

HSRPv2中的跟蹤選項配置示例

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簡介

本文說明如何為IPv6(HSRPv2)組配置備用熱備份路由器協定(HSRP)以跟蹤對象並根據對象狀態更改HSRP優先順序。

每個跟蹤對象都有一個在跟蹤命令列介面(CLI)上指定的唯一編號。HSRPv2使用此數字跟蹤特定對象。跟蹤進程定期輪詢跟蹤對象以查詢值更改，並立即或在指定延遲之後向HSRPv2傳送任何更改（作為啟動或關閉值）。本檔案使用[track interface](#)命令設定要追蹤的介面。

必要條件

需求

嘗試此組態之前，請確保符合以下要求：

- 配置HSRP的知識；有關詳細資訊，請參閱[配置HSRP](#)。
- 實施IPv6編址和基本連線的基礎知識；有關詳細資訊，請參閱[實施IPv6編址和基本連線](#)。
- 增強型目標跟蹤的基礎知識
- 在配置HSRP IPv6之前，必須在介面上啟用HSRPv2。
- 必須在裝置上啟用IPv6單播路由，才能配置HSRP IPv6。

採用元件

本文檔中的配置基於運行Cisco IOS®軟體版本15.0(1)的Cisco 7200系列路由器。

慣例

如需檔案慣例的相關資訊，請參閱[思科技術提示慣例](#)。

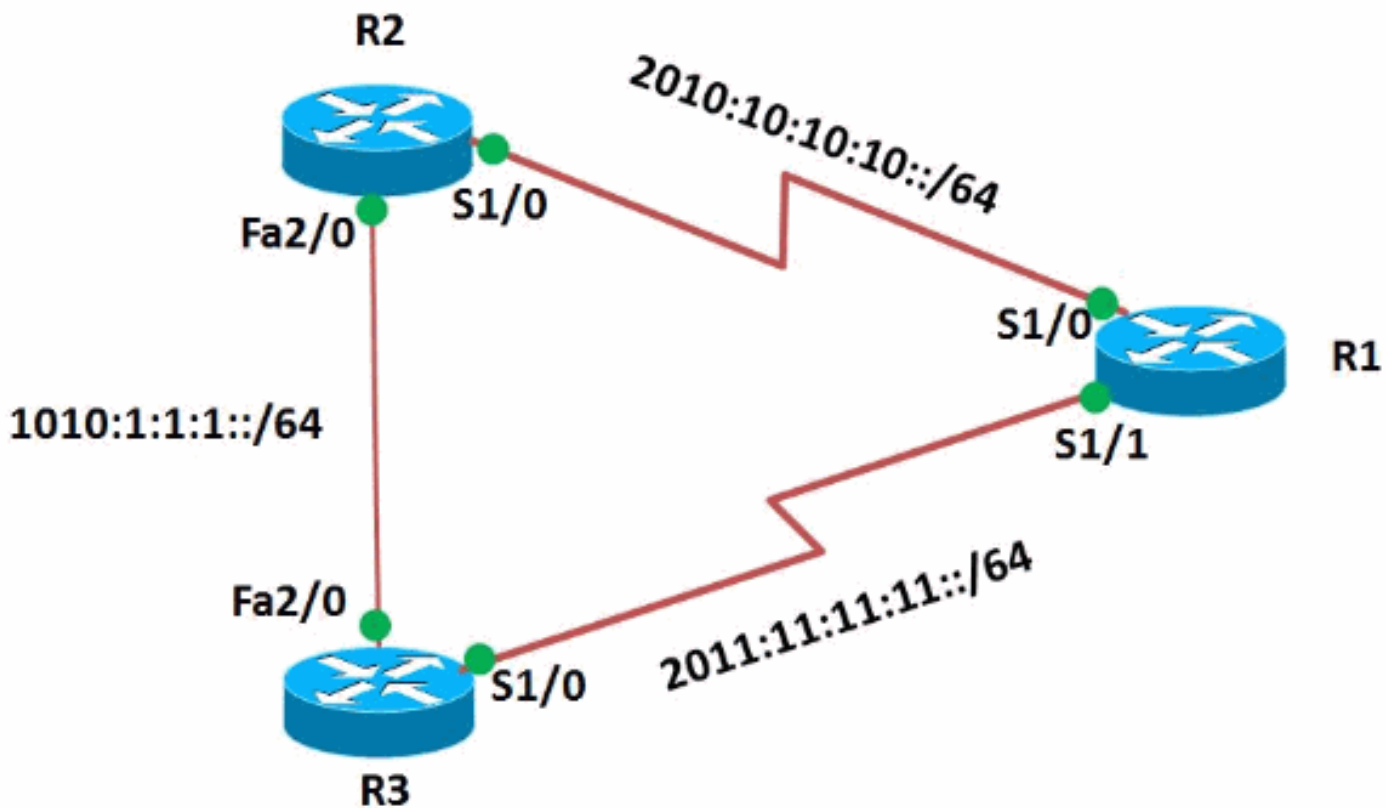
設定

R2和R3路由器通過串列介面連線到R1。R2和R3的快速乙太網介面配置了HSRP IPv6,R2充當活動路由器，R3充當備用路由器。在路由器R2中，跟蹤過程配置為跟蹤串列介面1/0的介面線路協定的狀態：如果R2的串列介面S1/0關閉，R3路由器會將其狀態從*Standby*更改為*Active*。

註：使用[Command Lookup Tool](#)(僅限[註冊](#)客戶)查詢有關本文檔中使用的命令的更多資訊。

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配置](#)
- [路由器R2配置](#)
- [路由器R3配置](#)

路由器R1配置

```
!  
version 15.0  
!  
hostname R1  
!
```

```

ipv6 unicast-routing
ipv6 cef
!
!
interface Serial1/0
  no ip address
  ipv6 address 2010:10:10:10::1/64
  serial restart-delay 0
!
!
interface Serial1/1
  no ip address
  ipv6 address 2011:11:11:11::1/64
  serial restart-delay 0
!
end

```

路由器R2配置

```

!
version 15.0
!
hostname R2
!
ipv6 unicast-routing
ipv6 cef
!
track 1 interface Serial1/0 line-protocol
!--- Tracking process 1 is configured in the router !---
to track state of the interface line protocol !---
of serial interface 1/0 ! interface Serial1/0 no ip address
ipv6 address 2010:10:10:10::2/64 serial restart-delay 0
! ! interface FastEthernet2/0 no ip address duplex auto
speed auto ipv6 address 1010:1:1:1::10/64 standby
version 2
  standby 10 ipv6 autoconfig
!--- Assigns a standby group and standby IP address.
standby 10 preempt delay minimum 45
!--- The preempt command allows the router to become the
!--- active router when it has the priority higher than
all the other !--- HSRP-configured routers. Without this
command, even if a router has higher !--- priority
value, it will not become an active router. !--- The
delay minimum value causes the local router to postpone
!--- taking over the active role for a minimum of 45
seconds. standby 10 track 1 decrement 10
!--- Configures HSRP to track an object and change the
Hot Standby !--- priority on the basis of the state of
the object. !--- In this example, the HSRP tracks the
interface s1/0 mentioned !--- in the track process 1. !-
-- Decrement value specified the amount by which the Hot
Standby !--- priority for the router is decremented (or
incremented) when the tracked object !--- goes down (or
comes back up). The range is from 1 to 255. The default
is 10. ! end

```

路由器R3配置

```

!
version 15.0
!
hostname R3
!

```

```
ipv6 unicast-routing
ipv6 cef
!
interface Serial1/0
no ip address
ipv6 address 2011:11:11:11::2/64
serial restart-delay 0
!
interface FastEthernet2/0
no ip address
duplex auto
speed auto
ipv6 address 1010:1:1:1::11/64
standby version 2
standby 10 ipv6 autoconfig
standby 10 priority 95
standby 10 preempt delay minimum 45
!
end
```

驗證

在R2和R3路由器上使用[show standby](#)命令檢驗配置。

路由器R2

```
R2#show standby
FastEthernet2/0 - Group 10 (version 2)
  State is Active
    5 state changes, last state change 00:26:03
  Virtual IP address is FE80::5:73FF:FEA0:A
  Active virtual MAC address is 0005.73a0.000a
  Local virtual MAC address is 0005.73a0.000a (v2 IPv6
default)
  Hello time 3 sec, hold time 10 sec
  Next hello sent in 1.872 secs
  Preemption enabled, delay min 45 secs
  Active router is local
  Standby router is FE80::C802:AFF:FE10:38, priority 95
(expires in 8.048 sec)
  Priority 100 (default 100)
  Track object 1 state Up decrement 10
  Group name is "hsrp-Fa2/0-10" (default)
```

路由器R3

```
R3#show standby
FastEthernet2/0 - Group 10 (version 2)
  State is Standby
    4 state changes, last state change 00:26:25
  Virtual IP address is FE80::5:73FF:FEA0:A
  Active virtual MAC address is 0005.73a0.000a
  Local virtual MAC address is 0005.73a0.000a (v2 IPv6
default)
  Hello time 3 sec, hold time 10 sec
  Next hello sent in 0.176 secs
  Preemption enabled, delay min 45 secs
  Active router is FE80::C801:14FF:FEF4:38, priority 100
(expires in 9.888 sec)
  MAC address is ca01.14f4.0038
```

```
Standby router is local
Priority 95 (configured 95)
Group name is "hsrp-Fa2/0-10" (default)
```

為了顯示跟蹤資訊，請在路由器R2中使用[show track](#)命令。

路由器R2

```
R2#show track 1
Track 1
  Interface Serial1/0 line-protocol
  Line protocol is Up
    3 changes, last change 00:28:39
  Tracked by:
    HSRP FastEthernet2/0 10
!--- Displays the information about the objects that !--
- are tracked by tracking process 1.

R2#show track int brief
Track  Object                      Parameter
Value Last Change
1      interface Serial1/0          line-protocol
Up     00:31:19
!--- Displays the information about the tracked
interface.
```

如果活動路由器（本例中為R2）關閉，備用路由器會立即將其狀態更改為Active，如下表所示：

當活動路由器(R2)關閉時.....

路由器R2

```
R2(config)#interface s1/0
R2(config-if)#shut
R2(config-if)#
*May 21 20:56:54.223: %TRACKING-5-STATE: 1 interface
Se1/0 line-protocol Up->Down
R2(config-if)#
*May 21 20:56:56.203: %LINK-5-CHANGED: Interface
Serial1/0, changed state to administratively down
*May 21 20:56:57.203: %LINEPROTO-5-UPDOWN: Line protocol
on Interface Serial1/0, changed state to down
R2(config-if)#
*May 21 20:57:43.087: %HSRP-5-STATECHANGE:
FastEthernet2/0 Grp 10 state Active -> Speak
R2(config-if)#
*May 21 20:57:54.479: %HSRP-5-STATECHANGE:
FastEthernet2/0 Grp 10 state Speak -> Standby

!--- When the interface goes down, the active router
changes !--- its state to Standby.
```

路由器R3

```
R3#
*May 21 20:56:53.419: %HSRP-5-STATECHANGE:
FastEthernet2/0 Grp 10 state Standby-> Active

!--- The standby router is now the active router.
R3#show standby FastEthernet2/0 - Group 10 (version 2)
State is Active 5 state changes, last state change
00:02:32 Virtual IP address is FE80::5:73FF:FEA0:A
Active virtual MAC address is 0005.73a0.000a Local
virtual MAC address is 0005.73a0.000a (v2 IPv6 default)
```

```
Hello time 3 sec, hold time 10 sec Next hello sent in
0.080 secs Preemption enabled, delay min 45 secs Active
router is local Standby router is
FE80::C801:14FF:FEF4:38, priority 90 (expires in 9.664
sec) Priority 95 (configured 95) Group name is "hsrp-
Fa2/0-10" (default)
```

[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技術支援](#)
- [在IPv6中配置第一跳冗餘協定](#)
- [熱待命路由器通訊協定\(HSRP\):常見問題](#)
- [RFC 2281 — 思科熱待命路由器通訊協定\(HSRP\)](#)
- [技術支援與文件 - Cisco Systems](#)