在BGP對等體之間配置MD5身份驗證

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簡介

本檔案介紹如何在兩個BGP對等點之間的TCP連線上設定訊息摘要5(MD5)驗證。

必要條件

需求

本文件沒有特定需求。

採用元件

本文件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執行Cisco IOS®版本12.4(15)T14的3600系列路由器的命令輸出而來。

本文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。

慣例

如需文件慣例的詳細資訊，請參閱思科技術提示慣例。

背景資訊

您可以在兩個BGP對等點之間配置MD5身份驗證，這意味著對等點之間的TCP連線上傳送的每個分段都經過驗證。MD5身份驗證必須在兩個BGP對等體上使用相同的密碼進行配置；否則，無法建立

它們之間的連線。配置MD5身份驗證時，會使Cisco IOS軟體生成並檢查TCP連線上傳送的每個資料段的MD5摘要。

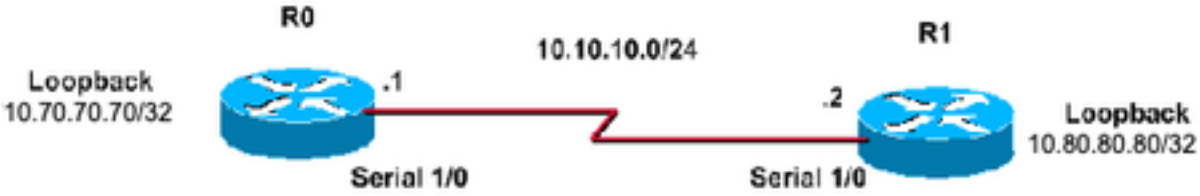
設定

本節提供用於設定本檔案中所述功能的資訊。

> **注意**：使用Cisco CLI Analyzer獲取本節所用命令的詳細資訊。只有註冊思科使用者才能訪問思科內部工具和資訊。

網路圖表

本檔案會使用以下網路設定：



組態

本檔案會使用以下設定：

路由器0配置

```
R0#
!
interface Loopback70
 ip address 10.70.70.70 255.255.255.255
!
interface Serial1/0
 ip address 10.10.10.1 255.255.255.0
 serial restart-delay 0
!
router bgp 400
 no synchronization
 bgp log-neighbor-changes
 neighbor 10.80.80.80 remote-as 400

!--- iBGP Configuration using Loopback Address  neighbor 10.80.80.80 password cisco

!--- Invoke MD5 authentication on a TCP connection to a BGP peer  neighbor 10.80.80.80 update-source
Loopback70
 no auto-summary
!
ip route 10.80.80.80 255.255.255.255 10.10.10.2

!--- This static route ensures that the remote peer address used for peering is reachable.
```

路由器1配置

```
R1#
!
interface Loopback80
 ip address 10.80.80.80 255.255.255.255
```

```
!
interface Serial1/0
 ip address 10.10.10.2 255.255.255.0
 serial restart-delay 0
!
router bgp 400
 no synchronization
 bgp log-neighbor-changes
 neighbor 10.70.70.70 remote-as 400

!--- iBGP Configuration using Loopback Address  neighbor 10.70.70.70 password cisco

!--- Invoke MD5 authentication on a TCP connection to a BGP peer  neighbor 10.70.70.70 update-source
Loopback80
 no auto-summary
!
ip route 10.70.70.70 255.255.255.255 10.10.10.1

!--- This static route ensures that the remote peer address used for peering is reachable.
```

了解調試

```
R0#clear ip bgp *
*Mar 1 01:02:17.523: %BGP-5-ADJCHANGE: neighbor 10.80.80.80 Down User reset

R0#debug ip bgp
BGP debugging is on for address family: IPv4 Unicast
*Mar  1 01:03:58.159: BGP: 10.80.80.80 open failed: Connection timed out;
    remote host not responding, open active delayed 1782ms (2000ms max, 28%
    jitter)
*Mar  1 01:03:58.415: %SYS-5-CONFIG_I: Configured from console by console
*Mar  1 01:03:59.943: BGP: 10.80.80.80 open active, local address 10.70.70.70
*Mar  1 01:04:00.039: %TCP-6-BADAUTH: No MD5 digest from 10.80.80.80(179) to
    10.70.70.70(64444)
*Mar  1 01:04:00.807: %TCP-6-BADAUTH: No MD5 digest from 10.80.80.80(33358)
    to 10.70.70.70(179)
*Mar  1 01:04:01.991: %TCP-6-BADAUTH: No MD5 digest from 10.80.80.80(179) to
    10.70.70.70(64444)
*Mar  1 01:04:01.995: %TCP-6-BADAUTH: No MD5 digest from 10.80.80.80(179) to
    10.70.70.70(64444)
*Mar  1 01:04:05.995: %TCP-6-BADAUTH: No MD5 digest from 10.80.80.80(179) to
    10.70.70.70(64444)
*Mar  1 01:04:06.015: %TCP-6-BADAUTH: No MD5 digest from 10.80.80.80(179) to
    10.70.70.70(64444)
*Mar  1 01:04:14.023: %TCP-6-BADAUTH: No MD5 digest from 10.80.80.80(179) to
    70. 70.70.70(64444)
*Mar  1 01:04:14.023: %TCP-6-BADAUTH: No MD5 digest from 10.80.80.80(179) to
    10.70.70.70(64444)
*Mar  1 01:04:29.947: BGP: 10.80.80.80 open failed: Connection timed out;
    remote host not responding, open active delayed 3932ms (4000ms max, 28%
    jitter)
*Mar  1 01:04:33.879: BGP: 10.80.80.80 open active, local address 10.70.70.70
*Mar  1 01:04:33.983: BGP: 10.80.80.80 went from Active to OpenSent
*Mar  1 01:04:33.983: BGP: 10.80.80.80 sending OPEN, version 4, my as: 400,
    hold time 180 seconds
*Mar  1 01:04:33.987: BGP: 10.80.80.80 send message type 1, length (incl.
    header ) 45
*Mar  1 01:04:34.091: BGP: 10.80.80.80 rcv message type 1, length (excl.
    header) 26
*Mar  1 01:04:34.091: BGP: 10.80.80.80 rcv OPEN, version 4, holdtime 180 seconds
*Mar  1 01:04:34.091: BGP: 10.80.80.80 rcv OPEN w/ OPTION parameter len: 16
```

```
*Mar  1 01:04:34.095: BGP: 10.80.80.80 rcvd OPEN w/ optional parameter type 2
    (Capability) len 6
*Mar  1 01:04:34.095: BGP: 10.80.80.80 OPEN has CAPABILITY code: 1, length 4
*Mar  1 01:04:34.095: BGP: 10.80.80.80 OPEN has MP_EXT CAP for afi/safi: 1/1
*Mar  1 01:04:34.095: BGP: 10.80.80.80 rcvd OPEN w/ optional parameter type 2
    (Capability) len 2
*Mar  1 01:04:34.095: BGP: 10.80.80.80 OPEN has CAPABILITY code: 128, length 0
*Mar  1 01:04:34.099: BGP: 10.80.80.80 OPEN has ROUTE-REFRESH capability(old)
    for all address-families
*Mar  1 01:04:34.099: BGP: 10.80.80.80 rcvd OPEN w/ optional parameter type 2
    (Capability) len 2
*Mar  1 01:04:34.099: BGP: 10.80.80.80 OPEN has CAPABILITY code: 2, length 0
*Mar  1 01:04:34.099: BGP: 10.80.80.80 OPEN has ROUTE-REFRESH capability(new)
    for all address-families
BGP: 10.80.80.80 rcvd OPEN w/ remote AS 400
*Mar  1 01:04:34.103: BGP: 10.80.80.80 went from OpenSent to OpenConfirm
*Mar  1 01:04:34.103: BGP: 10.80.80.80 went from OpenConfirm to Established
*Mar  1 01:04:34.103: %BGP-5-ADJCHANGE: neighbor 10.80.80.80 Up
```

如果路由器為鄰居配置了口令，但鄰居路由器沒有配置口令，則當路由器嘗試在它們之間建立BGP會話時，會顯示類似以下消息：

```
%TCP-6-BADAUTH: No MD5 digest from [peer's IP address]:11003 to [local
    router's IP address]:179
```

同樣，如果兩台路由器配置了不同的密碼，則會顯示類似以下的消息：

```
%TCP-6-BADAUTH: Invalid MD5 digest from [peer's IP address]:11004 to [local
    router's IP address]:179
```

驗證

使用本節內容，確認您的組態是否正常運作。

- show ip bgp neighbors |包括BGP

```
R0#show ip bgp neighbors| include BGP
BGP neighbor is 10.80.80.80, remote AS 400, internal link
  BGP version 4, remote router ID 10.80.80.80
  BGP state = Established, up for 00:08:26
  BGP table version 1, neighbor version 1/0
```

- show ip bgp summary

```
R0#show ip bgp summary
BGP router identifier 10.70.70.70, local AS number 400
BGP table version is 1, main routing table version 1

Neighbor        V    AS MsgRcvd MsgSent   TblVer  InQ OutQ Up/Down  State/PfxRcd
10.80.80.80 4 400 75 75 1 0 0 00:08:52 0
```

- show ip bgp summary

```
R1#show ip bgp summary
BGP router identifier 10.80.80.80, local AS number 400
BGP table version is 1, main routing table version 1

Neighbor        V    AS MsgRcvd MsgSent   TblVer  InQ OutQ Up/Down  State/PfxRcd
10.70.70.70 4 400 76 76 1 0 0 00:09:27 0
```

疑難排解

目前沒有適用於此組態的疑難排解資訊。

相關資訊

- Cisco IOS IP路由：BGP命令參考
- IP 路由支援頁面
- 思科技術支援與下載

關於此翻譯

思科已使用電腦和人工技術翻譯本文件，讓全世界的使用者能夠以自己的語言理解支援內容。請注意，即使是最佳機器翻譯，也不如專業譯者翻譯的內容準確。Cisco Systems, Inc. 對這些翻譯的準確度概不負責，並建議一律查看原始英文文件（提供連結）。