使用「prefix-list」的IPv6流量過濾配置示例

目錄

簡介

本文檔提供了IPv6字首清單的配置示例。在示例中，路由器R1和R2配置了IPv6編址方案並通過串列鏈路連線。兩台路由器上啟用的路由協定是IPv6 OSPF。為了生成網路，在路由器R2中配置了10個環回地址，並使用ipv6 ospf process-id area area-id [*instance-id*] 命令相互通告路由器（R1和R2）上配置的環回地址。在本例中，需要拒絕來自路由器R2的環回8和環回9介面到達路由器R1的顯式路由。

此配置示例使用ipv6 prefix-list *list-name* 命令在路由器R1上建立名為***ipv6_all_addresses***的IPv6字首清單。

在此例項中，在IPv6 OSPF上，使用distribute-list prefix-*listlist-name* 命令將字首清單應用於配置的協定。

必要條件

需求

嘗試此組態之前，請確保符合以下要求：

- IPv6編址方案知識
- 實施OSPF for IPv6知識

採用元件

本文檔中的資訊基於Cisco IOS®軟體版本15.1上的Cisco 7200系列路由器（用於路由器R1和R2上的配置）。

慣例

如需檔案慣例的相關資訊，請參閱思科技術提示慣例。

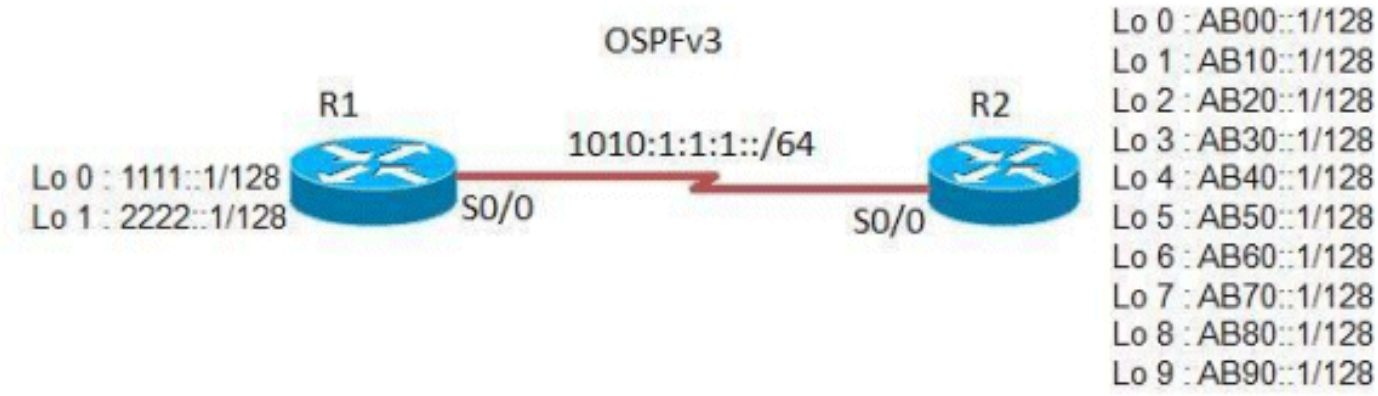
設定

本節提供用於設定本文件中所述功能的資訊。

註：使用 Command Lookup Tool(僅限註冊客戶)可以查詢有關本文檔中使用的命令的詳細資訊。

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R1
- 路由器R2

路由器R1

```
R1#show running-config
version 15.0
!
hostname R1
!
ip cef
!
!
ipv6 unicast-routing
!-- Enables the forwarding of IPv6 packets. ! interface
Loopback0 no ip address ipv6 address 1111::1/128 ipv6
ospf 10 area 0 !--- Enables OSPFv3 on the interface and
associates !--- the interface looback1 to area 0. !
interface Loopback1 no ip address ipv6 address
2222::1/128 ipv6 ospf 10 area 0 ! interface Serial0/0 no
ip address ipv6 address 1010:1:1:1::11/64 ipv6 ospf 10
area 0 clock rate 2000000 ! ! ipv6 router ospf 10
router-id 2.2.2.2 log-adjacency-changes distribute-list
```

```
prefix-list ipv6_all_addresses in
Applies the prefix list ipv6_all_addresses !--- to OSPF
for IPv6 routing updates that are received on an
interface. !--- Use this command in router configuration
mode.

!
ipv6 prefix-list ipv6_all_addresses seq 10 permit
AB00::1/128
!--- Creates a prefix-list named ipv6_all_addresses. !--
- Seq 10 denotes the sequence number of the !--- prefix
list entry being configured. !--- permit/deny
permits/denies the network !--- that matches the
condition.


ipv6 prefix-list ipv6_all_addresses seq 20 permit
AB10::1/128
ipv6 prefix-list ipv6_all_addresses seq 30 permit
AB20::1/128
ipv6 prefix-list ipv6_all_addresses seq 40 permit
AB30::1/128
ipv6 prefix-list ipv6_all_addresses seq 50 permit
AB40::1/128
ipv6 prefix-list ipv6_all_addresses seq 60 permit
AB50::1/128
ipv6 prefix-list ipv6_all_addresses seq 70 permit
AB60::1/128
ipv6 prefix-list ipv6_all_addresses seq 80 permit
AB70::1/128
ipv6 prefix-list ipv6_all_addresses seq 90 deny
AB80::1/128
ipv6 prefix-list ipv6_all_addresses seq 100 deny
AB90::1/128
!--- Denies the routes AB80::1/128 & AB90::1/128. ! end
```

注意：字首清單具有以下命名限制：

- 不能與現有訪問清單同名。
- 不能是名稱「detail」或「summary」，因為它們是**show ipv6 prefix-list**命令中的關鍵字。

路由器R2

```
R2#show running-config
version 15.0
!
hostname R2
!
ip cef
!
ipv6 unicast-routing
!
interface Loopback0
 no ip address
 ipv6 address AB00::1/128
 ipv6 ospf 10 area 0
!
interface Loopback1
 no ip address
 ipv6 address AB10::1/128
 ipv6 ospf 10 area 0
```

```
!
interface Loopback2
 no ip address
 ipv6 address AB20::1/128
 ipv6 ospf 10 area 0
!
interface Loopback3
 no ip address
 ipv6 address AB30::1/128
 ipv6 ospf 10 area 0
!
interface Loopback4
 no ip address
 ipv6 address AB40::1/128
 ipv6 ospf 10 area 0
!
interface Loopback5
 no ip address
 ipv6 address AB50::1/128
 ipv6 ospf 10 area 0
!
interface Loopback6
 no ip address
 ipv6 address AB60::1/128
 ipv6 ospf 10 area 0
!
interface Loopback7
 no ip address
 ipv6 address AB70::1/128
 ipv6 ospf 10 area 0
!
interface Loopback8
 no ip address
 ipv6 address AB80::1/128
 ipv6 ospf 10 area 0
!
interface Loopback9
 no ip address
 ipv6 address AB90::1/128
 ipv6 ospf 10 area 0

!
interface Serial0/0
 no ip address
 ipv6 address 1010:1:1:1::10/64
 ipv6 ospf 10 area 0
 clock rate 2000000
!
ip forward-protocol nd
!
!
ipv6 router ospf 10
 router-id 1.1.1.1
 log-adjacency-changes
!
end
```

驗證

若要驗證路由器R1收到的路由，請使用show ipv6 route *ospf* 命令。

show ipv6 route ospf

在路由器R1中

```
R1#show ipv6 route ospf
IPv6 Routing Table - 13 entries
Codes: C - Connected, L - Local, S - Static, R - RIP, B
- BGP
       U - Per-user Static route, M - MIPv6
       I1 - ISIS L1, I2 - ISIS L2, IA - ISIS interarea,
IS - ISIS summary
       O - OSPF intra, OI - OSPF inter, OE1 - OSPF ext
1, OE2 - OSPF ext 2
       ON1 - OSPF NSSA ext 1, ON2 - OSPF NSSA ext 2
       D - EIGRP, EX - EIGRP external
O   AB00::1/128 [110/64]
     via FE80::C007:EFF:FE58:0, Serial0/0
OI  AB10::1/128 [110/64]
     via FE80::C007:EFF:FE58:0, Serial0/0
OI  AB20::1/128 [110/64]
     via FE80::C007:EFF:FE58:0, Serial0/0
OI  AB30::1/128 [110/64]
     via FE80::C007:EFF:FE58:0, Serial0/0
OI  AB40::1/128 [110/64]
     via FE80::C007:EFF:FE58:0, Serial0/0
OI  AB50::1/128 [110/64]
     via FE80::C007:EFF:FE58:0, Serial0/0
OI  AB60::1/128 [110/64]
     via FE80::C007:EFF:FE58:0, Serial0/0
OI  AB70::1/128 [110/64]
     via FE80::C007:EFF:FE58:0, Serial0/0
!--- Note that the routes AB80::1/128 and AB90::1/128 !-
-- originated from lo 8 and lo 9 are not listed here.
```

為了顯示有關IPv6字首清單或字首清單項的資訊，請使用show ipv6 prefix-list *detail* 命令。

show ipv6 prefix-list

在路由器R1中

```
R1#show ipv6 prefix-list detail
Prefix-list with the last deletion/insertion:
ipv6_all_addresses
ipv6 prefix-list ipv6_all_addresses:
   count: 10, range entries: 0, sequences: 10 - 100,
refcount: 3
   seq 10 permit AB00::1/128 (hit count: 1, refcount: 5)
   seq 20 permit AB10::1/128 (hit count: 1, refcount: 1)
   seq 30 permit AB20::1/128 (hit count: 1, refcount: 2)
   seq 40 permit AB30::1/128 (hit count: 1, refcount: 1)
   seq 50 permit AB40::1/128 (hit count: 1, refcount: 3)
   seq 60 permit AB50::1/128 (hit count: 1, refcount: 1)
   seq 70 permit AB60::1/128 (hit count: 1, refcount: 2)
   seq 80 permit AB70::1/128 (hit count: 1, refcount: 1)
   seq 90 deny AB80::1/128 (hit count: 1, refcount: 2)
   seq 100 deny AB90::1/128 (hit count: 1, refcount: 1)

R1#show ipv6 prefix-list summary
Prefix-list with the last deletion/insertion:
ipv6_all_addresses
ipv6 prefix-list ipv6_all_addresses:
   count: 10, range entries: 0, sequences: 10 - 100,
refcount: 3
!--- This command displays detailed or !--- summarized
information about all IPv6 prefix lists.
```

輸出直譯器工具(僅供已註冊客戶使用)(OIT)支援某些show命令。使用OIT檢視show命令輸出的分析。

疑難排解

目前尚無適用於此組態的具體疑難排解資訊。

相關資訊

- IPv6配置指南，Cisco IOS版本15.1 M&T
- IPv6流量過濾訪問清單配置示例
- IPv6技術支援
- 技術支援與文件 - Cisco Systems