Configurar o túnel L2TP entre uma máquina Windows e um roteador Cisco

Contents

Introduction

Este documento descreve como configurar um túnel L2TP (Layer 2 Tunneling Protocol) entre uma máquina Windows e um roteador Cisco.

Prerequisites

Requirements

A Cisco recomenda que você saiba que o Windows Machine pode fazer ping no endereço IP da interface física no roteador.

Componentes Utilizados

Este documento não se restringe a versões de software e hardware específicas.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Configurar

Diagrama de Rede

Este documento utiliza a seguinte configuração de rede:

Configurações

Configuração do agregador:

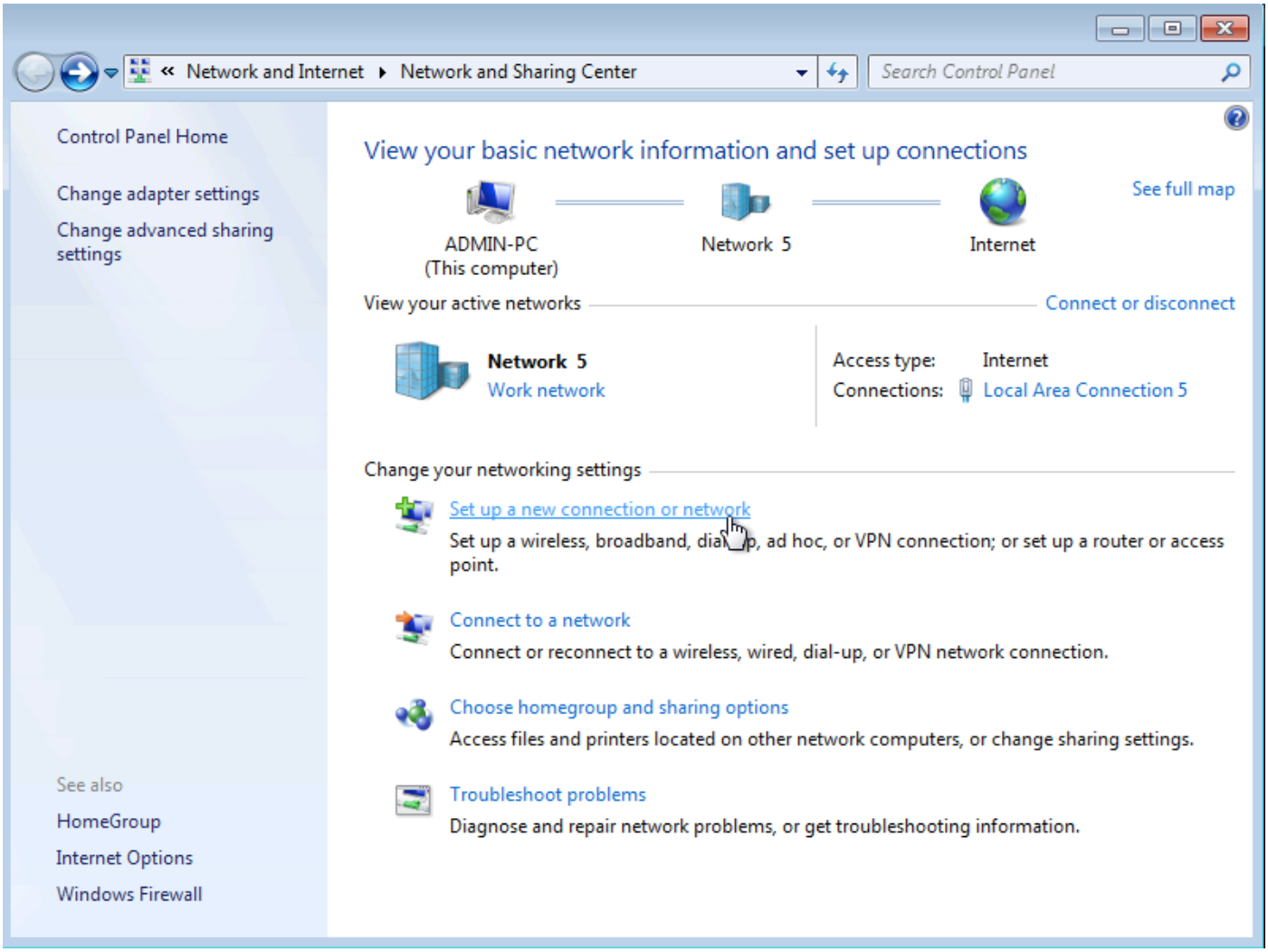
Um exemplo da configuração no Aggregator é mostrado:

```
interface GigabitEthernet0/0/1
 ip address 192.168.1.1 255.255.255.0
 negotiation auto
end   interface Loopback100
 ip address 172.16.1.1 255.255.255.255
end   vpdn enable
vpdn-group 1
 ! Default L2TP VPDN group
 accept-dialin
 protocol l2tp
 virtual-template 1
 no l2tp tunnel authentication   interface Virtual-Template1
 ip unnumbered Loopback100
 peer default ip address pool test
 ppp authentication chap callout
 ppp ipcp dns 4.2.2.1 4.2.2.2
end   ip local pool test 10.1.1.2 10.1.1.100
```

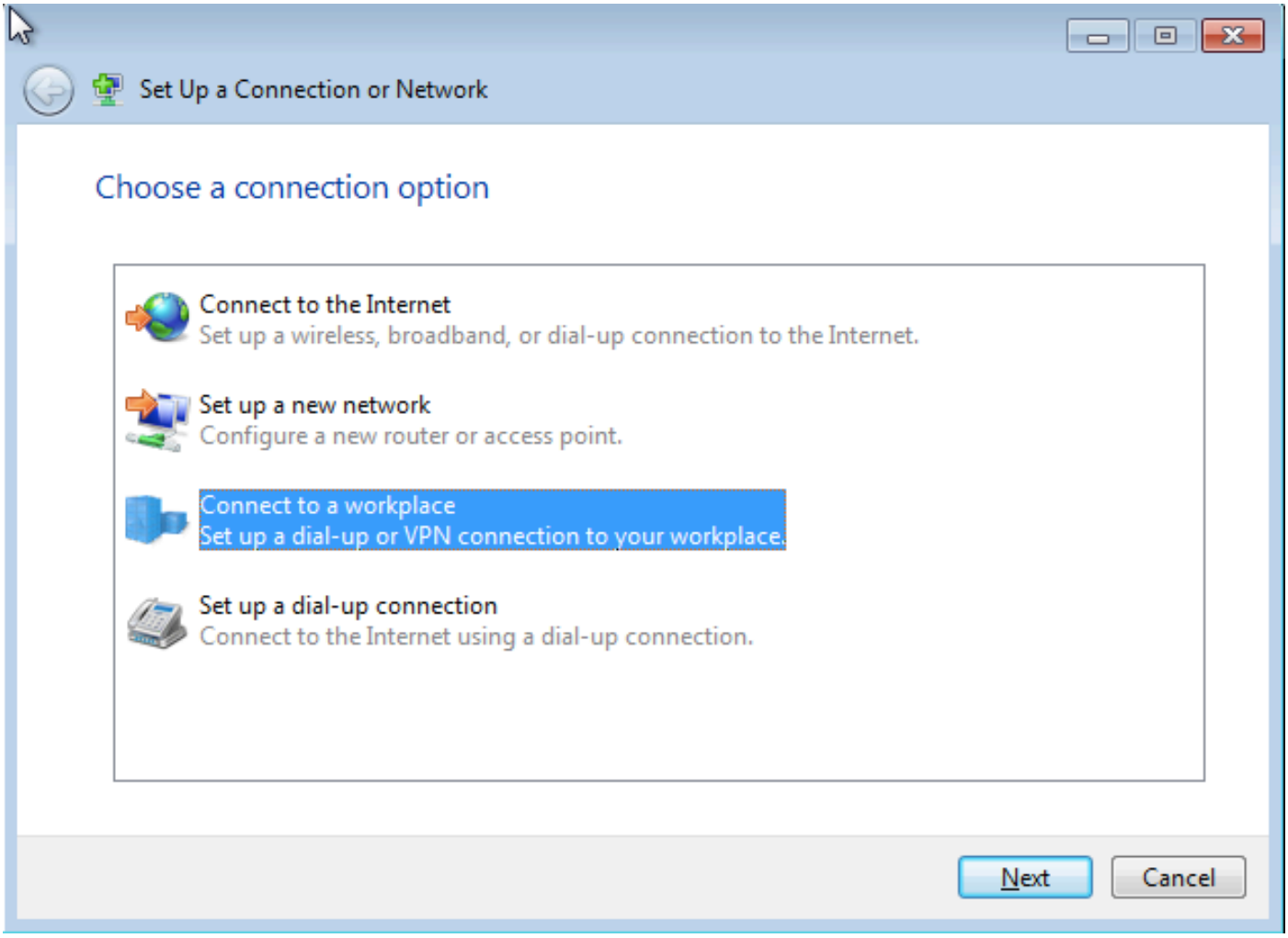
Configurações e configurações da máquina Windows

Conclua estes passos:

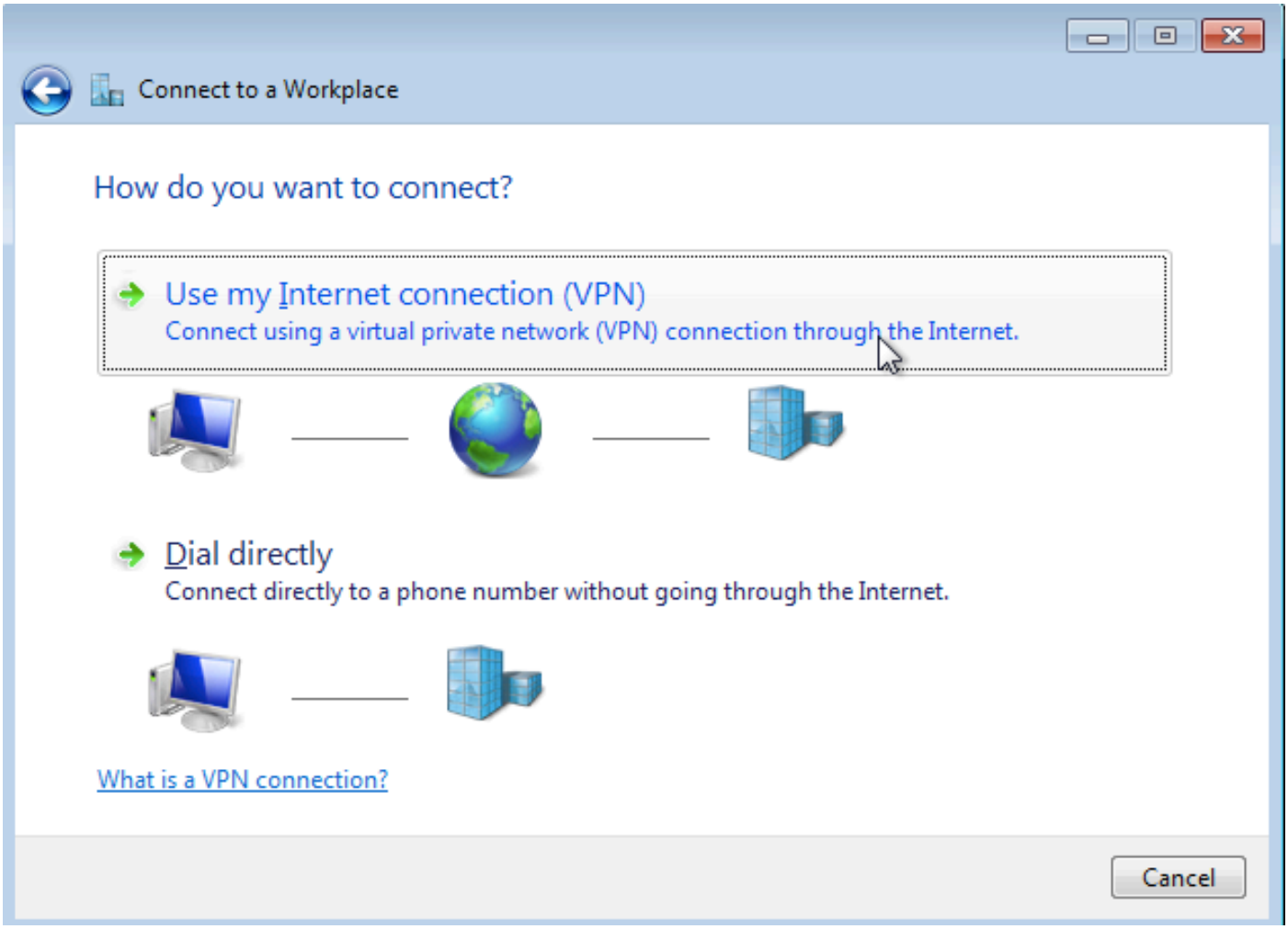
Etapa 1. Abra a **Central de Rede e Compartilhamento** e clique em **Configurar uma nova conexão ou rede** como mostrado nesta imagem.



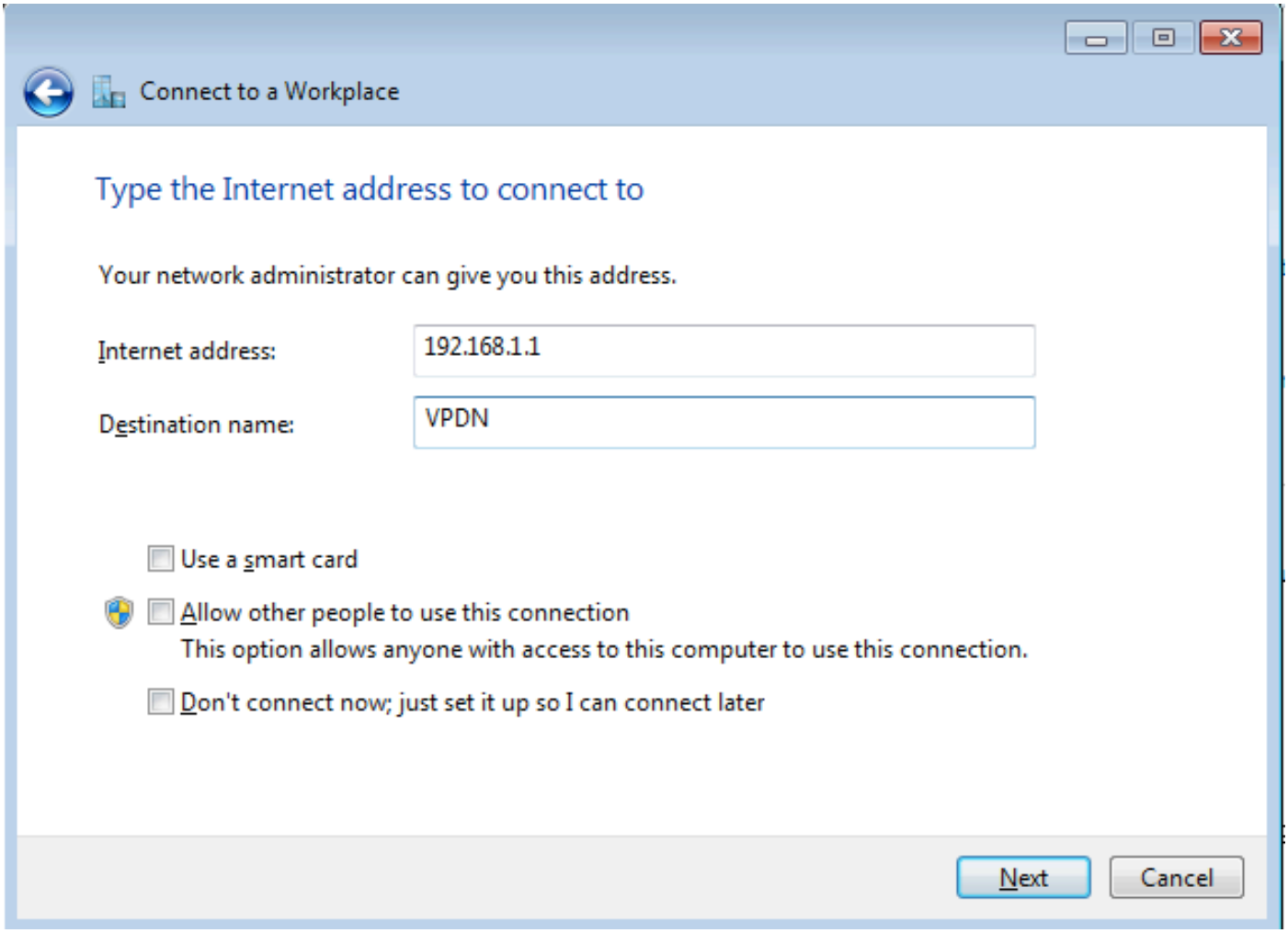
Etapa 2. Selecione **Conectar-se a um local de trabalho** e clique em **Avançar**



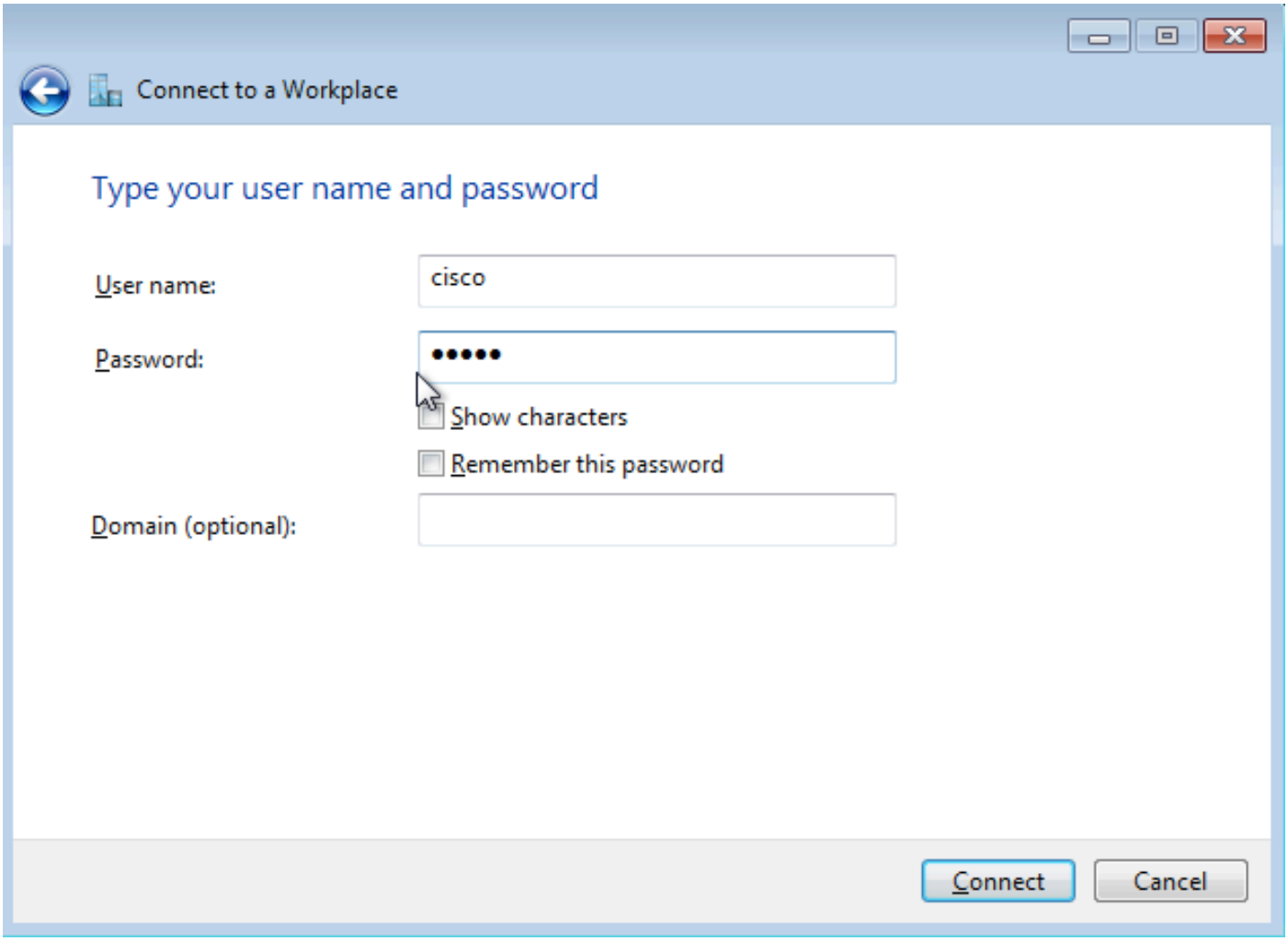
Etapa 3. Selecione **Usar minha conexão com a Internet (VPN)**



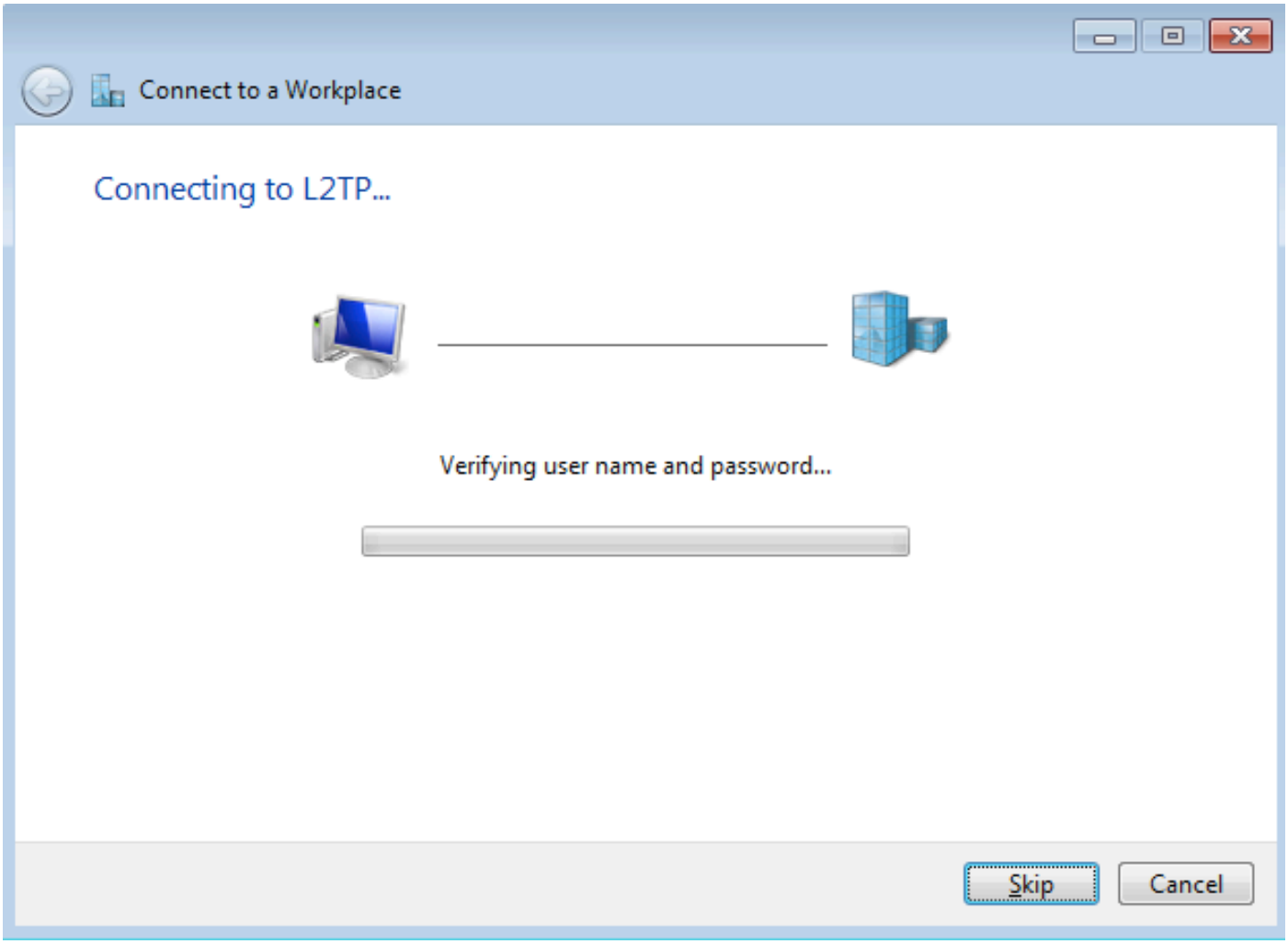
Etapa 4. Insira o endereço IP do agregador (nesse caso, 192.168.1.1), dê um nome para a conexão (nesse caso, indicando o nome como VPDN) e clique em **Avançar**.



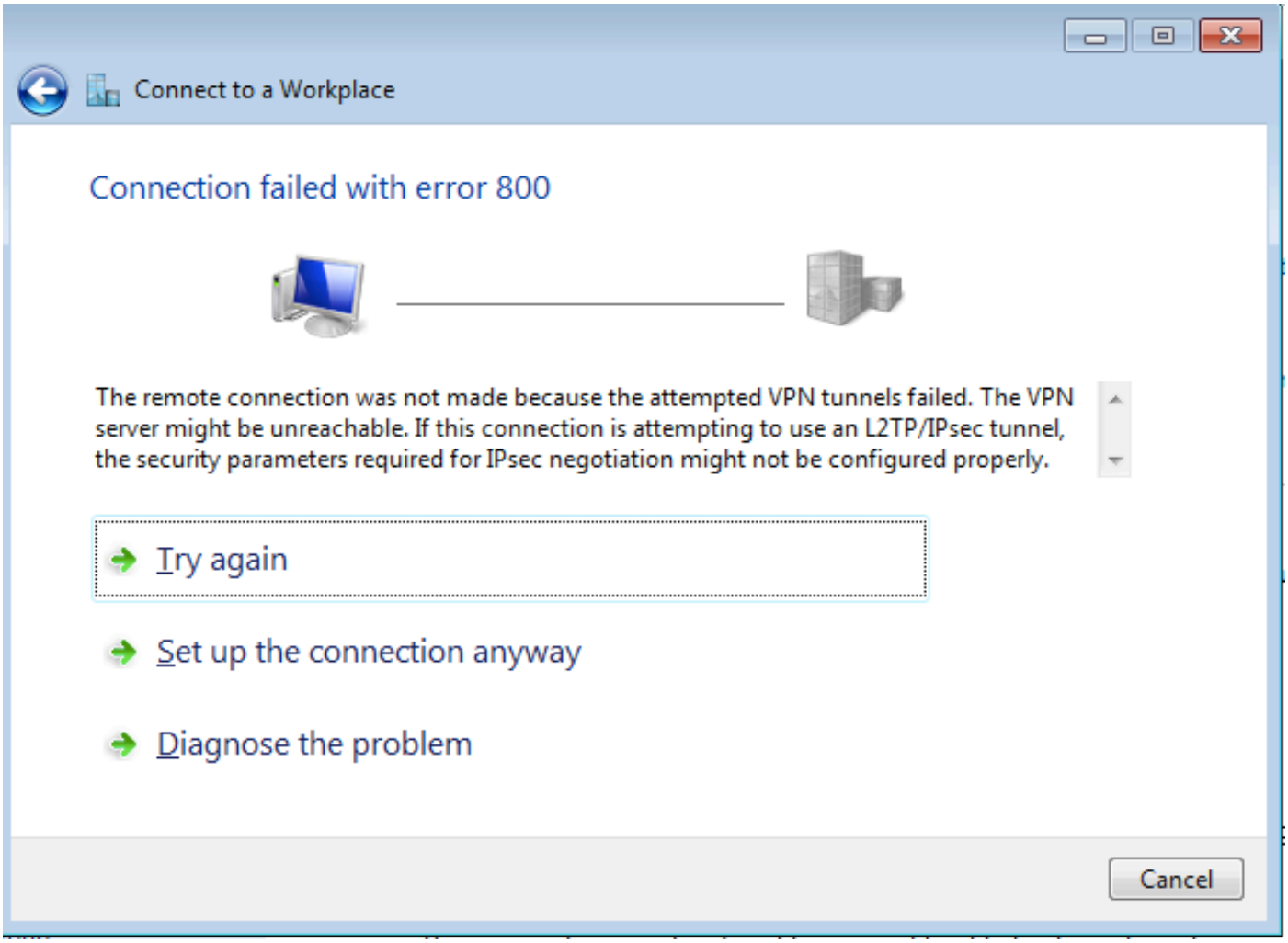
Etapa 5. Digite o nome de usuário e a senha e clique em **Connect (Conectar)**



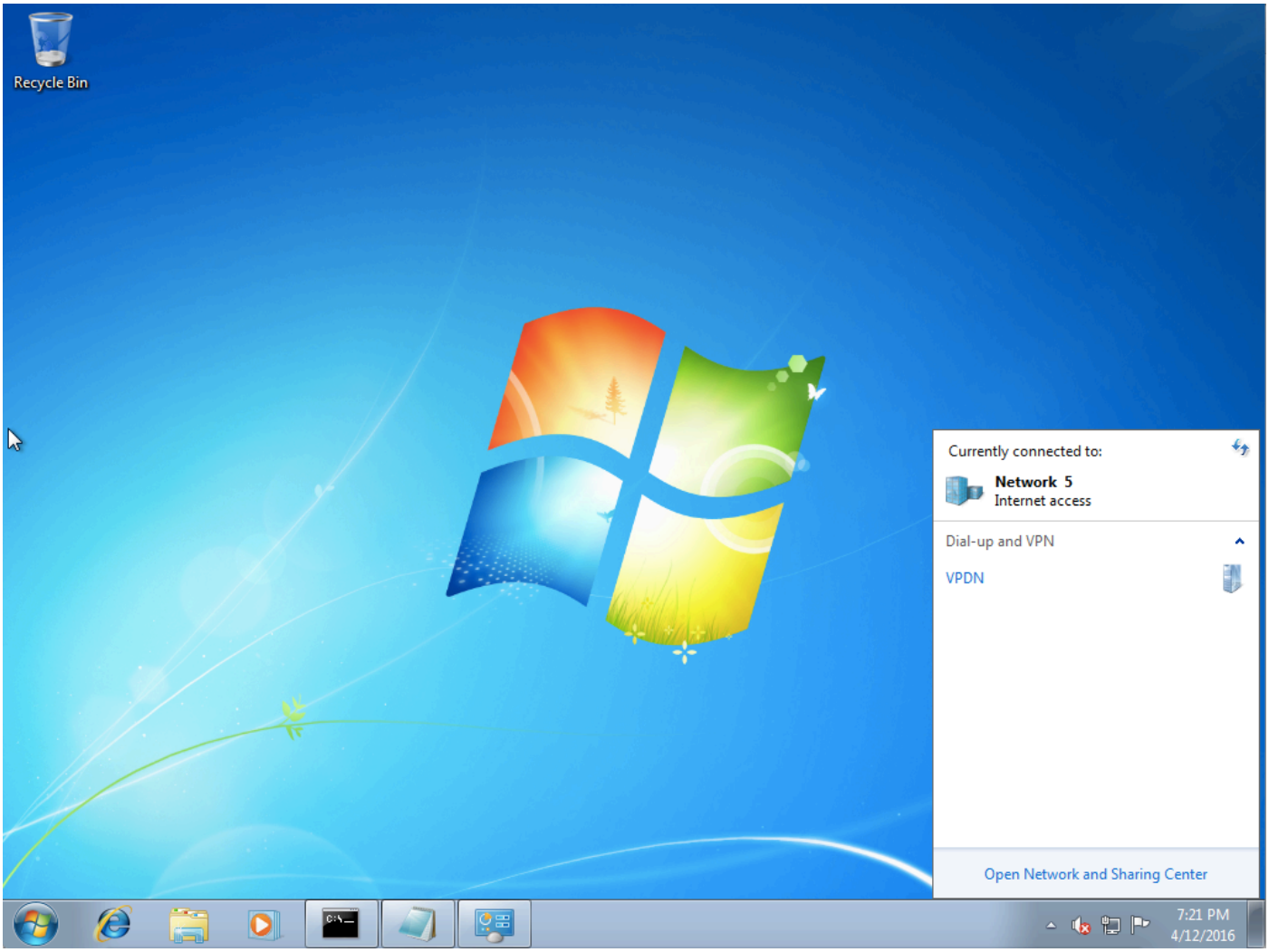
Etapa 6. Verifique o nome de usuário e a senha



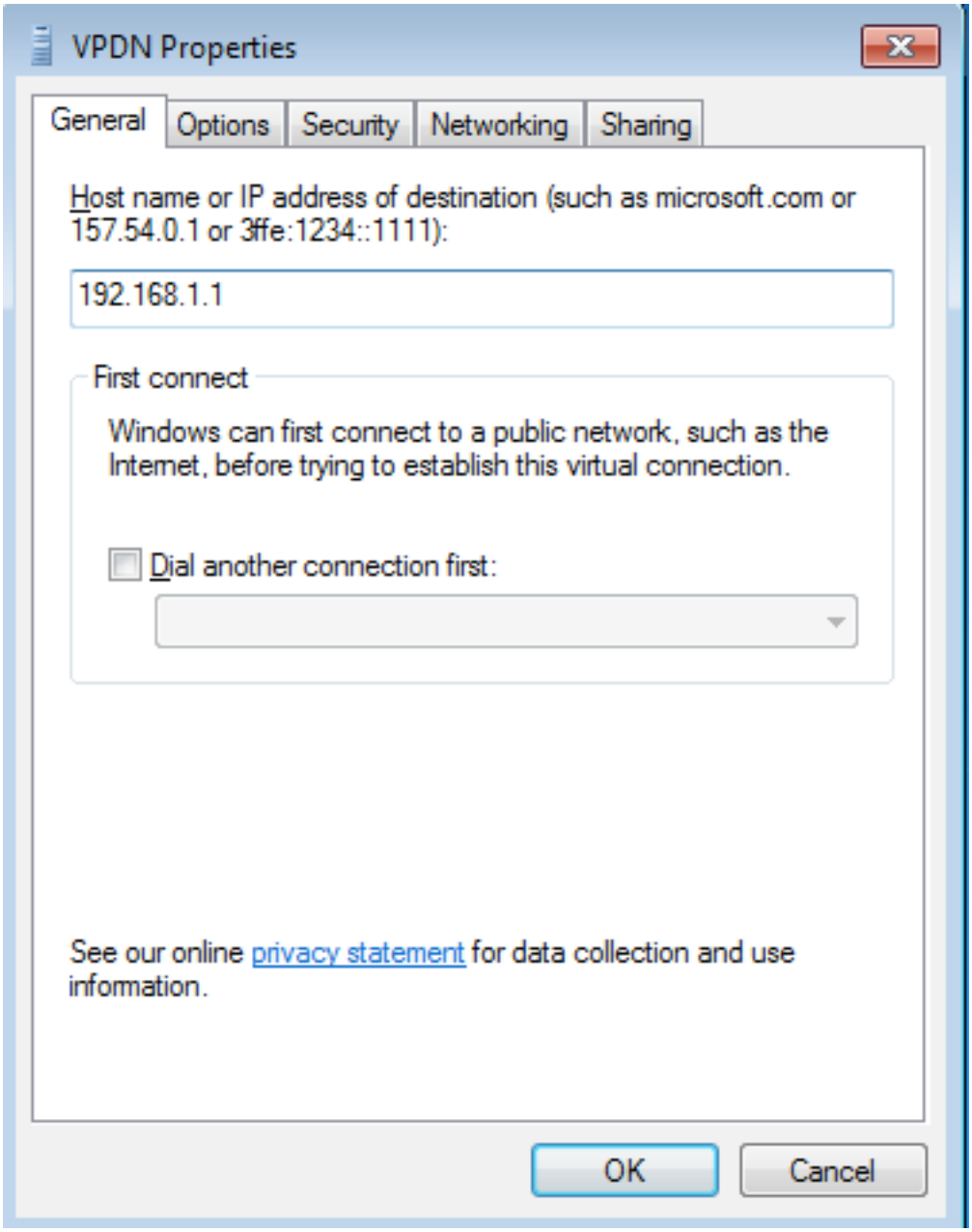
Passo 7. Pode falhar pela primeira vez, como mostrado nesta imagem.



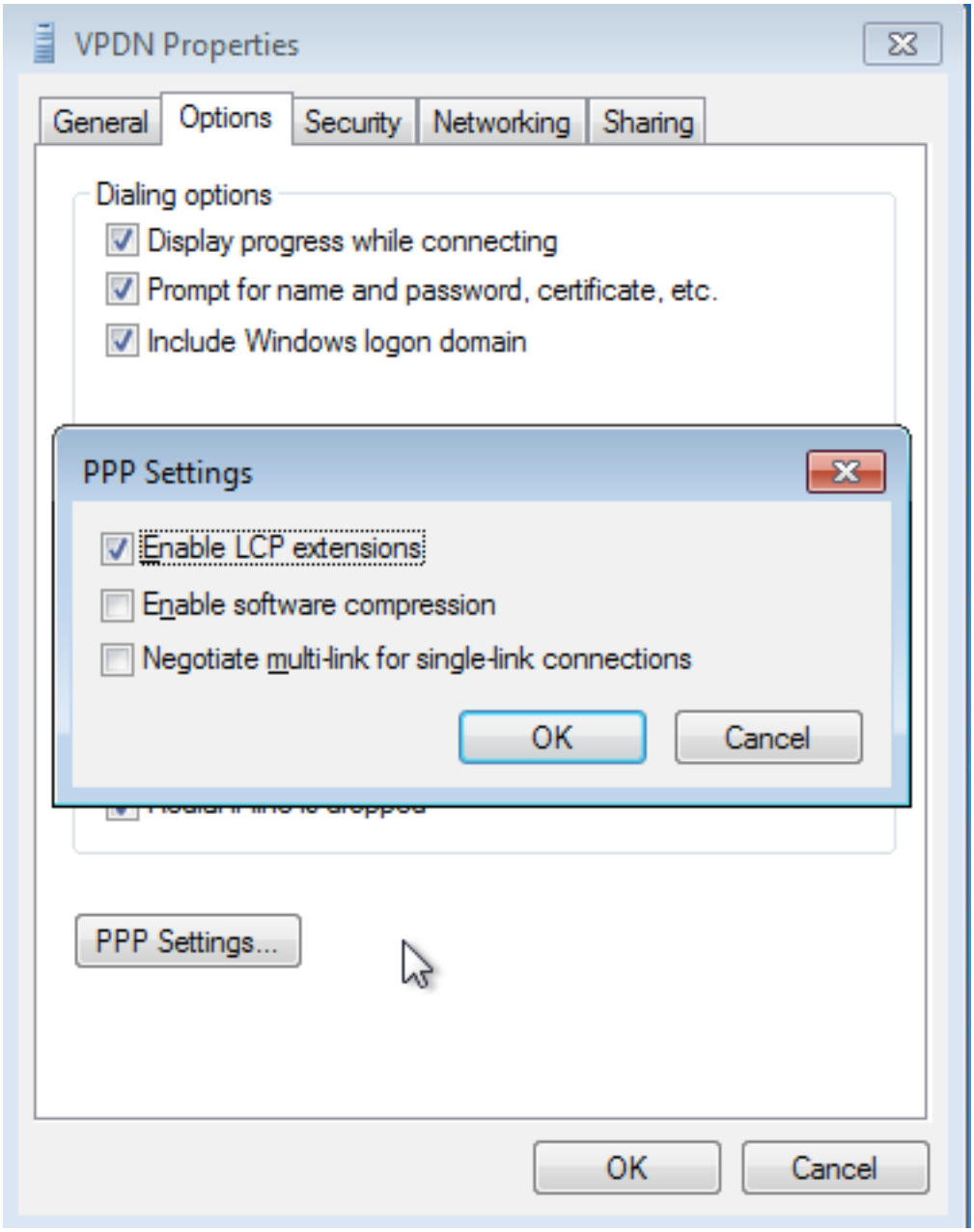
Etapa 8. Clique em **Configurar a conexão assim mesmo** e abra a guia **Redes**.



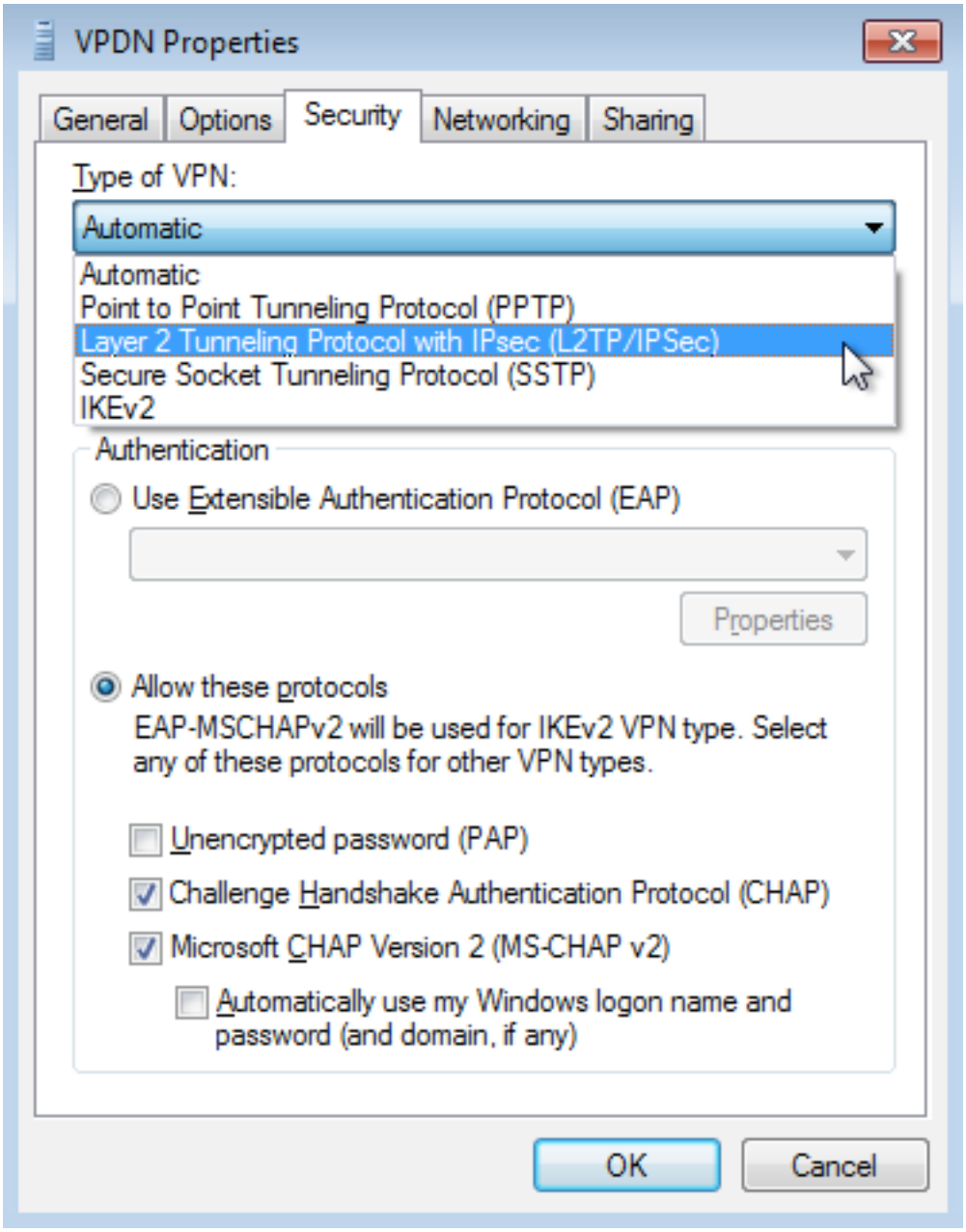
Etapa 9. Clique com o botão direito do mouse na conexão (aqui VPDN) e clique em **Propriedades**. Verifique o endereço IP do agregador (aqui 192.168.1.1)



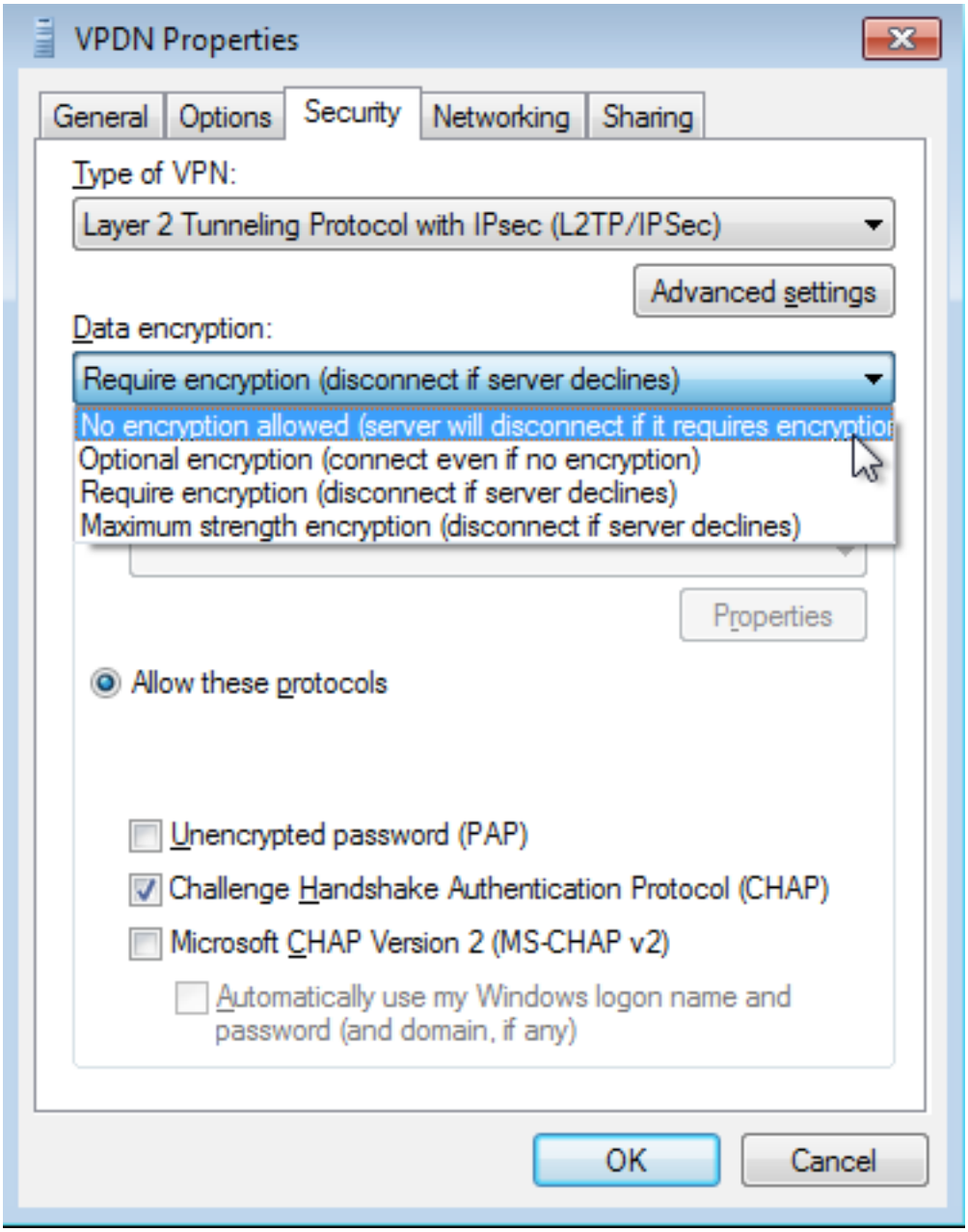
Etapa 10. Navegue até **Opções> Configurações do PPP** e verifique as configurações, como mostrado nesta imagem.



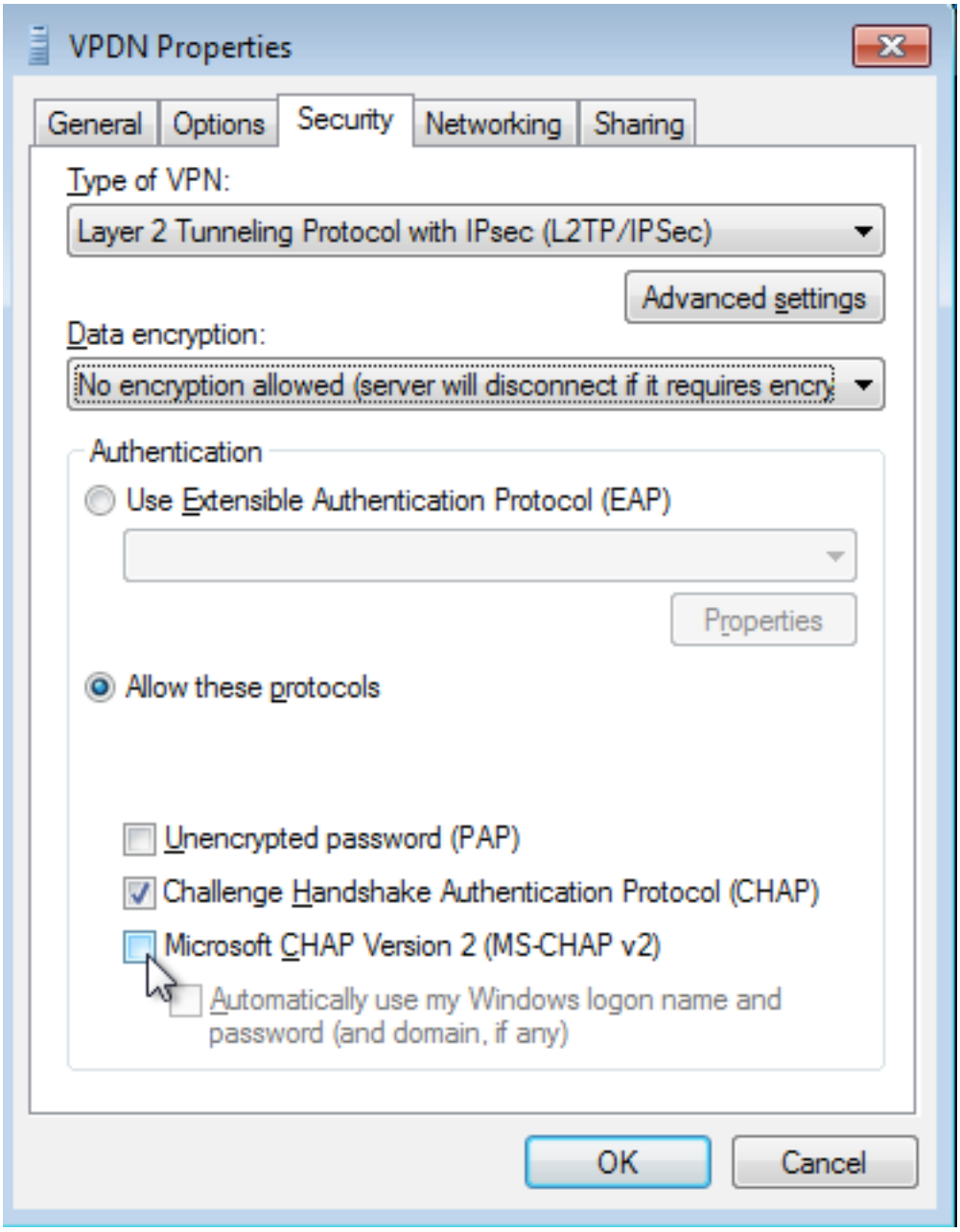
Etapa 11. Navegue até **Security > Type of VPN >Layer 2 Tunneling Protocol with IPsec,** como mostrado nesta imagem.



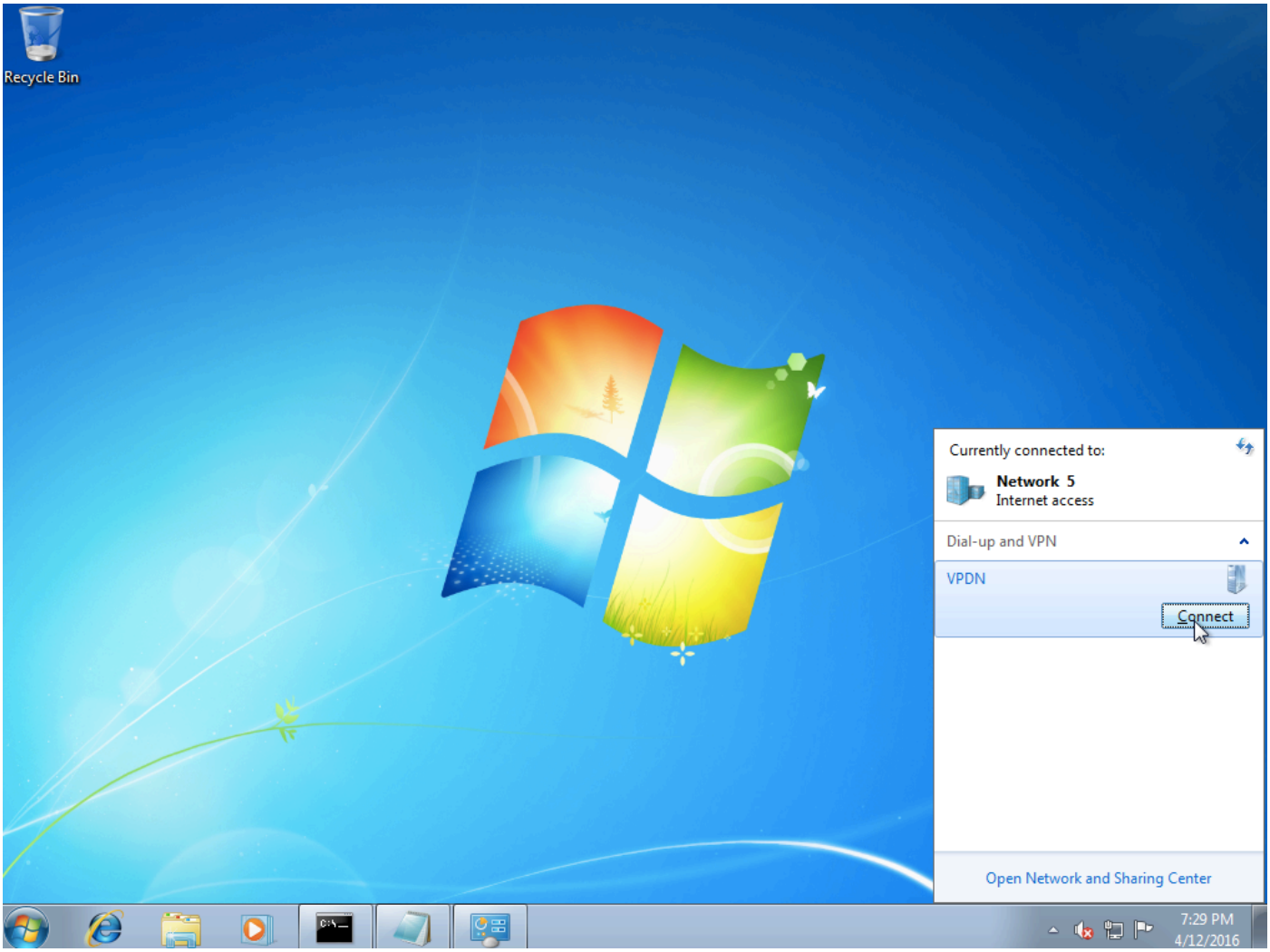
Etapa 12. Selecione a opção **Nenhuma criptografia permitida** no menu suspenso Criptografia de dados:



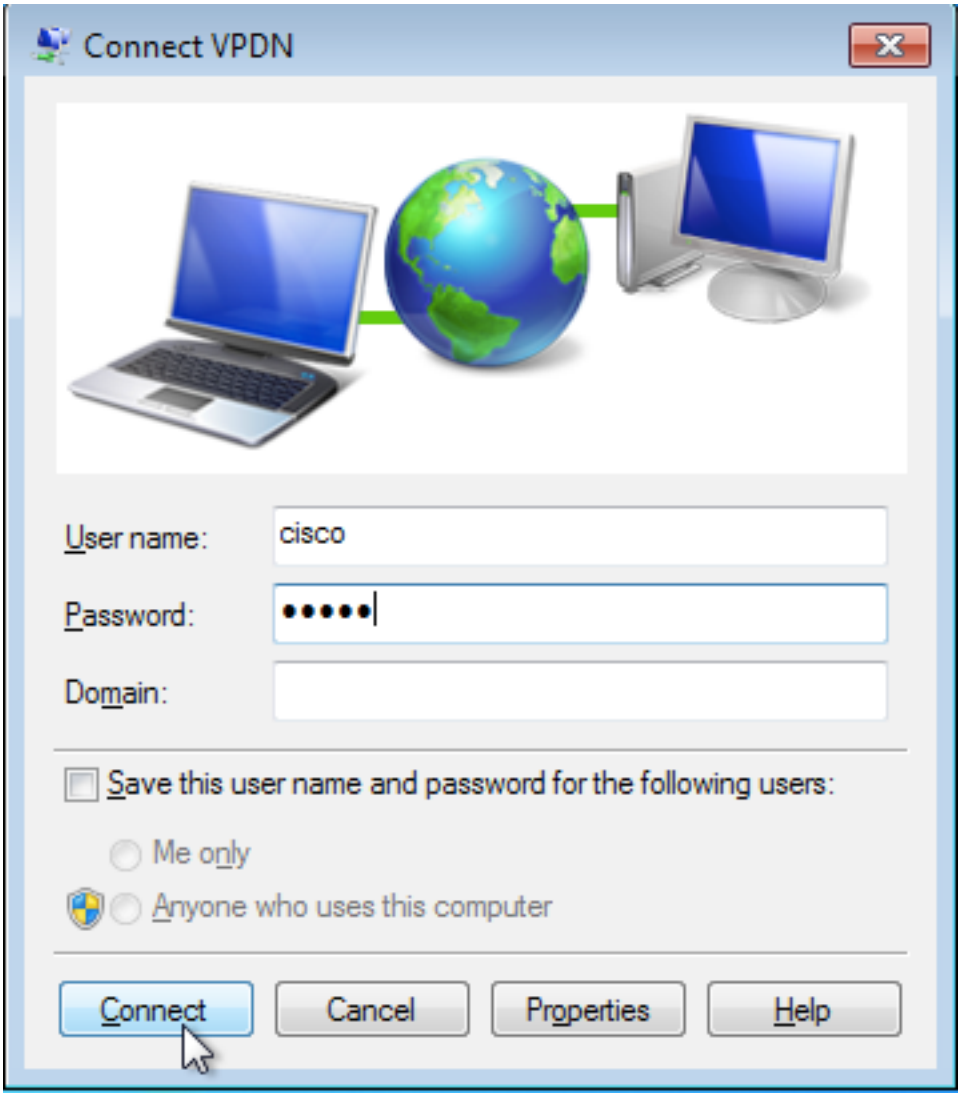
Etapa 13. Desmarque **Microsoft CHAP Version 2** e clique em **OK.**



Etapa 14. Abra a rede (aqui VPDN) e clique em **Conectar.**

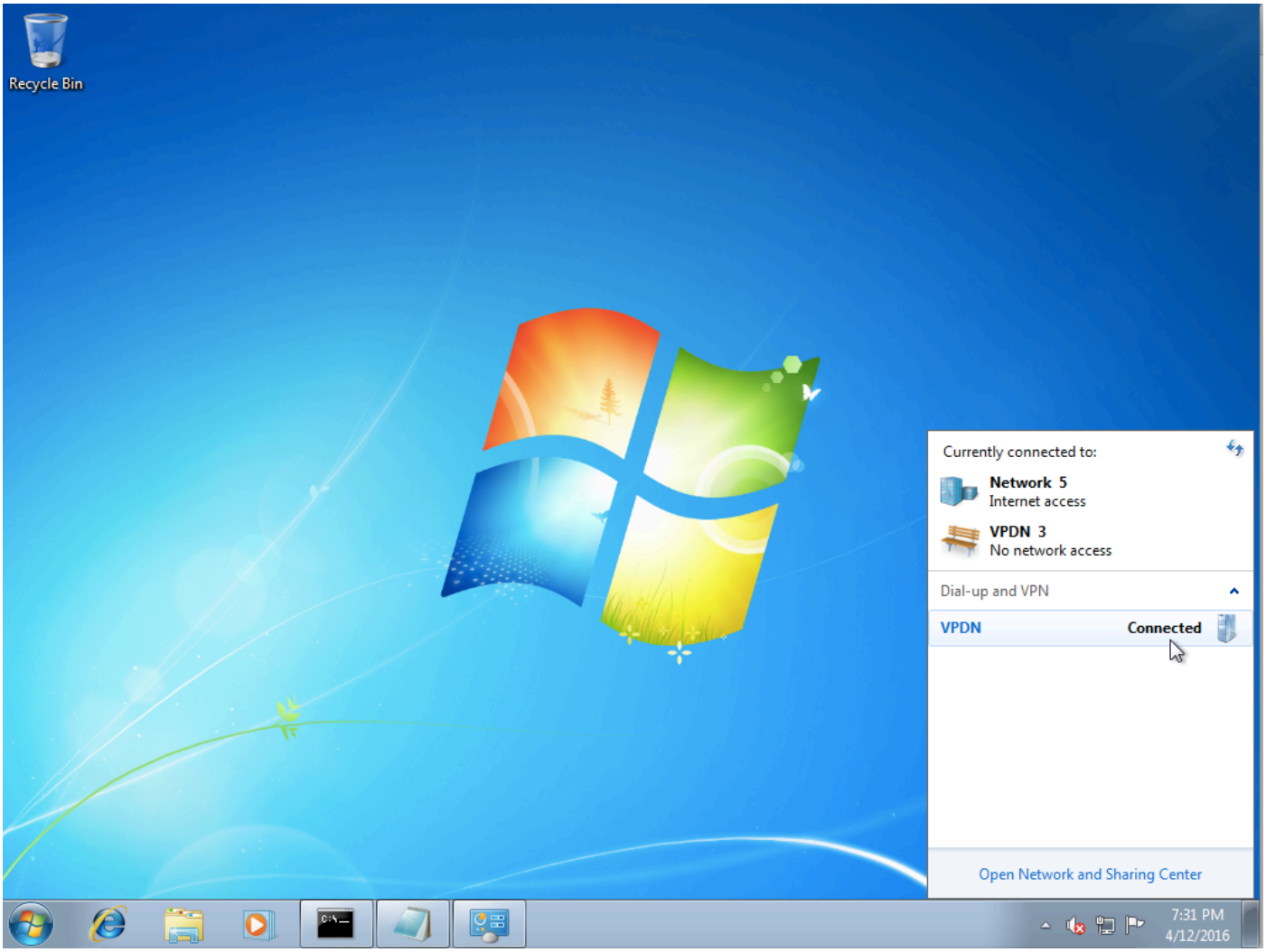


Etapa 15. Digite o nome de usuário e a senha e clique em **Connect (Conectar)**



Verificar

Etapa 1. Abra novamente a guia **Redes**,selecione a rede (chamada VPDN neste exemplo) e verifique se o status está Conectado.



Etapa 2. Abra o prompt de comando e execute o comando **ipconfig /all**.

```
PPP adapter VPDN:

   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : VPDN
   Physical Address. . . . . . . . . :
   DHCP Enabled. . . . . . . . . . . : No
   Autoconfiguration Enabled . . . . : Yes
   IPv4 Address. . . . . . . . . . . : 10.1.1.9(Preferred)
   Subnet Mask . . . . . . . . . . . : 255.255.255.255
   Default Gateway . . . . . . . . . : 0.0.0.0
   DNS Servers . . . . . . . . . . . : 4.2.2.1
                                       4.2.2.2
   NetBIOS over Tcpip. . . . . . . . : Enabled
```

O endereço IPv4 e o Servidor de Nome de Domínio (DNS) são atribuídos pelo agregador após concluir a fase do Protocolo de Controle de Protocolo Internet (IPCP - Internet Protocol Control Protocol) PPP.

Etapa 3. Execute o comando **debug ppp negotiation** e os outros comandos show no Aggregator:

```
Aggregator#
*Apr 12 06:17:38.148: PPP: Alloc Context [38726D0C]
*Apr 12 06:17:38.148: ppp11 PPP: Phase is ESTABLISHING
*Apr 12 06:17:38.148: ppp11 PPP: Using vpn set call direction
```

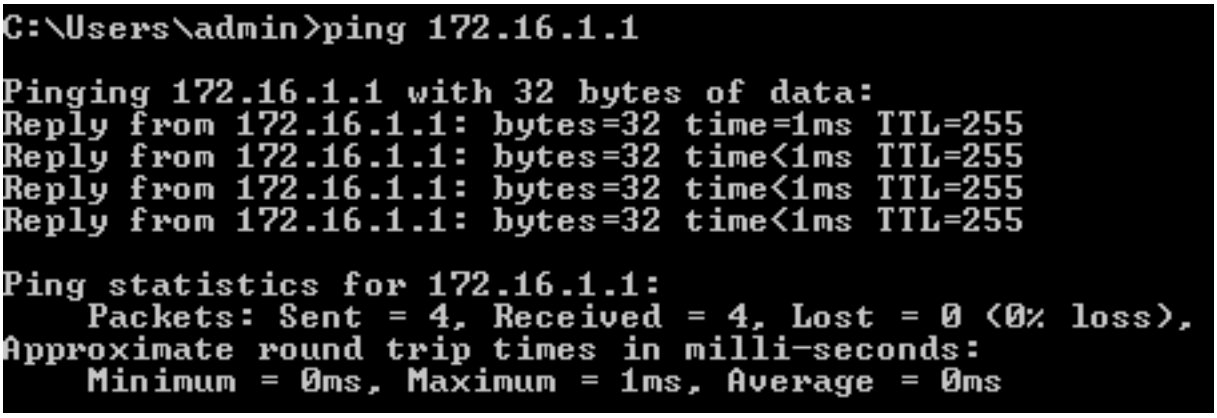
```
*Apr 12 06:17:38.148: ppp11 PPP: Treating connection as a callin
*Apr 12 06:17:38.148: ppp11 PPP: Session handle[A600000B] Session id[11]
*Apr 12 06:17:38.148: ppp11 LCP: Event[OPEN] State[Initial to Starting]
*Apr 12 06:17:38.148: ppp11 PPP: No remote authentication for call-in
*Apr 12 06:17:38.148: ppp11 PPP LCP: Enter passive mode, state[Stopped]
*Apr 12 06:17:38.607: ppp11 LCP: I CONFREQ [Stopped] id 0 len 21
*Apr 12 06:17:38.607: ppp11 LCP:    MRU 1400 (0x01040578)
*Apr 12 06:17:38.607: ppp11 LCP:    MagicNumber 0x795C7CD1 (0x0506795C7CD1)
*Apr 12 06:17:38.607: ppp11 LCP:    PFC (0x0702)
*Apr 12 06:17:38.607: ppp11 LCP:    ACFC (0x0802)
*Apr 12 06:17:38.607: ppp11 LCP:    Callback 6 (0x0D0306)
*Apr 12 06:17:38.608: ppp11 LCP: O CONFREQ [Stopped] id 1 len 10
*Apr 12 06:17:38.608: ppp11 LCP:    MagicNumber 0xF7C3D2B9 (0x0506F7C3D2B9)
*Apr 12 06:17:38.608: ppp11 LCP: O CONFREJ [Stopped] id 0 len 7
*Apr 12 06:17:38.608: ppp11 LCP:    Callback 6 (0x0D0306)
*Apr 12 06:17:38.608: ppp11 LCP: Event[Receive ConfReq-] State[Stopped to REQsent]
*Apr 12 06:17:38.615: ppp11 LCP: I CONFACK [REQsent] id 1 len 10
*Apr 12 06:17:38.615: ppp11 LCP:    MagicNumber 0xF7C3D2B9 (0x0506F7C3D2B9)
*Apr 12 06:17:38.615: ppp11 LCP: Event[Receive ConfAck] State[REQsent to ACKrcvd]
*Apr 12 06:17:38.615: ppp11 LCP: I CONFREQ [ACKrcvd] id 1 len 18
*Apr 12 06:17:38.615: ppp11 LCP:    MRU 1400 (0x01040578)
*Apr 12 06:17:38.615: ppp11 LCP:    MagicNumber 0x795C7CD1 (0x0506795C7CD1)
*Apr 12 06:17:38.616: ppp11 LCP:    PFC (0x0702)
*Apr 12 06:17:38.616: ppp11 LCP:    ACFC (0x0802)
*Apr 12 06:17:38.616: ppp11 LCP: O CONFNAK [ACKrcvd] id 1 len 8
*Apr 12 06:17:38.616: ppp11 LCP:    MRU 1500 (0x010405DC)
*Apr 12 06:17:38.616: ppp11 LCP: Event[Receive ConfReq-] State[ACKrcvd to ACKrcvd]
*Apr 12 06:17:38.617: ppp11 LCP: I CONFREQ [ACKrcvd] id 2 len 18
*Apr 12 06:17:38.617: ppp11 LCP:    MRU 1400 (0x01040578)
*Apr 12 06:17:38.617: ppp11 LCP:    MagicNumber 0x795C7CD1 (0x0506795C7CD1)
*Apr 12 06:17:38.617: ppp11 LCP:    PFC (0x0702)
*Apr 12 06:17:38.617: ppp11 LCP:    ACFC (0x0802)
*Apr 12 06:17:38.617: ppp11 LCP: O CONFNAK [ACKrcvd] id 2 len 8
*Apr 12 06:17:38.617: ppp11 LCP:    MRU 1500 (0x010405DC)
*Apr 12 06:17:38.617: ppp11 LCP: Event[Receive ConfReq-] State[ACKrcvd to ACKrcvd]
*Apr 12 06:17:38.618: ppp11 LCP: I CONFREQ [ACKrcvd] id 3 len 18
*Apr 12 06:17:38.618: ppp11 LCP:    MRU 1500 (0x010405DC)
*Apr 12 06:17:38.618: ppp11 LCP:    MagicNumber 0x795C7CD1 (0x0506795C7CD1)
*Apr 12 06:17:38.618: ppp11 LCP:    PFC (0x0702)
*Apr 12 06:17:38.618: ppp11 LCP:    ACFC (0x0802)
*Apr 12 06:17:38.618: ppp11 LCP: O CONFACK [ACKrcvd] id 3 len 18
*Apr 12 06:17:38.618: ppp11 LCP:    MRU 1500 (0x010405DC)
*Apr 12 06:17:38.618: ppp11 LCP:    MagicNumber 0x795C7CD1 (0x0506795C7CD1)
*Apr 12 06:17:38.618: ppp11 LCP:    PFC (0x0702)
*Apr 12 06:17:38.619: ppp11 LCP:    ACFC (0x0802)
*Apr 12 06:17:38.619: ppp11 LCP: Event[Receive ConfReq+] State[ACKrcvd to Open]
*Apr 12 06:17:38.621: ppp11 LCP: I IDENTIFY [Open] id 4 len 18 magic 0x795C7CD1MSRASV5.20
*Apr 12 06:17:38.621: ppp11 LCP: I IDENTIFY [Open] id 5 len 24 magic 0x795C7CD1MSRAS-0-ADMIN-PC
*Apr 12 06:17:38.621: ppp11 LCP: I IDENTIFY [Open] id 6 len 24 magic 0x795C7CD1Z8Of(U3G.cIwR<#!
*Apr 12 06:17:38.626: ppp11 PPP: Queue IPV6CP code[1] id[7]
*Apr 12 06:17:38.626: ppp11 PPP: Queue IPCP code[1] id[8]
*Apr 12 06:17:38.640: ppp11 PPP: Phase is FORWARDING, Attempting Forward
*Apr 12 06:17:38.640: ppp11 LCP: State is Open
*Apr 12 06:17:38.657: Vi3.1 PPP: Phase is ESTABLISHING, Finish LCP
*Apr 12 06:17:38.657: Vi3.1 PPP: Phase is UP
*Apr 12 06:17:38.657: Vi3.1 IPCP: Protocol configured, start CP. state[Initial]
*Apr 12 06:17:38.657: Vi3.1 IPCP: Event[OPEN] State[Initial to Starting]
*Apr 12 06:17:38.657: Vi3.1 IPCP: O CONFREQ [Starting] id 1 len 10
*Apr 12 06:17:38.657: Vi3.1 IPCP:    Address 172.16.1.1 (0x0306AC100101)
*Apr 12 06:17:38.657: Vi3.1 IPCP: Event[UP] State[Starting to REQsent]
*Apr 12 06:17:38.657: Vi3.1 PPP: Process pending ncp packets
*Apr 12 06:17:38.657: Vi3.1 IPCP: Redirect packet to Vi3.1
*Apr 12 06:17:38.657: Vi3.1 IPCP: I CONFREQ [REQsent] id 8 len 34
*Apr 12 06:17:38.657: Vi3.1 IPCP:    Address 0.0.0.0 (0x030600000000)
```

```
*Apr 12 06:17:38.657: Vi3.1 IPCP:    PrimaryDNS 0.0.0.0 (0x810600000000)
*Apr 12 06:17:38.657: Vi3.1 IPCP:    PrimaryWINS 0.0.0.0 (0x820600000000)
*Apr 12 06:17:38.657: Vi3.1 IPCP:    SecondaryDNS 0.0.0.0 (0x830600000000)
*Apr 12 06:17:38.657: Vi3.1 IPCP:    SecondaryWINS 0.0.0.0 (0x840600000000)
*Apr 12 06:17:38.657: Vi3.1 IPCP AUTHOR: Done. Her address 0.0.0.0, we want 0.0.0.0
*Apr 12 06:17:38.657: Vi3.1 IPCP: Pool returned 10.1.1.9
*Apr 12 06:17:38.657: Vi3.1 IPCP: O CONFREJ [REQsent] id 8 len 16
*Apr 12 06:17:38.658: Vi3.1 IPCP:    PrimaryWINS 0.0.0.0 (0x820600000000)
*Apr 12 06:17:38.658: Vi3.1 IPCP:    SecondaryWINS 0.0.0.0 (0x840600000000)
*Apr 12 06:17:38.658: Vi3.1 IPCP: Event[Receive ConfReq-] State[REQsent to REQsent]
*Apr 12 06:17:38.658: Vi3.1 IPV6CP: Redirect packet to Vi3.1
*Apr 12 06:17:38.658: Vi3.1 IPV6CP: I CONFREQ [UNKNOWN] id 7 len 14
*Apr 12 06:17:38.658: Vi3.1 IPV6CP:    Interface-Id F0AA:D7A4:5750:D93E (0x010AF0AAD7A45750D93E)
*Apr 12 06:17:38.658: Vi3.1 LCP: O PROTREJ [Open] id 2 len 20 protocol IPV6CP
(0x0107000E010AF0AAD7A45750D93E)
*Apr 12 06:17:38.672: Vi3.1 IPCP: I CONFACK [REQsent] id 1 len 10
*Apr 12 06:17:38.672: Vi3.1 IPCP:    Address 172.16.1.1 (0x0306AC100101)
*Apr 12 06:17:38.672: Vi3.1 IPCP: Event[Receive ConfAck] State[REQsent to ACKrcvd]
*Apr 12 06:17:38.672: Vi3.1 IPCP: I CONFREQ [ACKrcvd] id 9 len 22
*Apr 12 06:17:38.672: Vi3.1 IPCP:    Address 0.0.0.0 (0x030600000000)
*Apr 12 06:17:38.672: Vi3.1 IPCP:    PrimaryDNS 0.0.0.0 (0x810600000000)
*Apr 12 06:17:38.672: Vi3.1 IPCP:    SecondaryDNS 0.0.0.0 (0x830600000000)
*Apr 12 06:17:38.672: Vi3.1 IPCP: O CONFNAK [ACKrcvd] id 9 len 22
*Apr 12 06:17:38.672: Vi3.1 IPCP:    Address 10.1.1.9 (0x03060A010109)
*Apr 12 06:17:38.672: Vi3.1 IPCP:    PrimaryDNS 4.2.2.1 (0x810604020201)
*Apr 12 06:17:38.672: Vi3.1 IPCP:    SecondaryDNS 4.2.2.2 (0x830604020202)
*Apr 12 06:17:38.672: Vi3.1 IPCP: Event[Receive ConfReq-] State[ACKrcvd to ACKrcvd]
*Apr 12 06:17:38.747: Vi3.1 IPCP: I CONFREQ [ACKrcvd] id 10 len 22
*Apr 12 06:17:38.747: Vi3.1 IPCP:    Address 10.1.1.9 (0x03060A010109)
*Apr 12 06:17:38.747: Vi3.1 IPCP:    PrimaryDNS 4.2.2.1 (0x810604020201)
*Apr 12 06:17:38.747: Vi3.1 IPCP:    SecondaryDNS 4.2.2.2 (0x830604020202)
*Apr 12 06:17:38.747: Vi3.1 IPCP: O CONFACK [ACKrcvd] id 10 len 22
*Apr 12 06:17:38.748: Vi3.1 IPCP:    Address 10.1.1.9 (0x03060A010109)
*Apr 12 06:17:38.748: Vi3.1 IPCP:    PrimaryDNS 4.2.2.1 (0x810604020201)
*Apr 12 06:17:38.748: Vi3.1 IPCP:    SecondaryDNS 4.2.2.2 (0x830604020202)
*Apr 12 06:17:38.748: Vi3.1 IPCP: Event[Receive ConfReq+] State[ACKrcvd to Open]
*Apr 12 06:17:38.768: Vi3.1 IPCP: State is Open
*Apr 12 06:17:38.769: Vi3.1 Added to neighbor route AVL tree: topoid 0, address 10.1.1.9
*Apr 12 06:17:38.769: Vi3.1 IPCP: Install route to 10.1.1.9


Aggregator#show caller ip
 Line           User       IP Address      Local Number    Remote Number   <->
 Vi3.1          -          10.1.1.9        -               -               in

Aggregator#show ip interface brief | exclude un
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0/1   192.168.1.1     YES manual up                    up
Loopback100            172.16.1.1      YES manual up                    up
```

Etapa 4. Verifique se a máquina Windows pode acessar a rede remota atrás do Aggregator (neste caso, a interface Loopback 100)



Troubleshoot

Atualmente, não existem informações disponíveis específicas sobre Troubleshooting para esta configuração.

Informações Relacionadas

- Entendendo o VPDN
- TSuporte técnico e documentação - Cisco Systems