

# DSL: Point-to-Point Protocol over Ethernet (PPPoE)-configuratiegids voor de ASR-920

## Inhoud

[Inleiding](#)

[Voorwaarden](#)

[Vereisten](#)

[Gebruikte componenten](#)

[Configureren](#)

[Clientconfiguratie](#)

[Configuratie van servers](#)

[Verifiëren](#)

[Problemen oplossen](#)

[Gerelateerde informatie](#)

## Inleiding

Dit document beschrijft de procedure om Point to Point Protocol over Ethernet (PPPoE) op Cisco ASR 920 Aggregation Service Router die als client werkt te configureren.

## Voorwaarden

### Vereisten

Cisco raadt u aan kennis te hebben van End-to-End Layer 1 connectiviteit.

### Gebruikte componenten

De informatie in dit document is gebaseerd op Cisco ASR 920-hardware.

De informatie in dit document werd gemaakt van de apparaten in een specifieke labomgeving. Alle apparaten die in dit document werden gebruikt, begonnen met een gewist (standaard) configuratie.

Opmerking: Als uw netwerk levend is, zorg er dan voor dat u de mogelijke impact van om het even welke opdracht begrijpt.

## Configureren

Opmerking: Gebruik de [Command Lookup Tool \(alleen voor geregistreerde gebruikers\) voor meer informatie over de opdrachten die in deze sectie worden gebruikt.](#)

De configuratie van de routers is van een back-up naar een back-up (client en server).

## Clientconfiguratie

Het is specifiek voor het ASR 920-platform.

```
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
```

## Configuratie van servers

Dit blijft in alle scenario's hetzelfde, ongeacht het platform dat aan de kant van de cliënt wordt gebruikt.

```
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

```

## Verifiëren

Gebruik dit gedeelte om te bevestigen dat de configuratie correct werkt.

Deze debugs kunnen worden ingeschakeld op zowel client als server:

- Debug PPP-onderhandeling
- Debug ppp-verificatie
- Debug ppp. fout
- Debug dialer

Clientvastlegging:

```

*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

### Vastlegging server:

```

* 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

# Problemen oplossen

Deze sectie bevat informatie waarmee u problemen met de configuratie kunt oplossen.

Volg de standaard [stappen](#) voor het [oplossen van problemen](#) in PPP.

Opmerking: Als de BDI-interface niet is geconfigureerd en de PPPoE-clientconfiguratie wordt toegepast op Gigabit Ethernet-interface, ziet u dat de PPPoE-sessie niet wordt ingesteld en deze foutmelding wordt weergegeven.

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

## Gerelateerde informatie

- [De PPPoE-client configureren](#)
- [PPP over Ethernet-client](#)
- [Technische ondersteuning en documentatie – Cisco Systems](#)