeur d'entrée.

- ACL : entrée/sortie de l'interface
- Qualité de service (QoS) : sur l'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#

## Vérifier la configuration OSPF

Utilisez ces commandes afin de vérifier la configuration OSPF (sous-réseau, intervalle Hello/Dead, ID de zone, type de zone, clé d'authentification (le cas échéant) et non passive), et assurez-vous qu'elle correspond des deux côtés.

1. **show run ospf**
2. **show ip ospf 5 interface**
3. **show ip ospf 5**

Voici un exemple de la première commande :

```
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#
```

Voici un exemple de la deuxième commande :

```
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#
```

Voici un exemple de la troisième commande :

```
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#

## Vérifier les messages OSPF

Entrez la commande **show ip ospf event-history adjacency** afin de vérifier que les messages de débogage sont envoyés et reçus par le processus OPSF.

**Note:** Les derniers messages apparaissent en haut.

Le résultat montre tous les messages de contiguïté OSPF échangés entre voisins OSPF. Lorsqu'une contiguïté OSPF est formée, un routeur passe par plusieurs changements d'état avant de devenir totalement adjacent à son voisin. Ce résultat montre tous les changements d'état et les négociations. En cas de problème (unité de transition maximale (MTU), problèmes de connectivité, perte de paquets), il est reflété dans le résultat.

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, dbdbits 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

```

## Dépannage

Si l'analyse de la connectivité L2/3, la configuration et le trafic autorisé OSPF n'ont pas permis de détecter le problème et d'afficher le voisin sur la liste, ouvrez un dossier du centre d'assistance technique Cisco (TAC). Entrez ces commandes et fournissez au TAC les informations des sorties des deux voisins :

- **Commande show run**
- **Show tech-support ospf**



# Voisin OSPF bloqué dans l'état d'initialisation (INIT)

Il arrive que le voisin soit coincé dans l'état INIT, ce qui indique que le Nexus 7000 voit des paquets Hello du voisin, mais ne voit pas son ID de routeur dans le paquet hello afin de passer à l'état suivant de bidirectionnel.

```
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#
```

Ce problème peut être causé par :

- Un côté bloque le paquet Hello avec la liste de contrôle d'accès.
- Un côté est la traduction, avec NAT (Network Address Translation), du Hello OSPF.
- La fonctionnalité de multidiffusion d'un côté est interrompue (L2).

Complétez ces étapes afin d'enquêter sur le problème :

1. Vérifiez que le plan de contrôle multidiffusion IP fonctionne.

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

Si vous ne voyez pas l'adresse IP des voisins dans les résultats de la requête ping, un problème se produit. Vérifiez de part et d'autre.

2. Vérifiez que les paquets HELLO sont reçus du voisin.

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

**Note:** Les paquets Hello sortants ne sont pas affichés.

3. Activez le débogage de contiguïté OSPF sur chaque interface et vérifiez que les paquets Hello sont envoyés.

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

**Note:** N'oubliez pas de désactiver les débogages.

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

4. Vérifiez que les paquets sont envoyés par OSPF à 224.0.0.5.

```
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#
```

**Note:** N'oubliez pas de désactiver les débogages.

```
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. Vérifiez que le paquet se trouve sur l'analyseur d'éthers.

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

N7K1# ethalyzer 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
```

**Note:** Il doit y en avoir un dans le VDC (Default Virtual Device Context).

## Dépannage

Si l'analyse de la connectivité L2/3, la configuration et le trafic OSPF autorisé ne détectent pas le problème et montrent que le voisin devient FULL, ouvrez un dossier TAC. Entrez ces commandes et fournissez au TAC les informations des sorties des deux voisins :

- Commande show run
- Show tech-support ospf

## Voisin OSPF coincé dans un état bidirectionnel

Il arrive que le voisin OSPF soit coincé dans un état bidirectionnel. Ce scénario est normal dans les types de réseau de diffusion et réduit la quantité d'inondation sur le câble. Ce scénario se produit également si tous les routeurs sont configurés avec une priorité égale à zéro.

**Note:** Seuls les routeurs bas de gamme doivent être configurés avec une priorité égale à zéro afin de ne pas participer à la sélection du routeur désigné (DR).

Reportez-vous à la section [Pourquoi la commande show ip ospf neighbor révèle-t-elle des voisins bloqués dans l'état bidirectionnel ?](#) pour plus d'informations.

## Voisin OSPF coincé dans Exstart/Exchange

Il arrive que le voisin OSPF soit coincé dans l'état Exstart/Exchange.

En cas de non-correspondance de MTU entre les interfaces des voisins OSPF ou s'ils ne peuvent pas s'envoyer des requêtes ping avec la taille de paquet de la MTU configurée en raison du support de transmission, le voisin OSPF est coincé dans l'état exstart/exchange.

```
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#
```

Ce problème peut être causé par :

- Non-correspondance MTU - EXCHANGE sur un routeur et EXSTART sur l'autre  
**Note:** Vous pouvez configurer avec la commande `ip ospf mtu-ignore`.
- L'ID de routeur voisin (RID) est identique à celui de son voisin - EXSTART
- La monodiffusion est interrompue - ÉCHANGE Problème de MTU : impossible d'envoyer une requête ping avec plus d'un paquet de certaine longueur Blocage de la liste de contrôle d'accès en monodiffusion - après l'envoi d'un paquet de monodiffusion par le protocole OSPF bidirectionnel, à l'exception des liaisons point à point (P2P) NAT traduit un paquet de monodiffusion

Complétez ces étapes afin d'enquêter sur le problème :

1. Vérifiez la requête ping normale avec un bit DF (Don't Fragment) activé et avec la MTU IP maximale sur l'interface.

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

**Note:** Dans Cisco IOS, lorsque vous entrez la commande `ping x.x.x.x size <size>`, `size` fait référence à la taille du paquet IP. Sous Linux, vous spécifiez la charge utile ICMP (Internet Control Message Protocol) de la requête ping plutôt que de spécifier la taille de paquet IP comme dans Cisco IOS. Comme vous le savez peut-être déjà, Nexus est construit sur Linux. Le MTU est toujours défini sur 1 500 octets - 20 de ces octets sont l'en-tête IP et 8 autres sont l'en-tête ICMP.  $1\ 500 - 20 - 8 = 1\ 472$  octets de données utiles. Par conséquent, la taille réelle du datagramme IP est identique à celle de Cisco IOS, qui est de 1 500 octets.

2. Vérifiez si les paquets sont abandonnés sur les interfaces entrantes à l'aide de la commande `show int 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 runts  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. Vérifiez si CoPP supprime le paquet OSPF avec la commande `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-mlps-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. Vérifiez l'échange du descripteur de base de données OSPF (DBD) avec la commande **show ip ospf 5 event-history adjacency** ou **debug ip ospf 5 adjacency**.

```

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

```

Voici un exemple :

```

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

```

**Note:** N'oubliez pas de désactiver les débogages.

```

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

```

### Conseils d'enquête :

Recherchez les messages MTU non concordants. Suivez le numéro de séquence et recherchez une retransmission en raison de la perte DBD. Vérifiez la réception d'un numéro de séquence DBD inattendu.

### Dépannage

Si l'enquête sur la connectivité L2/3, la configuration et le trafic autorisé OSPF n'ont pas détecté le problème et montré que le voisin est en ligne, ouvrez un dossier TAC. Entrez ces commandes et fournissez au TAC les informations des sorties des deux voisins :

- **Commande show run**
- **Show tech-support ospf**

## Voisin OSPF bloqué dans un état de chargement

Il arrive que le voisin OSPF soit coincé dans un état de chargement.

Ce problème peut être causé par :

- Une requête d'état de liaison (LS) est effectuée et le voisin envoie un paquet défectueux ou

une corruption de mémoire existe. Entrez la commande **show IP OSPF bad** afin de voir la mauvaise LSA (Link State Advertisement). La commande **show log** affiche le message **OSPF-4-BADLSATYPE**. Une requête LS est effectuée et le voisin ignore la requête.

Si un routeur reçoit une LSA obsolète, endommagée ou manquante, OSPF reste en état de chargement et génère le message d'erreur **OSPF-4-BADLSA**.

Entrez cette commande afin d'enquêter :

```
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  0, nbr changed  0,
        bad auth      0, nbr changed  0, nbr changed  0

```

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

N7K1-RP#

## Dépannage

Si l'enquête sur la connectivité L2/3, la configuration et le trafic autorisé OSPF n'ont pas détecté le problème et montré que le voisin est en ligne, ouvrez un dossier TAC. Entrez ces commandes et fournissez au TAC les informations des sorties des deux voisins :

- **Afficher le fichier journal**
- **Show tech-support ospf**