

DSL:ASR920上的乙太網點對點協定(PPPoE)配置指南

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簡介

本文說明在充當客戶端的Cisco ASR 920聚合服務路由器上配置乙太網點對點協定(PPPoE)的過程。

必要條件

需求

思科建議您瞭解端到端第1層連線。

採用元件

本文檔中的資訊基於Cisco ASR 920硬體。

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。

附註：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

附註：使用[命令查詢工具](#)(僅供[已註冊](#)客戶使用)可獲取本節中使用的命令的更多資訊。

路由器上的配置是從後到後設定（客戶端和伺服器）。

客戶端配置

它特定於ASR 920平台。

```
interface GigabitEthernet0/0/1
  no ip address
  no ip redirects
  no ip proxy-arp
  ip tcp adjust-mss 1452
  speed 1000
  no negotiation auto
  cdp enable
  ip virtual-reassembly
  service instance 10 ethernet
  encapsulation untagged etype pppoe-all
  bridge-domain 10
!
interface Dialer1
  ip address negotiated
  encapsulation ppp
  dialer pool 1
  dialer-group 1
  ppp authentication pap chap callin
  ppp chap hostname cisco
  ppp chap password 0 cisco123
  ppp pap sent-username cisco password 0 cisco123
end
!
interface BDI10
  no ip address
  pppoe enable group global
  pppoe-client dial-pool-number 1
!
ip route 0.0.0.0 0.0.0.0 Dialer1
```

伺服器配置

無論客戶端使用何種平台，在所有場景中這都保持不變。

```
username cisco password 0 cisco123
!
bba-group pppoe global
  virtual-template 1
!
interface GigabitEthernet0/0
  ip address 192.168.1.1 255.255.255.0
  ip rip advertise 4
  load-interval 30
  duplex auto
  speed auto
  pppoe enable group global
```

```
!  
interface Virtual-Template1  
  mtu 1492  
  ip unnumbered GigabitEthernet0/0  
  peer default ip address pool PPPoE_Pool  
  ppp authentication pap chap  
!  
ip local pool PPPoE_Pool 10.1.1.1 10.1.1.100
```

驗證

使用本節內容，確認您的組態是否正常運作。

客戶端和伺服器上都啟用了以下調試：

- Debug ppp negotiation
- Debug ppp authentication
- Debug ppp error
- 調試撥號器

客戶端日誌：

```
*Jul 14 20:23:09.486: ppp13 PPP: Phase is ESTABLISHING  
*Jul 14 20:23:09.486: Vi2 PPP: Using dialer call direction  
*Jul 14 20:23:09.486: Vi2 PPP: Treating connection as a callout  
*Jul 14 20:23:09.486: Vi2 PPP: Session handle[6300000D] Session id[13]  
*Jul 14 20:23:09.486: Vi2 LCP: Event[OPEN] State[Initial to Starting]  
*Jul 14 20:23:09.486: Vi2 PPP: No remote authentication for call-out  
*Jul 14 20:23:09.486: Vi2 LCP: O CONFREQ [Starting] id 1 len 10  
*Jul 14 20:23:09.486: Vi2 LCP:   MagicNumber 0xB07C8578 (0x0506B07C8578)  
*Jul 14 20:23:09.486: Vi2 LCP: Event[UP] State[Starting to REQsent]  
*Jul 14 20:23:09.488: Vi2 LCP: I CONFREQ [REQsent] id 1 len 18  
*Jul 14 20:23:09.488: Vi2 LCP:   MRU 1492 (0x010405D4)  
*Jul 14 20:23:09.488: Vi2 LCP:   AuthProto PAP (0x0304C023)  
*Jul 14 20:23:09.488: Vi2 LCP:   MagicNumber 0xED0582E9 (0x0506ED0582E9)  
*Jul 14 20:23:09.488: Vi2 LCP: O CONFNAK [REQsent] id 1 len 8  
*Jul 14 20:23:09.488: Vi2 LCP:   MRU 1500 (0x010405DC)  
*Jul 14 20:23:09.489: Vi2 LCP: Event[Receive ConfReq-] State[REQsent to REQsent]  
*Jul 14 20:23:09.489: Vi2 LCP: I CONFACK [REQsent] id 1 len 10  
*Jul 14 20:23:09.489: Vi2 LCP:   MagicNumber 0xB07C8578 (0x0506B07C8578)  
*Jul 14 20:23:09.489: Vi2 LCP: Event[Receive ConfAck] State[REQsent to ACKrcvd]  
*Jul 14 20:23:09.490: Vi2 LCP: I CONFREQ [ACKrcvd] id 2 len 18  
*Jul 14 20:23:09.490: Vi2 LCP:   MRU 1500 (0x010405DC)  
*Jul 14 20:23:09.490: Vi2 LCP:   AuthProto PAP (0x0304C023)  
*Jul 14 20:23:09.490: Vi2 LCP:   MagicNumber 0xED0582E9 (0x0506ED0582E9)  
*Jul 14 20:23:09.490: Vi2 LCP: O CONFACK [ACKrcvd] id 2 len 18  
*Jul 14 20:23:09.490: Vi2 LCP:   MRU 1500 (0x010405DC)  
*Jul 14 20:23:09.490: Vi2 LCP:   AuthProto PAP (0x0304C023)  
*Jul 14 20:23:09.490: Vi2 LCP:   MagicNumber 0xED0582E9 (0x0506ED0582E9)  
*Jul 14 20:23:09.490: Vi2 LCP: Event[Receive ConfReq+] State[ACKrcvd to Open]  
*Jul 14 20:23:09.499: Vi2 PPP: No authorization without authentication  
*Jul 14 20:23:09.499: Vi2 PPP: Phase is AUTHENTICATING, by the peer  
*Jul 14 20:23:09.499: Vi2 PAP: Using hostname from interface PAP  
*Jul 14 20:23:09.499: Vi2 PAP: Using password from interface PAP  
*Jul 14 20:23:09.499: Vi2 PAP: O AUTH-REQ id 1 len 19 from "cisco"  
*Jul 14 20:23:09.499: Vi2 LCP: State is Open  
*Jul 14 20:23:09.530: Vi2 PAP: I AUTH-ACK id 1 len 5  
*Jul 14 20:23:09.530: Vi2 PPP: Phase is FORWARDING, Attempting Forward  
*Jul 14 20:23:09.530: Vi2 PPP: Queue IPCP code[1] id[1]  
*Jul 14 20:23:09.532: Vi2 PPP: Phase is ESTABLISHING, Finish LCP
```

```

*Jul 14 20:23:09.532: Vi2 PPP: Phase is UP
*Jul 14 20:23:09.532: Vi2 IPCP: Protocol configured, start CP. state[Initial]
*Jul 14 20:23:09.532: Vi2 IPCP: Event[OPEN] State[Initial to Starting]
*Jul 14 20:23:09.532: Vi2 IPCP: O CONFREQ [Starting] id 1 len 10
*Jul 14 20:23:09.532: Vi2 IPCP:   Address 0.0.0.0 (0x030600000000)
*Jul 14 20:23:09.532: Vi2 IPCP: Event[UP] State[Starting to REQsent]
*Jul 14 20:23:09.532: Vi2 PPP: Process pending ncp packets
*Jul 14 20:23:09.532: Vi2 IPCP: Redirect packet to Vi2
*Jul 14 20:23:09.532: Vi2 IPCP: I CONFREQ [REQsent] id 1 len 10
*Jul 14 20:23:09.532: Vi2 IPCP:   Address 192.168.1.1 (0x0306C0A80101)
*Jul 14 20:23:09.533: Vi2 IPCP: O CONFACK [REQsent] id 1 len 10
*Jul 14 20:23:09.533: Vi2 IPCP:   Address 192.168.1.1 (0x0306C0A80101)
*Jul 14 20:23:09.533: Vi2 IPCP: Event[Receive ConfReq+] State[REQsent to ACKsent]
*Jul 14 20:23:09.535: Vi2 IPCP: I CONFNAK [ACKsent] id 1 len 10
*Jul 14 20:23:09.535: Vi2 IPCP:   Address 10.1.1.1 (0x03060A010101)
*Jul 14 20:23:09.535: Vi2 IPCP: O CONFREQ [ACKsent] id 2 len 10
*Jul 14 20:23:09.535: Vi2 IPCP:   Address 10.1.1.1 (0x03060A010101)
*Jul 14 20:23:09.536: Vi2 IPCP: Event[Receive ConfNak/Rej] State[ACKsent to ACKsent]
*Jul 14 20:23:09.537: Vi2 IPCP: I CONFACK [ACKsent] id 2 len 10
*Jul 14 20:23:09.537: Vi2 IPCP:   Address 10.1.1.1 (0x03060A010101)
*Jul 14 20:23:09.537: Vi2 IPCP: Event[Receive ConfAck] State[ACKsent to Open]
*Jul 14 20:23:09.562: Vi2 IPCP: State is Open
*Jul 14 20:23:09.562: Di1 IPCP: Install negotiated IP interface address 10.1.1.1
*Jul 14 20:23:09.565: PPPoE : ipfib_encapstr prepared
*Jul 14 20:23:09.566: Di1 Added to neighbor route AVL tree: topoid 0, address 192.168.1.1
*Jul 14 20:23:09.566: Di1 IPCP: Install route to 192.168.1.1
*Jul 14 20:23:09.567: Vi2 DDR: dialer protocol up
*Jul 14 20:23:09.567: PPPoE : ipfib_encapstr prepared
*Jul 14 20:23:09.567: Di1 DDR: dialer protocol up
*Jul 14 20:23:10.235: %LINEPROTO-5-UPDOWN: Line protocol on Interface Virtual-Access2, changed
state to up

```

```

Client#sh pppoe session
      1 client session

```

Uniq ID	PPPoE	RemMAC	Port	VT	VA	State
	SID	LocMAC			VA-st	Type
N/A	1	a0ec.f9d8.9dd0 64f6.9d6e.dd3f	BD10	Di1	Vi2 UP	UP

伺服器日誌 :

```

* Jul 15 04:41:18.727: ppp1 PPP: Phase is ESTABLISHING
*Jul 15 04:41:18.727: ppp1 PPP: Using vpn set call direction
*Jul 15 04:41:18.727: ppp1 PPP: Treating connection as a callin
*Jul 15 04:41:18.727: ppp1 PPP: Session handle[BF000001] Session id[1]
*Jul 15 04:41:18.727: ppp1 LCP: Event[OPEN] State[Initial to Starting]
*Jul 15 04:41:18.727: ppp1 PPP LCP: Enter passive mode, state[Stopped]
*Jul 15 04:41:18.735: ppp1 LCP: I CONFREQ [Stopped] id 1 len 10
*Jul 15 04:41:18.735: ppp1 LCP:   MagicNumber 0xB07C8578 (0x0506B07C8578)
*Jul 15 04:41:18.735: ppp1 LCP: O CONFREQ [Stopped] id 1 len 18
*Jul 15 04:41:18.735: ppp1 LCP:   MRU 1492 (0x010405D4)
*Jul 15 04:41:18.735: ppp1 LCP:   AuthProto PAP (0x0304C023)
*Jul 15 04:41:18.735: ppp1 LCP:   MagicNumber 0xED0582E9 (0x0506ED0582E9)
*Jul 15 04:41:18.735: ppp1 LCP: O CONFACK [Stopped] id 1 len 10
*Jul 15 04:41:18.735: ppp1 LCP:   MagicNumber 0xB07C8578 (0x0506B07C8578)
*Jul 15 04:41:18.735: ppp1 LCP: Event[Receive ConfReq+] State[Stopped to ACKsent]
*Jul 15 04:41:18.735: ppp1 LCP: I CONFNAK [ACKsent] id 1 len 8
*Jul 15 04:41:18.735: ppp1 LCP:   MRU 1500 (0x010405DC)
*Jul 15 04:41:18.735: ppp1 LCP: O CONFREQ [ACKsent] id 2 len 18
*Jul 15 04:41:18.735: ppp1 LCP:   MRU 1500 (0x010405DC)

```

```

*Jul 15 04:41:18.735: ppp1 LCP: AuthProto PAP (0x0304C023)
*Jul 15 04:41:18.735: ppp1 LCP: MagicNumber 0xED0582E9 (0x0506ED0582E9)
*Jul 15 04:41:18.735: ppp1 LCP: Event[Receive ConfNak/Rej] State[ACKsent to ACKsent]
*Jul 15 04:41:18.739: ppp1 LCP: I CONFACK [ACKsent] id 2 len 18
*Jul 15 04:41:18.739: ppp1 LCP: MRU 1500 (0x010405DC)
*Jul 15 04:41:18.739: ppp1 LCP: AuthProto PAP (0x0304C023)
*Jul 15 04:41:18.739: ppp1 LCP: MagicNumber 0xED0582E9 (0x0506ED0582E9)
*Jul 15 04:41:18.739: ppp1 LCP: Event[Receive ConfAck] State[ACKsent to Open]
*Jul 15 04:41:18.747: ppp1 PPP: Queue PAP code[1] id[1]
*Jul 15 04:41:18.763: ppp1 PPP: Phase is AUTHENTICATING, by this end
*Jul 15 04:41:18.763: ppp1 PAP: Redirect packet to ppp1
*Jul 15 04:41:18.763: ppp1 PAP: I AUTH-REQ id 1 len 19 from "cisco"
*Jul 15 04:41:18.763: ppp1 PAP: Authenticating peer cisco
*Jul 15 04:41:18.763: ppp1 PPP: Phase is FORWARDING, Attempting Forward
*Jul 15 04:41:18.763: ppp1 LCP: State is Open
*Jul 15 04:41:18.763: ppp1 PPP: Phase is AUTHENTICATING, Unauthenticated User
*Jul 15 04:41:18.763: ppp1 PPP: Sent PAP LOGIN Request
*Jul 15 04:41:18.763: ppp1 PPP: Received LOGIN Response PASS
*Jul 15 04:41:18.763: ppp1 IPCP: Authorizing CP
*Jul 15 04:41:18.763: ppp1 IPCP: CP stalled on event[Authorize CP]
*Jul 15 04:41:18.763: ppp1 IPCP: CP unstall
*Jul 15 04:41:18.763: ppp1 PPP: Phase is FORWARDING, Attempting Forward
*Jul 15 04:41:18.775: Vi1.1 PPP: Phase is AUTHENTICATING, Authenticated User
*Jul 15 04:41:18.775: Vi1.1 PAP: O AUTH-ACK id 1 len 5
*Jul 15 04:41:18.775: Vi1.1 PPP: Phase is UP
*Jul 15 04:41:18.775: Vi1.1 IPCP: Protocol configured, start CP. state[Initial]
*Jul 15 04:41:18.775: Vi1.1 IPCP: Event[OPEN] State[Initial to Starting]
*Jul 15 04:41:18.775: Vi1.1 IPCP: O CONFREQ [Starting] id 1 len 10
*Jul 15 04:41:18.775: Vi1.1 IPCP: Address 192.168.1.1 (0x0306C0A80101)
*Jul 15 04:41:18.779: Vi1.1 IPCP: Event[UP] State[Starting to REQsent]
*Jul 15 04:41:18.779: Vi1.1 IPCP: I CONFREQ [REQsent] id 1 len 10
*Jul 15 04:41:18.779: Vi1.1 IPCP: Address 0.0.0.0 (0x030600000000)
*Jul 15 04:41:18.783: Vi1.1 IPCP AUTHOR: Start. Her address 0.0.0.0, we want 0.0.0.0
*Jul 15 04:41:18.783: Vi1.1 IPCP AUTHOR: Done. Her address 0.0.0.0, we want 0.0.0.0
*Jul 15 04:41:18.783: Vi1.1 IPCP: Pool returned 10.1.1.1
*Jul 15 04:41:18.783: Vi1.1 IPCP: O CONFNAK [REQsent] id 1 len 10
*Jul 15 04:41:18.783: Vi1.1 IPCP: Address 10.1.1.1 (0x03060A010101)
*Jul 15 04:41:18.783: Vi1.1 IPCP: Event[Receive ConfReq-] State[REQsent to REQsent]
*Jul 15 04:41:18.783: Vi1.1 IPCP: I CONFACK [REQsent] id 1 len 10
*Jul 15 04:41:18.783: Vi1.1 IPCP: Address 192.168.1.1 (0x0306C0A80101)
*Jul 15 04:41:18.783: Vi1.1 IPCP: Event[Receive ConfAck] State[REQsent to ACKrcvd]
*Jul 15 04:41:18.783: Vi1.1 IPCP: I CONFREQ [ACKrcvd] id 2 len 10
*Jul 15 04:41:18.783: Vi1.1 IPCP: Address 10.1.1.1 (0x03060A010101)
*Jul 15 04:41:18.783: Vi1.1 IPCP: O CONFACK [ACKrcvd] id 2 len 10
*Jul 15 04:41:18.783: Vi1.1 IPCP: Address 10.1.1.1 (0x03060A010101)
*Jul 15 04:41:18.783: Vi1.1 IPCP: Event[Receive ConfReq+] State[ACKrcvd to Open]
*Jul 15 04:41:18.795: Vi1.1 IPCP: State is Open
*Jul 15 04:41:18.795: Vi1.1 Added to neighbor route AVL tree: topoid 0, address 10.1.1.1
*Jul 15 04:41:18.795: Vi1.1 IPCP: Install route to 10.1.1.1

```

```

Server#show pppoe session
  1 session in LOCALLY_TERMINATED (PTA) State
  1 session total

```

Uniq ID	PPPoE SID	RemMAC LocMAC	Port	VT	VA VA-st	State Type
1	1	64f6.9d6e.dd3f a0ec.f9d8.9dd0	Gi0/0	1	Vi1.1 UP	PTA

疑難排解

本節提供的資訊可用於對組態進行疑難排解。

遵循標準PPP故障[排除步驟](#)。

附註：如果未配置BDI介面，並且在Gigabit乙太網介面上應用了PPPoE客戶端配置，您將看到PPPoE會話未建立，並顯示以下錯誤消息。

```
padi timer expired  
Sending PADI: Interface = GigabitEthernet0/0/1
```

相關資訊

- [配置PPPoE客戶端](#)
- [使用乙太網路的PPP使用者端](#)
- [技術支援與文件 - Cisco Systems](#)