

# 在Cisco Nexus交換機上配置BGP中的disable-peer-as-check

## 目錄

- [簡介](#)
- [必要條件](#)
- [需求](#)
- [採用元件](#)
- [設定](#)
- [網路圖表](#)
- [組態](#)
- [驗證](#)
- [疑難排解](#)

## 簡介

本檔案介紹執行NX-OS作業系統的Cisco Nexus系列交換器上的邊界閘道通訊協定(BGP)中的disable-peer-as-check命令。

## 必要條件

### 需求

思科建議您瞭解以下主題：

- Nexus NX-OS軟體。
- BGP路由協定。

### 採用元件

本文中的資訊係根據以下軟體和硬體版本：

- Cisco Nexus 7000
- NXOS 7.3(0)D1(1)版

本檔案所述內容不限於特定軟體和硬體版本。本檔案中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路運作中，請確保您瞭解任何指令可能造成的影響。

## 設定

當網路首碼通告給eBGP對等點時，其自治系統(AS)一律會排在BGP的AS\_PATH屬性清單之前。

預設情況下，基於Cisco Nexus NX-OS的交換機不會將網路字首通告給在BGP的網路字首

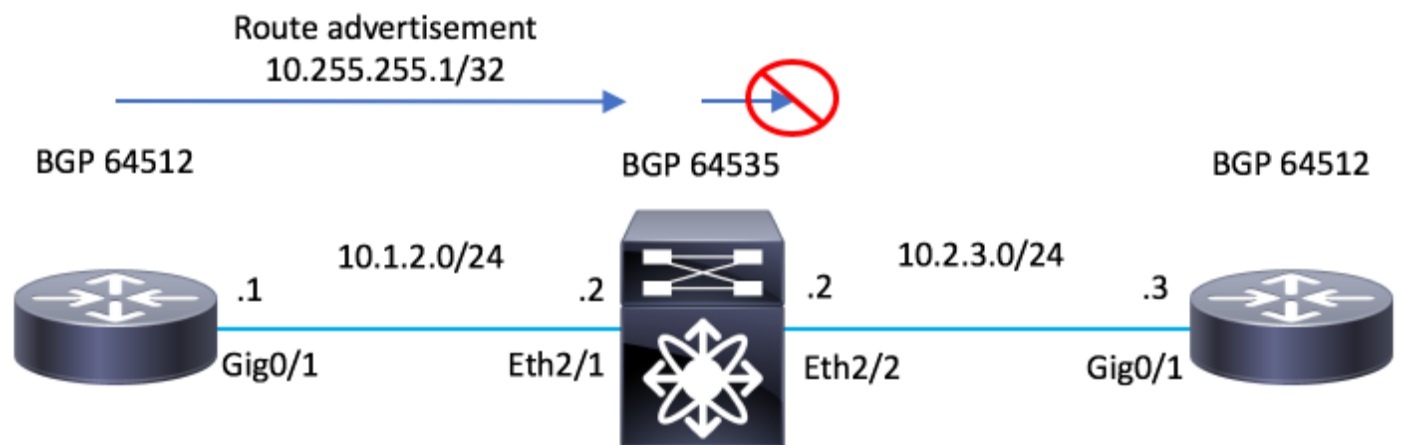
AS\_PATH屬性中最後找到AS的eBGP對等體。

此行為與基於Cisco IOS®(和Cisco IOS®-XE)的路由器和交換機不同，在這些路由器和交換機中，即使對等體的AS已經位於網路字首AS\_PATH屬性中，網路字首仍會通告給eBGP對等體。

在這種情況下，BGP環路防護機制會捨棄接收方對等路由器上的網路字首（預設情況下），並觸發類似於「DENIED due to:AS-PATH僅包含我們自己的AS"（僅當啟用了相應的調試時）。

**附註：**預設情況下，基於Cisco IOS® XR的路由器的行為與NX-OS類似。在Cisco IOS® XR中，**as-path-loopcheck out disable**命令可用於修改此行為。

## 網路圖表



## 組態

### R1 - Cisco IOS®

```
configure terminal
!
hostname R1
!
interface Loopback0
 ip address 10.255.255.1 255.255.255.255
!
interface GigabitEthernet0/1
 ip address 10.1.2.1 255.255.255.0
 no shutdown
!
router bgp 64512
 bgp log-neighbor-changes
 network 10.255.255.1 mask 255.255.255.255
 neighbor 10.1.2.2 remote-as 65535
!
end
```

## N7K-2 - Nexus NX-OS

```
configure terminal
!
hostname N7K-2
!
feature bgp
!
interface Ethernet2/1
  no switchport
  ip address 10.1.2.2/24
  no shutdown

interface Ethernet2/2
  no switchport
  ip address 10.2.3.2/24
  no shutdown
!
router bgp 65535
  address-family ipv4 unicast
  neighbor 10.1.2.1
  remote-as 64512
  address-family ipv4 unicast
  neighbor 10.2.3.3
  remote-as 64512
  address-family ipv4 unicast
!
end
```

## R3 - Cisco IOS®

```
configure terminal
!
hostname R3
!
interface GigabitEthernet0/1
  ip address 10.2.3.3 255.255.255.0
  no shutdown
!
router bgp 64512
  bgp log-neighbor-changes
  neighbor 10.2.3.2 remote-as 65535
!
end
```

## 驗證

使用本節內容，確認您的組態是否正常運作。

沒有**disable-peer-as-check**命令會阻止運行NX-OS的N7K-2將字首10.255.255.1/32通告給路由器R3，因為R3的AS(64512)在AS\_PATH屬性中是最後找到的。

**附註：**預設情況下，配置中會禁用**disable-peer-as-check**命令。您必須手動新增命令才能啟用該功能。

當N7K-2將10.255.255.1/32通告給R3時，它會將最後一個AS 64512包含在AS\_PATH屬性中。

此AS64512置與R3中配置的AS相同。

## N7K-2 - Nexus NX-OS

```
N7K-2# show bgp ipv4 unicast
BGP routing table information for VRF default, address family IPv4 Unicast
BGP table version is 17, local router ID is 10.1.2.2
Status: s-suppressed, x-deleted, S-stale, d-dampened, h-history, *-valid, >-best
Path type: i-internal, e-external, c-confed, l-local, a-aggregate, r-redist, I-i
njected
Origin codes: i - IGP, e - EGP, ? - incomplete, | - multipath, & - backup
```

Network	Next Hop	Metric	LocPrf	Weight	Path
*>e10.255.255.1/32	10.1.2.1	0		0	64512 i

```
N7K-2#
```

觀察到，在R3上，debug命令**debug bgp ipv4 unicast**已啟用。

為了進一步確認未收到路由，會執行命令**clear bgp ipv4 unicast \* soft**，強制再次交換路由。R3路由沒有收到該路由。

## R3 - Cisco IOS®

```
R3#debug bgp ipv4 unicast
BGP debugging is on for address family: IPv4 Unicast
R3#
R3#clear bgp ipv4 unicast * soft R3# *Jul 15 19:22:36.427: BGP: 10.2.3.2 sending REFRESH_REQ(5) for afi
1/1, refresh code is 0 R3#
```

必須在N7K-2上啟用**disable-peer-as-check**命令，以便該命令可以將網路字首通告給R3。

## N7K-2 - Nexus NX-OS

```
N7K-2# conf t
Enter configuration commands, one per line. End with CNTL/Z.
N7K-2(config)# router bgp 65535
N7K-2(config-router)# neighbor 10.2.3.3
N7K-2(config-router-neighbor)# address-family ipv4 unicast
N7K-2(config-router-neighbor-af)# disable-peer-as-check
N7K-2(config-router-neighbor-af)#
```

在N7K-2上實施**disable-peer-as-check**後，該路由將通告給R3，但被預期的BGP環路預防機制丟棄。

觀察「DENIED DUE to:AS-PATH包含我們自己的AS」，如調試輸出所示。

## R3 - Cisco IOS®

```
R3#
```

```
*Jul 15 19:29:06.440: BGP(0): 10.2.3.2 rcv UPDATE w/ attr: nexthop 10.2.3.2, origin i, originator 0.0.0
merged path 65535 64512, AS_PATH , community , extended community , SSA attribute
*Jul 15 19:29:06.442: BGPSSA ssacount is 0
*Jul 15 19:29:06.442: BGP(0): 10.2.3.2 rcv UPDATE about 10.255.255.1/32 -- DENIED due to: AS-PATH conta
our own AS;
R3#
```

**附註：**如果在AS\_PATH屬性中最後找不到R3的AS，則N7K-2不需要命令來通告路由。

在本示例中，使用**route-map**和**set as-path prepend**命令在AS\_PATH屬性中最後預置另一個AS。現在，在R3的AS路徑中有另一個AS。

AS\_PATH列出6530064512。

## N7K-2 - Nexus NX-OS

```
configure terminal
!
route-map TEST permit 10
  set as-path prepend 65300
!

N7K-2# conf t
Enter configuration commands, one per line.  End with CNTL/Z.
N7K-2(config)# router bgp 65535
N7K-2(config-router)# neighbor 10.1.2.1
N7K-2(config-router-neighbor)# address-family ipv4 unicast
N7K-2(config-router-neighbor-af)# route-map TEST in
N7K-2(config-router-neighbor-af)#
N7K-2#

N7K-2# show bgp ipv4 unicast
BGP routing table information for VRF default, address family IPv4 Unicast
BGP table version is 18, local router ID is 10.1.2.2
Status: s-suppressed, x-deleted, S-stale, d-dampened, h-history, *-valid, >-best
Path type: i-internal, e-external, c-confed, l-local, a-aggregate, r-redist, I-injected
Origin codes: i - IGP, e - EGP, ? - incomplete, | - multipath, & - backup

   Network          Next Hop           Metric      LocPrf     Weight Path
*>e10.255.255.1/32  10.1.2.1             0              0 65300 64512 i

N7K-2#
```

觀察N7K-2在此情況下如何在不需要**disable-peer-as-check**的情況下通告路由。

## N7K-2 - Nexus NX-OS

```
N7K-2# sh run bgp

!Command: show running-config bgp
!Time: Mon Jul 15 21:28:59 2019

version 7.3(0)D1(1)
feature bgp

router bgp 65535
  address-family ipv4 unicast
  neighbor 10.1.2.1
    remote-as 64512
  address-family ipv4 unicast
```

```
route-map TEST in
neighbor 10.2.3.3
remote-as 64512
address-family ipv4 unicast
```

N7K-2#

通知「由於以下原因被拒絕：AS-PATH包含我們自己的AS」，可從R3的調試輸出中看到。

## R3 - Cisco IOS®

```
R3#show debug
```

```
IP routing:
```

```
BGP debugging is on for address family: IPv4 Unicast
```

```
BGP updates debugging is on for address family: IPv4 Unicast
```

```
R3#
```

```
R3#clear bgp ipv4 unicast * soft
```

```
R3#
```

```
*Jul 15 21:33:11.309: BGP: 10.2.3.2 sending REFRESH_REQ(5) for afi/safi: 1/1, refresh code is 0
```

```
*Jul 15 21:33:12.312: BGP(0): 10.2.3.2 rcv UPDATE w/ attr: nexthop 10.2.3.2, origin i, originator 0.0.0.0
merged path 65535 65300 64512, AS_PATH , community , extended community , SSA attribute
```

```
*Jul 15 21:33:12.313: BGPSSA ssacount is 0
```

```
*Jul 15 21:33:12.313: BGP(0): 10.2.3.2 rcv UPDATE about 10.255.255.1/32 -- DENIED due to: AS-PATH contains
our own AS;
```

```
R3#
```

## 疑難排解

本節提供的資訊可用於對組態進行疑難排解。

若要確認BGP配置需要NX-OS上的**disable-peer-as-check**命令，請開啟這些調試。

```
debug-filter bgp neighbor <eBGP_NEIGHBOR>
debug-filter bgp prefix <ROUTE_TO_BE_ADVERTISED>
debug bgp updates
debug logfile <FILE_NAME>
```

請注意，類似「10.2.3.3 10.255.255.1/32 path-id 1」的消息由於以下原因未傳送到對等體：當存在重新傳送路由的請求時，將生成通告AS。

## N7K-2 - Nexus NX-OS

```
N7K-2# debug-filter bgp neighbor 10.2.3.3
```

```
N7K-2# debug-filter bgp prefix 10.255.255.1/32
```

```
N7K-2# debug bgp updates
```

```
N7K-2#
```

```
N7K-2# debug logfile bgpdebug.log
```

```
N7K-2# show debug logfile bgpdebug.log
```

```
2019 Jul 15 21:38:12.586085 bgp: 65535 [7848] (default) UPD: [IPv4 Unicast] Continuing update run for p
10.2.3.3 (#0)
```

```
2019 Jul 15 21:38:12.586129 bgp: 65535 [7848] (default) UPD: [IPv4 Unicast] consider sending 10.255.255
to peer 10.2.3.3, path-id 1, best-ext is off
```

```
2019 Jul 15 21:38:12.586145 bgp: 65535 [7848] (default) UPD: [IPv4 Unicast] 10.2.3.3 10.255.255.1/32 pa
1 not sent to peer due to: advertising AS
```

```
2019 Jul 15 21:38:12.586160 bgp: 65535 [7848] (default) UPD: [IPv4 Unicast] 10.2.3.3: walked 0 nodes and
packed 0/0 prefixes
2019 Jul 15 21:38:12.586177 bgp: 65535 [7848] (default) UPD: [IPv4 Unicast] Found marker dest 0xf35349f
xmitlist for peer 10.2.3.3 (sent prefixes: 0)
2019 Jul 15 21:38:12.586200 bgp: 65535 [7848] (default) UPD: [IPv4 Unicast] Created EOR marker UPDATE m
(len 23) to peer 10.2.3.3 after sending 0 routes
2019 Jul 15 21:38:12.586213 bgp: 65535 [7848] (default) UPD: [IPv4 Unicast] (#24) Suspending update run
peer 10.2.3.3 (#24)
N7K-2#
```

完成後，使用以下命令禁用調試：

```
undebg all
no debug-filter all
clear debug logfile <FILE_NAME>
```