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简介

本文描述步骤配置在以太网(PPPoE)的点对点连接在Windows机器(该作为PPPoE客户端)和作为PPPoE服务器的Cisco路由器之间。

[先决条件](#)

[要求](#)

思科建议您有端到端第1层连接知识是用户优先级()。

使用的组件

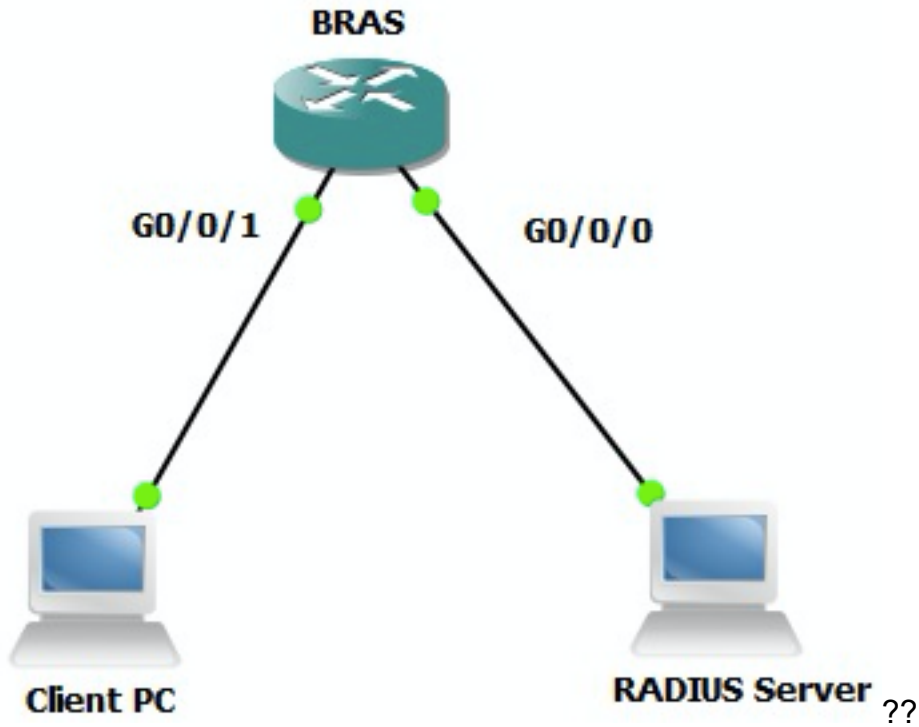
本文档不限于特定的软件和硬件版本。

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始(默认)配置。如果您使用的是真实网络,请确保您已经了解所有命令的潜在影响。

配置

网络图

本文使用在镜像表示的网络设置:



配置

BRAS配置

```

aaa new-model! Enabling AAA on router!aaa authentication ppp PPPOE-METD group PPPOE-RADIUS!
Defining AAA method list for PPP Authenticationaaa authorization network PPPOE-AUTHOR-METD group
PPPOE-RADIUS! Defining AAA method list for PPP Authorizationaaa accounting network PPPOE-ACCT-
METD start-stop group PPPOE-RADIUS! Defining AAA method list for PPP Accounting!aaa group server
radius PPPOE-RADIUS! Defining AAA Server Group named PPPOE-RADIUSserver-private 10.106.39.253
key ciscoip radius source-interface GigabitEthernet0/0/0!bba-group pppoe BBA-TESTvirtual-
template 10!interface GigabitEthernet0/0/1.47encapsulation dot1Q 1 nativepppoe enable group BBA-
TESTend!interface Virtual-Template10ip unnumbered Loopback10peer default ip address pool local!
Calling three named AAA Method lists configured above under this Virtual Templateppp
authentication pap chap PPPOE-METDppp authorization PPPOE-AUTHOR-METDppp accounting PPPOE-ACCT-
METDend!ip local pool local 192.168.1.2 192.168.1.10!interface Loopback10ip address 192.168.1.1
255.255.255.255end!

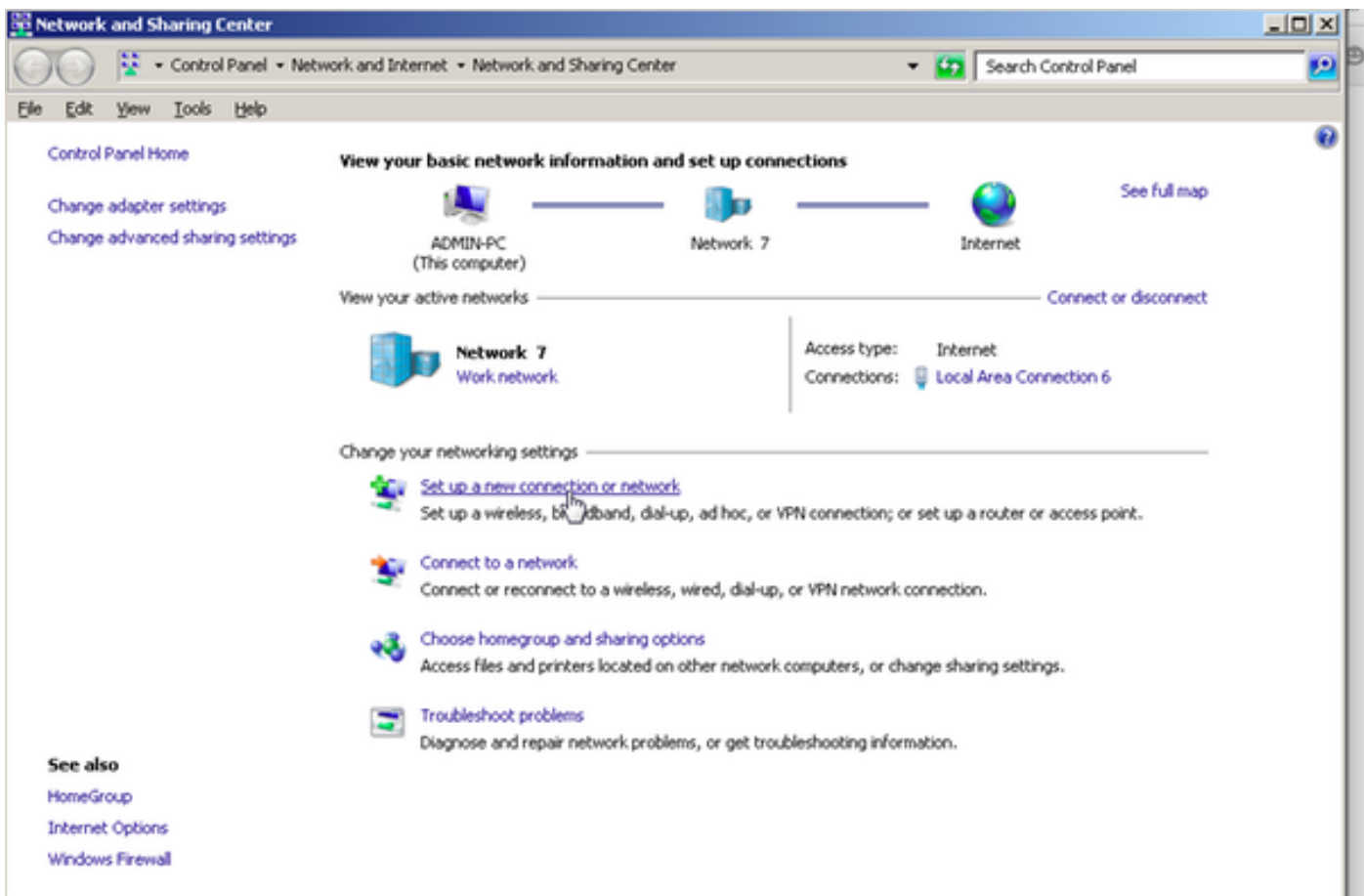
```

Windows机器配置和设置

完成这些步骤启动作为PPPoE客户端从Windows机器的PPPoE会话。

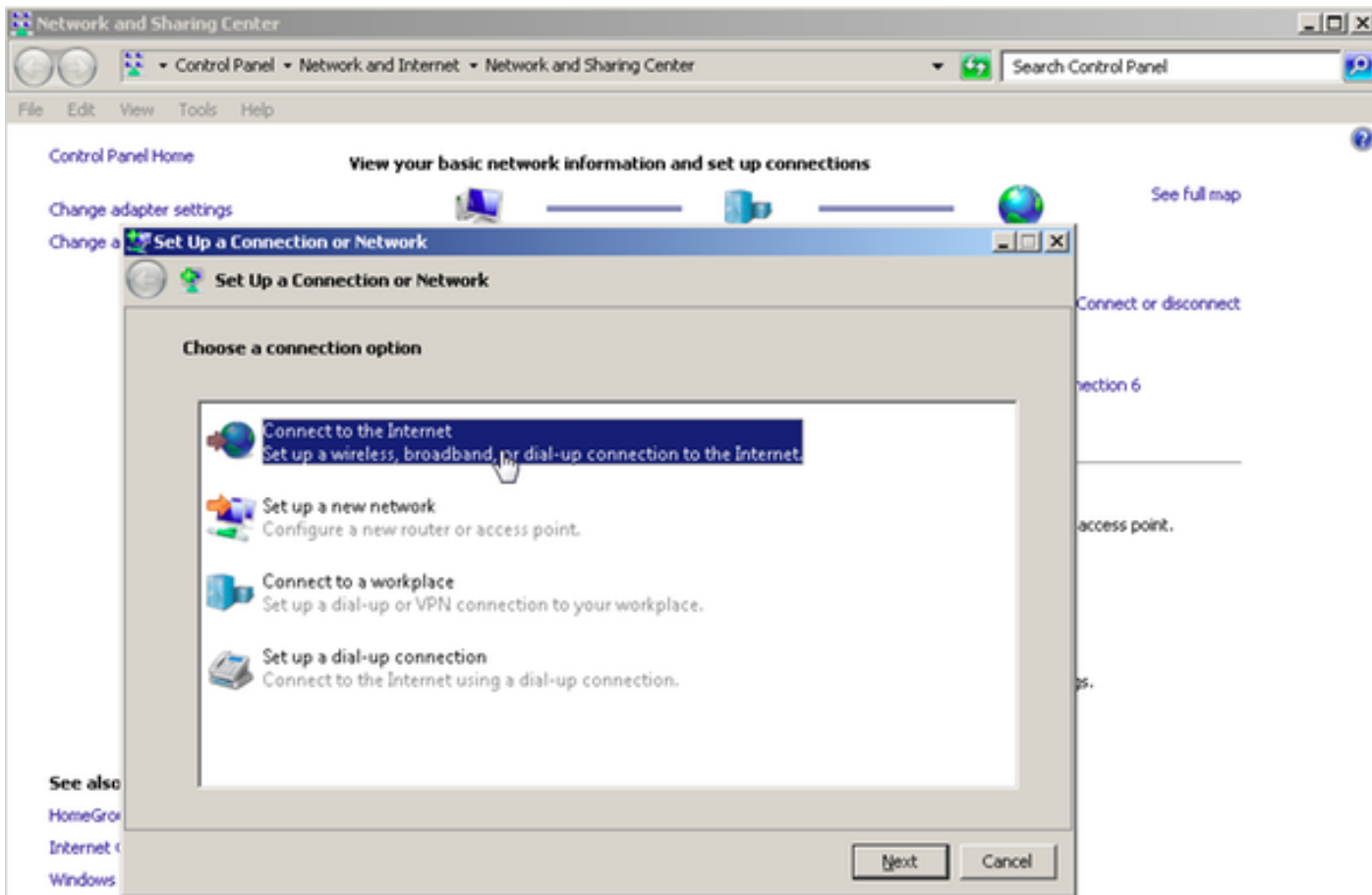
步骤1.如镜像所显示，中心的开放式网络和共享和单击建立了新连接或网络。

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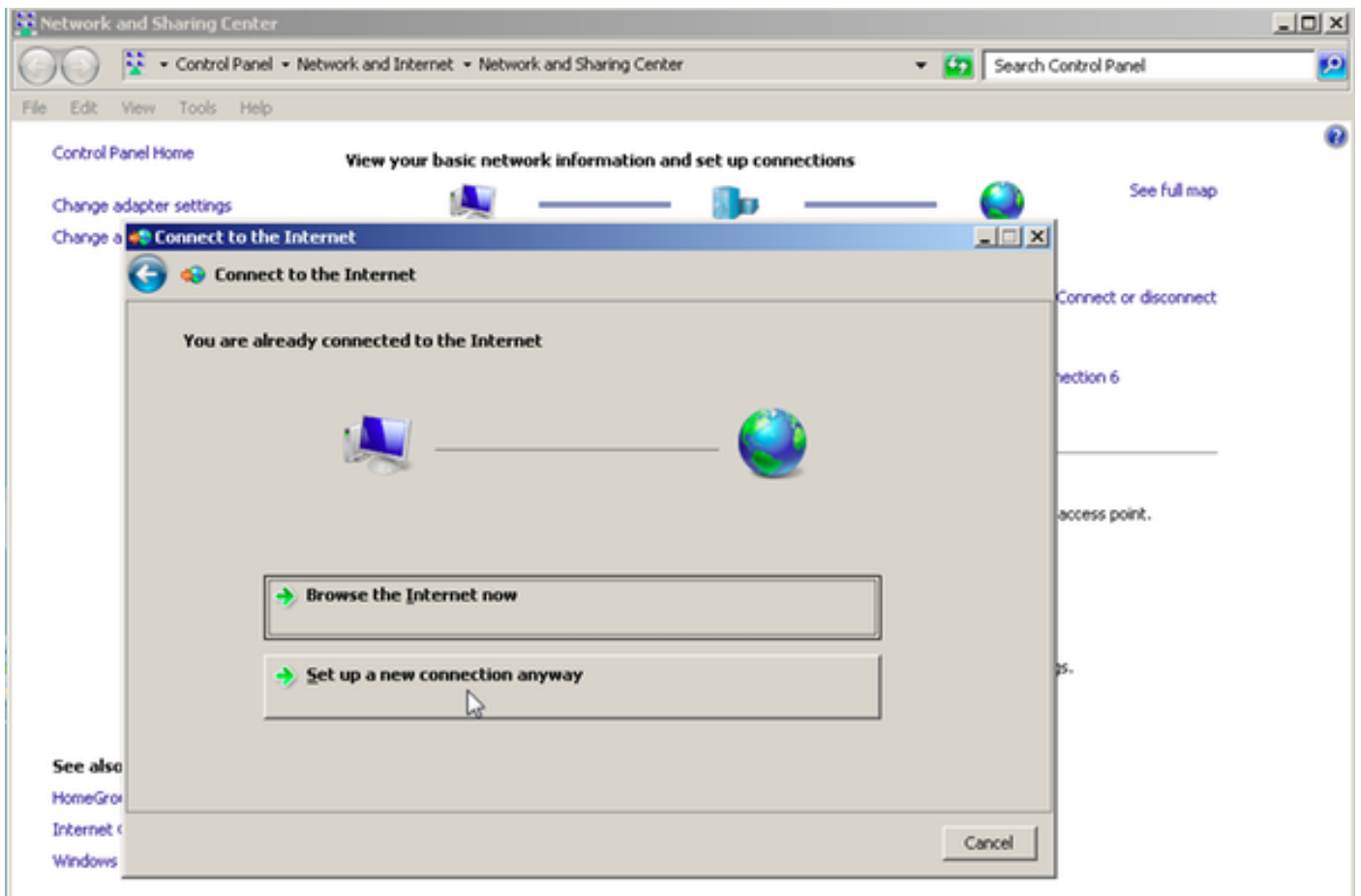
??

步骤2.如镜像所显示，请选择连接到互联网并且其次单击。



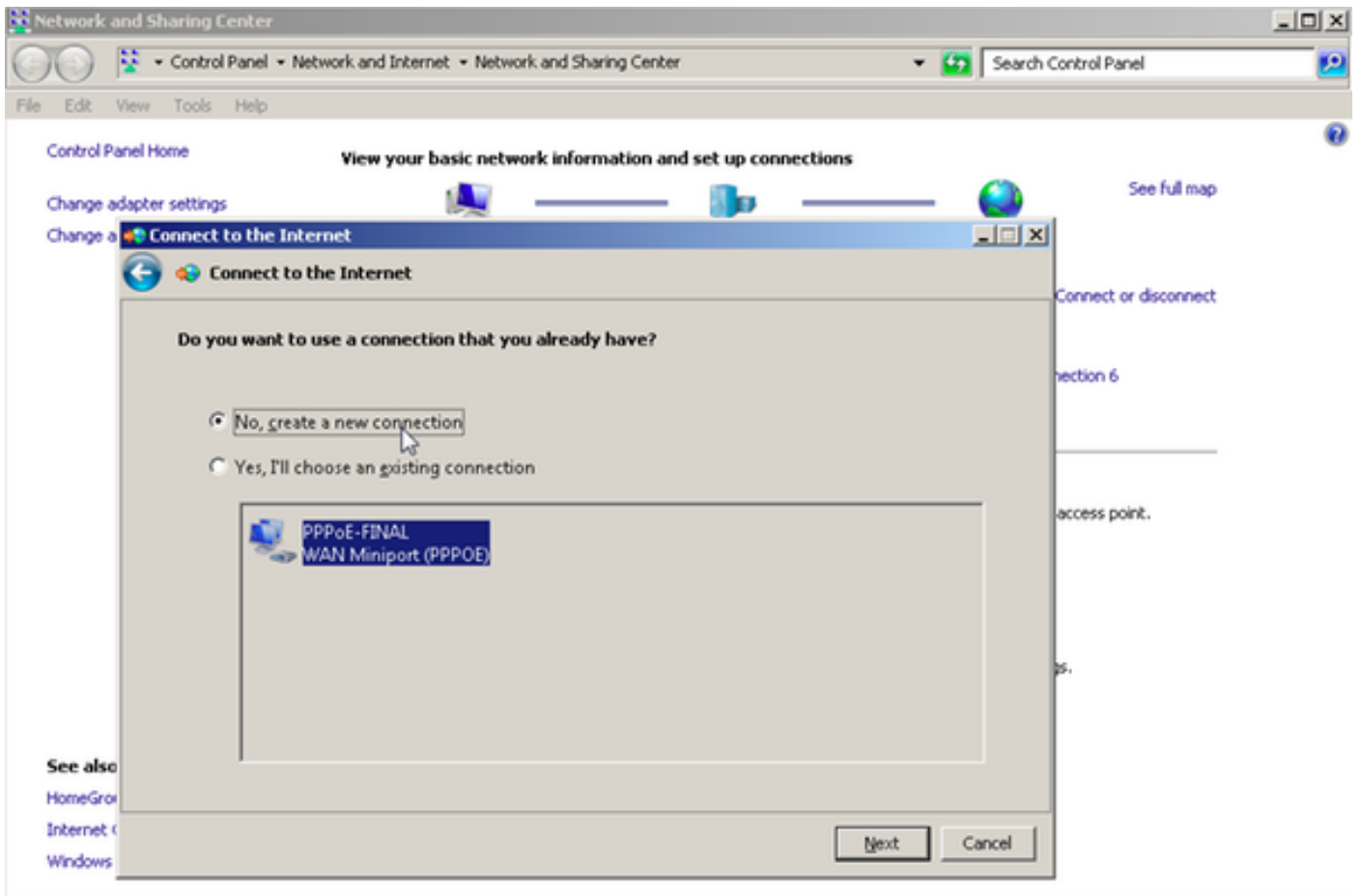
??

步骤3.如镜像所显示，选择无论如何设置新连接，：



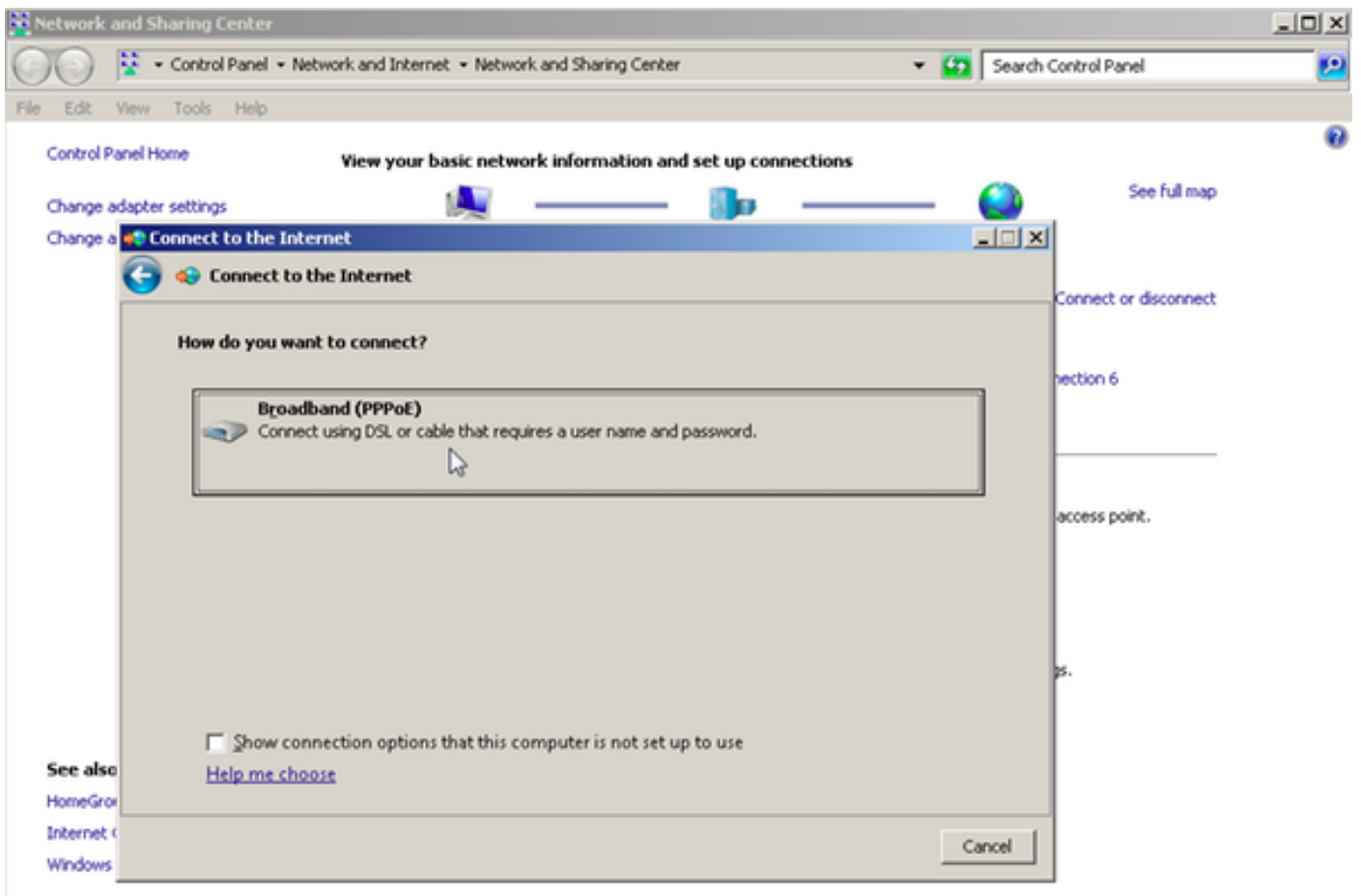
??

步骤4.如镜像所显示，选择没有，创建新连接，：



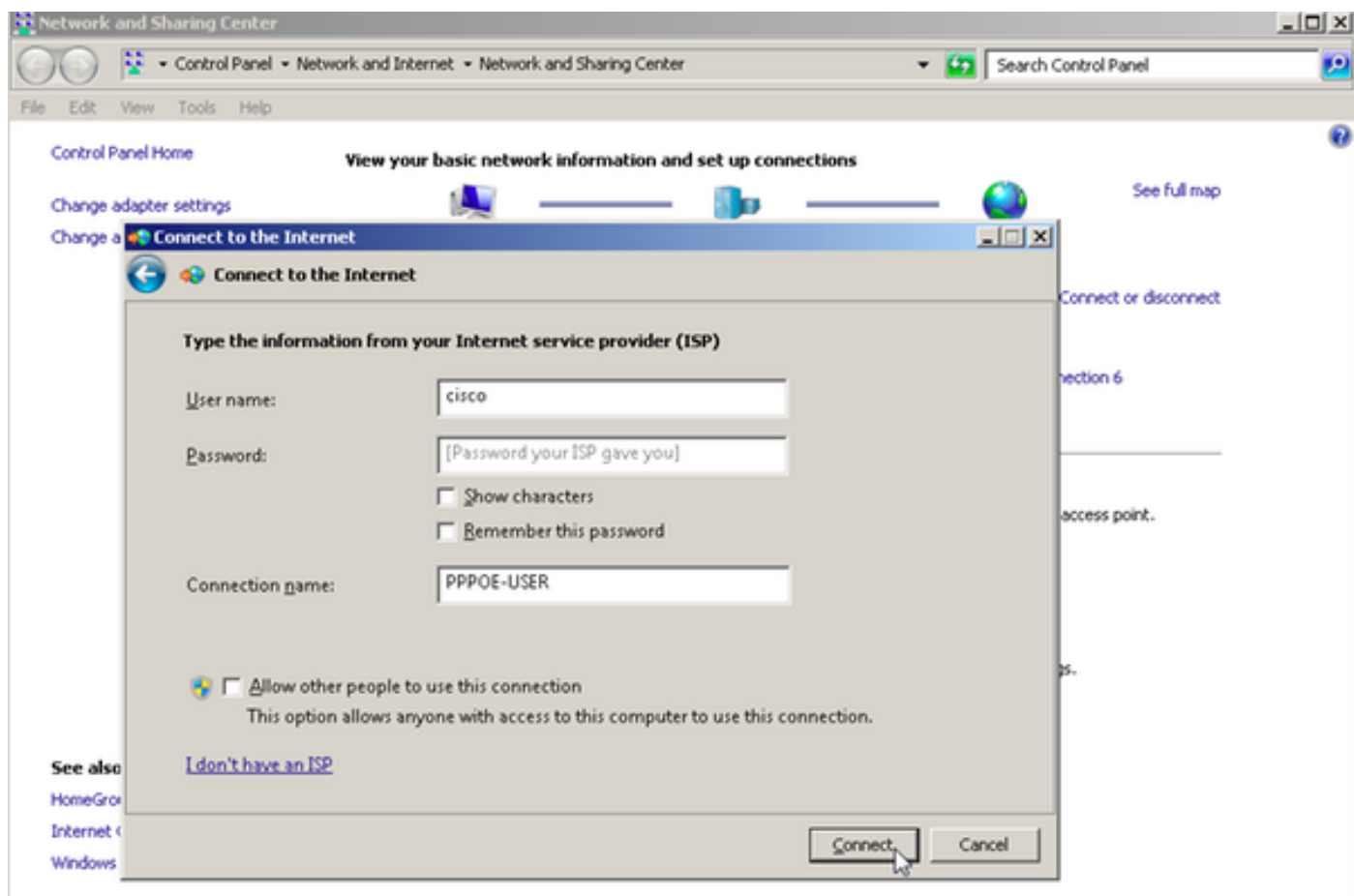
??

步骤5.如镜像所显示，请点击宽带(PPPoE)：



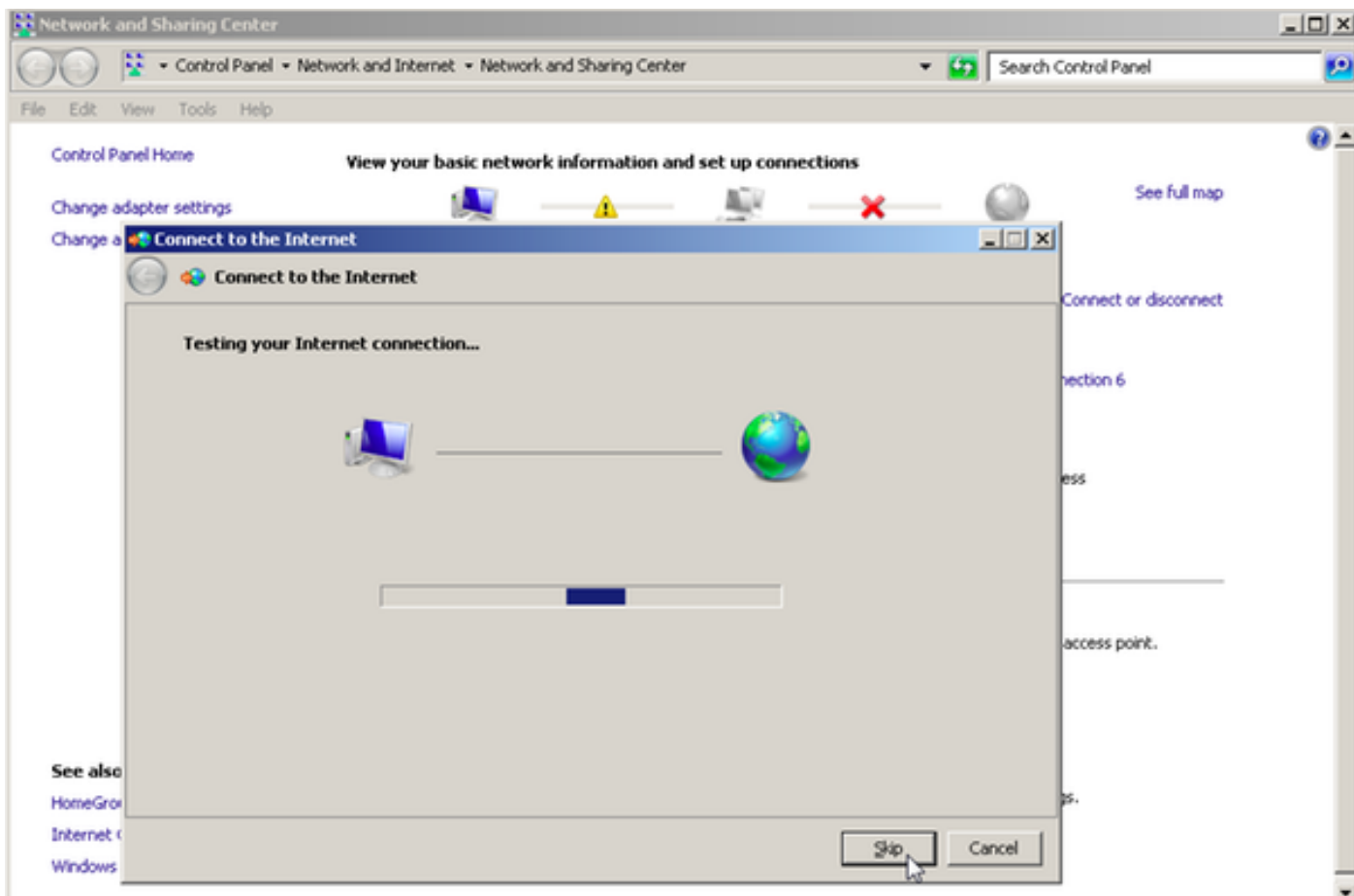
??

步骤6.如镜像所显示，请输入用户名、密码和连接名，并且点击连接。



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这启动往服务器的一次PPPoE会话。如镜像所显示，检查Verify部分：



??

验证

步骤1.开放式网络选中再，选择网络(在本例中的已命名PPPOE-USER)并且验证状态。请点击**连接**启动会话，在您输入用户名和密码后，如镜像所显示，：

Network and Sharing Center

Control Panel > Network and Internet > Network and Sharing Center

File Edit View Tools Help

Control Panel Home

Change adapter settings
Change advanced sharing settings

View your basic network information and set up connections

ADMIN-PC (This computer) — Network 7 — Internet [See full map](#)

View your active networks [Connect or disconnect](#)

Network 7
Work network

Access type: Internet
Connections: Local Area Connection 6

Change your networking settings

- Set up a new connection or network
Set up a wireless, broadband, dial-up, ad hoc, or VPN connection; or set up a router or access point.
- Connect to a network
Connect or reconnect to a wireless, wired, dial-up, or VPN network connection.
- Choose homegroup and sharing options
Access files and printers located on other network computers, or change sharing options.
- Troubleshoot problems
Diagnose and repair network problems, or get troubleshooting information.

See also

- HomeGroup
- Internet Options
- Windows Firewall

Currently connected to:
Network 7
Internet access

Dial-up and VPN

PPPOE-USER [Connect](#)

PPPoE-FINAL

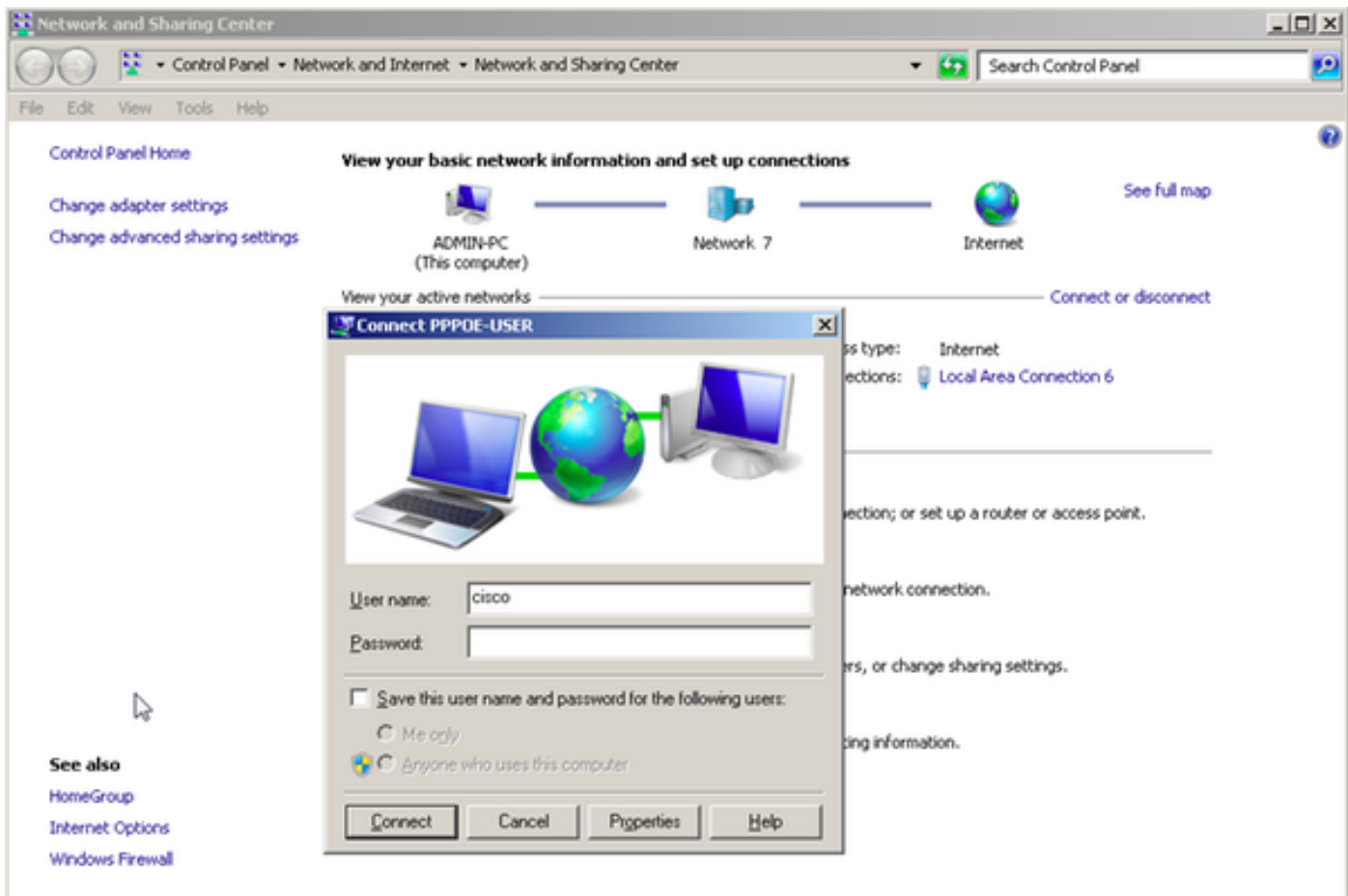
PPP-1

pppoe

(non
10.76
\\10.1
tftp

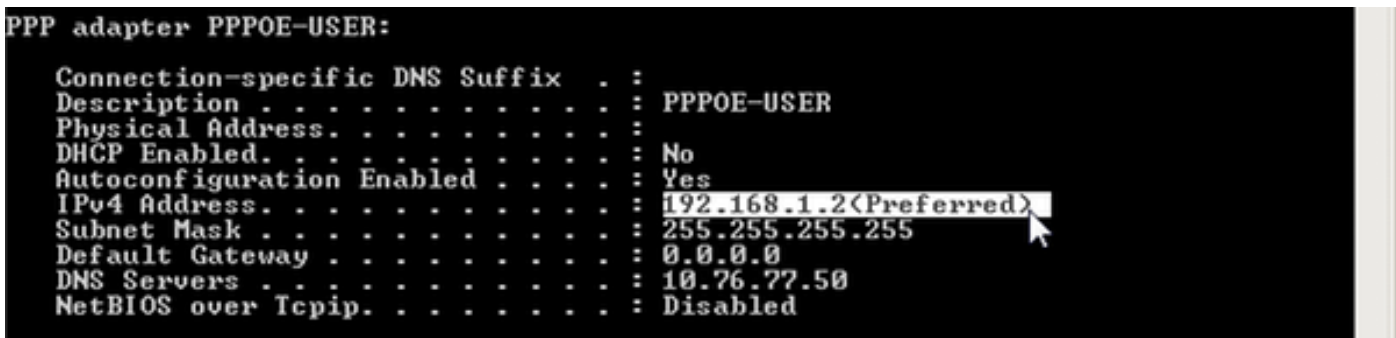
Open Network and Sharing Center

??



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步骤2.如镜像所显示，打开命令及时和运行的ipconfig /all命令检查经过协商的IP地址，：



??

步骤3. Enable (event) debug PPPoE event、debug PPPoE error和检查PPPoE会话建立的debug ppp协商。我们能也使debug radius发现用RADIUS服务器交换的消息。

```

BRAS#show debugging PPP:PPP protocol negotiation debugging is onPPPoE:PPPoE protocol events
debugging is onPPPoE protocol errors debugging is on Radius protocol debugging is onRadius
packet protocol debugging is on Debug snippet:BRAS#*Sep 19 18:44:14.531: PPPoE 0: I PADI
R:0050.56ad.7206 L:ffff.ffff.ffff Gi0/0/1.47 ! Receiving PPPoE Active Discovery Initiation
(PADI) broadcast packet from Windows Machine (MAC 0050.56ad.7206) on Router interface
Gi0/0/1.47*Sep 19 18:44:14.531: Service tag: NULL Tag*Sep 19 18:44:14.531: PPPoE 0: O PADO,
R:d867.d99f.6601 L:0050.56ad.7206 Gi0/0/1.47 ! Sending PPPoE Active Discovery Offer (PADO)
unicast packet from Router interface Gi0/0/1.47 (MAC d867.d99f.6601 ) to Windows Machine (MAC
0050.56ad.7206)*Sep 19 18:44:14.531: Service tag: NULL Tag*Sep 19 18:44:14.533: PPPoE 0: I PADR
R:0050.56ad.7206 L:d867.d99f.6601 Gi0/0/1.47 ! Receiving PPPoE Active Discovery Request (PADR)
unicast packet from Windows Machine (MAC 0050.56ad.7206) on Router interface Gi0/0/1.47*Sep 19
18:44:14.533: Service tag: NULL Tag*Sep 19 18:44:14.533: PPPoE : encap string prepared*Sep 19
18:44:14.533: [76]PPPoE 63: Access IE handle allocated*Sep 19 18:44:14.533: [76]PPPoE 63: AAA
  
```

get retrieved attrs*Sep 19 18:44:14.533: [76]PPPoE 63: AAA get nas port details*Sep 19
18:44:14.533: [76]PPPoE 63: Error adjusting nas port format did*Sep 19 18:44:14.533: [76]PPPoE
63: AAA get dynamic attrs*Sep 19 18:44:14.533: [76]PPPoE 63: AAA unique ID 88 allocated*Sep 19
18:44:14.533: [76]PPPoE 63: No AAA accounting method list*Sep 19 18:44:14.534: [76]PPPoE 63:
Service request sent to SSS*Sep 19 18:44:14.534: [76]PPPoE 63: Created, Service: None
R:d867.d99f.6601 L:0050.56ad.7206 Gi0/0/1.47*Sep 19 18:44:14.534: [76]PPPoE 63: State
NAS_PORT_POLICY_INQUIRY Event SSS MORE KEYS*Sep 19 18:44:14.534: PPP: Alloc Context
[7FE79EC0D8C8]*Sep 19 18:44:14.534: ppp76 PPP: Phase is ESTABLISHING*Sep 19 18:44:14.534:
[76]PPPoE 63: data path set to PPP*Sep 19 18:44:14.534: [76]PPPoE 63: Segment (SSS class):
PROVISION ! We can also enable 'debug sss events' and 'debug sss error' to debug this stage*Sep
19 18:44:14.534: [76]PPPoE 63: State PROVISION_PPP Event SSM PROVISIONED*Sep 19 18:44:14.534:
[76]PPPoE 63: O PADS R:0050.56ad.7206 L:d867.d99f.6601 Gi0/0/1.47 ! Sending PPPoE Active
Discovery Session Confirmation (PADS) unicast packets from Router interface Gi0/0/1.47 (MAC
d867.d99f.6601) to Windows Machine (MAC 0050.56ad.7206)*Sep 19 18:44:14.534: [76]PPPoE 63:
Unable to Add ANCP Line attributes to the PPPoE Authen attributes ! Access Node Control Protocol
(ANCP) is configured between the Digital Subscriber Line Access Concentrator (DSLAM) and
Broadband Remote Access Server (BRAS), which is used to aggregate traffic from multiple
subscribers and deliver information for any application independently. More information related
to ANCP could be found here. It is expected for the IOS to print this message even if ANCP is
not enabled. *Sep 19 18:44:14.534: ppp76 PPP: Using vpn set call direction*Sep 19 18:44:14.534:
ppp76 PPP: Treating connection as a callin*Sep 19 18:44:14.534: ppp76 PPP: Session
handle[8800004C] Session id[76]*Sep 19 18:44:14.534: ppp76 LCP: Event[OPEN] State[Initial to
Starting]*Sep 19 18:44:14.534: ppp76 PPP LCP: Enter passive mode, state[Stopped]*Sep 19
18:44:14.539: ppp76 LCP: I CONFREQ [Stopped] id 0 len 21*Sep 19 18:44:14.539: ppp76 LCP: MRU
1480 (0x010405C8)*Sep 19 18:44:14.539: ppp76 LCP: MagicNumber 0x61EB5A46 (0x050661EB5A46)*Sep 19
18:44:14.539: ppp76 LCP: PFC (0x0702)*Sep 19 18:44:14.539: ppp76 LCP: ACFC (0x0802)*Sep 19
18:44:14.539: ppp76 LCP: Callback 6 (0x0D0306)*Sep 19 18:44:14.539: ppp76 LCP: O CONFREQ
[Stopped] id 1 len 18*Sep 19 18:44:14.539: ppp76 LCP: MRU 1492 (0x010405D4)*Sep 19 18:44:14.539:
ppp76 LCP: AuthProto PAP (0x0304C023)*Sep 19 18:44:14.539: ppp76 LCP: MagicNumber 0x7B063BEA
(0x05067B063BEA)*Sep 19 18:44:14.539: ppp76 LCP: O CONFREQ [Stopped] id 0 len 7*Sep 19
18:44:14.539: ppp76 LCP: Callback 6 (0x0D0306)*Sep 19 18:44:14.539: ppp76 LCP: Event[Receive
ConfReq-] State[Stopped to REQsent]*Sep 19 18:44:14.540: ppp76 LCP: I CONFACK [REQsent] id 1 len
18*Sep 19 18:44:14.540: ppp76 LCP: MRU 1492 (0x010405D4)*Sep 19 18:44:14.540: ppp76 LCP:
AuthProto PAP (0x0304C023)*Sep 19 18:44:14.540: ppp76 LCP: MagicNumber 0x7B063BEA
(0x05067B063BEA)*Sep 19 18:44:14.540: ppp76 LCP: Event[Receive ConfAck] State[REQsent to
ACKrcvd]*Sep 19 18:44:14.540: ppp76 LCP: I CONFREQ [ACKrcvd] id 1 len 18*Sep 19 18:44:14.540:
ppp76 LCP: MRU 1480 (0x010405C8)*Sep 19 18:44:14.540: ppp76 LCP: MagicNumber 0x61EB5A46
(0x050661EB5A46)*Sep 19 18:44:14.540: ppp76 LCP: PFC (0x0702)*Sep 19 18:44:14.540: ppp76 LCP:
ACFC (0x0802)*Sep 19 18:44:14.540: ppp76 LCP: O CONFACK [ACKrcvd] id 1 len 18*Sep 19
18:44:14.540: ppp76 LCP: MRU 1480 (0x010405C8)*Sep 19 18:44:14.540: ppp76 LCP: MagicNumber
0x61EB5A46 (0x050661EB5A46)*Sep 19 18:44:14.540: ppp76 LCP: PFC (0x0702)*Sep 19 18:44:14.540:
ppp76 LCP: ACFC (0x0802)*Sep 19 18:44:14.540: ppp76 LCP: Event[Receive ConfReq+] State[ACKrcvd
to Open]*Sep 19 18:44:14.541: ppp76 LCP: I IDENTIFY [Open] id 2 len 18 magic
0x61EB5A46MSRASV5.20*Sep 19 18:44:14.541: ppp76 LCP: I IDENTIFY [Open] id 3 len 24 magic
0x61EB5A46MSRAS-0-ADMIN-PC*Sep 19 18:44:14.541: ppp76 LCP: I IDENTIFY [Open] id 4 len 24 magic
0x61EB5A46sPPY.X`I`Z5SWE}}*Sep 19 18:44:14.541: ppp76 PPP: Queue PAP code[1] id[78]*Sep 19
18:44:14.563: ppp76 PPP: Phase is AUTHENTICATING, by this end*Sep 19 18:44:14.564: ppp76 PAP:
Redirect packet to ppp76*Sep 19 18:44:14.564: ppp76 PAP: I AUTH-REQ id 78 len 11 from "cisco" !
Incoming Authentication Request from Windows Machine using User name "cisco"*Sep 19
18:44:14.564: ppp76 PAP: Authenticating peer cisco*Sep 19 18:44:14.564: ppp76 PPP: Phase is
FORWARDING, Attempting Forward*Sep 19 18:44:14.564: ppp76 LCP: State is Open*Sep 19
18:44:14.564: ppp76 PPP: Phase is AUTHENTICATING, Unauthenticated User*Sep 19 18:44:14.564:
RADIUS/ENCODE(00000088):Orig. component type = PPPoE*Sep 19 18:44:14.564: RADIUS: DSL line rate
attributes successfully added*Sep 19 18:44:14.564: RADIUS/ENCODE: Skip encoding 0 length AAA
Cisco vsa password*Sep 19 18:44:14.564: RADIUS(00000088): Config NAS IP: 10.106.39.212*Sep 19
18:44:14.564: RADIUS(00000088): Config NAS IPv6: ::*Sep 19 18:44:14.564: RADIUS/ENCODE: No idb
found! Framed IP Addr might not be included*Sep 19 18:44:14.564: RADIUS/ENCODE(00000088):
acct_session_id: 125*Sep 19 18:44:14.564: RADIUS(00000088): Config NAS IP: 10.106.39.212*Sep 19
18:44:14.564: RADIUS(00000088): sending*Sep 19 18:44:14.564: RADIUS(00000088): Send Access-
Request to 10.106.39.253:1645 id 1645/106, len 147 ! Sending an Access-Request to Radius Server
at 10.106.39.253 on port 1645.*Sep 19 18:44:14.564: RADIUS: authenticator C1 5B AA 62 1D E1 31
6C - 16 A5 CE 92 D6 9C 12 E7*Sep 19 18:44:14.564: RADIUS: Framed-Protocol [7] 6 PPP [1]*Sep 19
18:44:14.564: RADIUS: User-Name [1] 7 "cisco"*Sep 19 18:44:14.564: RADIUS: User-Password [2] 18
**Sep 19 18:44:14.564: RADIUS: NAS-Port-Type [61] 6 Virtual [5]*Sep 19 18:44:14.564: RADIUS:

```

NAS-Port [5] 6 0*Sep 19 18:44:14.564: RADIUS: NAS-Port-Id [87] 9 "0/0/1/1"*Sep 19 18:44:14.564:
RADIUS: Vendor, Cisco [26] 41*Sep 19 18:44:14.564: RADIUS: Cisco AVpair [1] 35 "client-mac-
address=0050.56ad.7206"*Sep 19 18:44:14.564: RADIUS: Service-Type [6] 6 Framed [2]*Sep 19
18:44:14.564: RADIUS: NAS-IP-Address [4] 6 10.106.39.212*Sep 19 18:44:14.564: RADIUS: Acct-
Session-Id [44] 10 "0000007D"*Sep 19 18:44:14.564: RADIUS: Nas-Identifier [32] 12 "BRAS"*Sep 19
18:44:14.564: RADIUS(00000088): Sending a IPv4 Radius Packet*Sep 19 18:44:14.564:
RADIUS(00000088): Started 5 sec timeout*Sep 19 18:44:14.566: RADIUS: Received from id 1645/106
10.106.39.253:1645, Access-Accept, len 52 ! Receiving an Access-Accept from Radius Server*Sep 19
18:44:14.566: RADIUS: authenticator C0 0D 6C 33 F1 A3 04 27 - F0 C2 76 F5 54 FD E2 42*Sep 19
18:44:14.566: RADIUS: Class [25] 32*Sep 19 18:44:14.566: RADIUS: 4A 83 05 60 00 00 01 37 00 01
0A 6A 27 FD 01 D2 12 2E 98 D0 4F B0 00 00 00 00 00 00 14 [ J`7j'.O]*Sep 19 18:44:14.566:
RADIUS(00000088): Received from id 1645/106*Sep 19 18:44:14.566: ppp76 PPP: Phase is FORWARDING,
Attempting Forward*Sep 19 18:44:14.568: [76]PPPoE 63: State LCP_NEGOTIATION Event SSS CONNECT
LOCAL*Sep 19 18:44:14.568: [76]PPPoE 63: Segment (SSS class): UPDATED*Sep 19 18:44:14.568:
[76]PPPoE 63: Segment (SSS class): BOUND*Sep 19 18:44:14.568: [76]PPPoE 63: data path set to
Virtual Access*Sep 19 18:44:14.569: [76]PPPoE 63: State LCP_NEGOTIATION Event SSM UPDATED*Sep 19
18:44:14.569: Vi2.1 PPP: Phase is AUTHENTICATING, Authenticated User*Sep 19 18:44:14.569: Vi2.1
PAP: O AUTH-ACK id 78 len 5*Sep 19 18:44:14.569: Vi2.1 PPP: Reducing MTU to peer's MRU*Sep 19
18:44:14.569: [76]PPPoE 63: AAA get dynamic attrs*Sep 19 18:44:14.569: Vi2.1 PPP: Phase is
UP*Sep 19 18:44:14.569: Vi2.1 IPCP: Protocol configured, start CP. state[Initial]*Sep 19
18:44:14.569: Vi2.1 IPCP: Event[OPEN] State[Initial to Starting]*Sep 19 18:44:14.569: Vi2.1
IPCP: O CONFREQ [Starting] id 1 len 10*Sep 19 18:44:14.569: Vi2.1 IPCP: Address 192.168.1.1
(0x0306C0A80101)*Sep 19 18:44:14.569: Vi2.1 IPCP: Event[UP] State[Starting to REQsent]*Sep 19
18:44:14.569: [76]PPPoE 63: State PTA_BINDING Event STATIC BIND RESPONSE*Sep 19 18:44:14.569:
[76]PPPoE 63: Connected PTA<snip>*Sep 19 18:44:14.572: Vi2.1 IPCP: Event[Receive ConfReq+]
State[ACKrcvd to Open]*Sep 19 18:44:14.595: Vi2.1 IPCP: State is Open*Sep 19 18:44:14.595: PPPoE
: ipfib_encapstr prepared*Sep 19 18:44:14.596: Vi2.1 Added to neighbor route AVL tree: topoid 0,
address 192.168.1.2*Sep 19 18:44:14.596: Vi2.1 IPCP: Install route to 192.168.1.2! Installing
route to PPPoE client

```

```
BRAS#sh pppoe sess
```

```

  1 session in LOCALLY_TERMINATED (PTA) State
  1 session total

```

Uniq ID	PPPoE SID	RemMAC LocMAC	Port	VT	VA VA-st	State Type
76	63	0050.56ad.7206 d867.d99f.6601	Gi0/0/1.47	10	Vi2.1 UP	PTA

```
BRAS#
```

```
??
```

```

BRAS#sh caller ipLine User IP Address Local Number Remote Number <->Vi2.1 cisco 192.168.1.2 - -
inBRAS# ping 192.168.1.2Type escape sequence to abort.Sending 5, 100-byte ICMP Echos to
192.168.1.2, timeout is 2 seconds:!!!!Success rate is 100 percent (5/5), round-trip min/avg/max
= 1/1/1 ms

```

故障排除

目前没有针对此配置的故障排除信息。然而，我们能使用与PPP和PPPoE涉及的标准的故障排除技术与相关调试帮助。

相关信息

- [技术支持和文档 - Cisco Systems](#)