

配置 Cisco IOS 软件与 Windows 2000 ，使用 Microsoft IAS 实现 PPTP

目录

[简介](#)

[先决条件](#)

[要求](#)

[使用的组件](#)

[规则](#)

[背景理论](#)

[配置](#)

[网络图](#)

[为 Microsoft IAS 配置 Windows 2000 Advanced Server](#)

[配置 RADIUS 客户端](#)

[配置 IAS 上的用户](#)

[为 PPTP 配置 Windows 2000 客户端](#)

[配置](#)

[验证](#)

[故障排除](#)

[故障排除命令](#)

[分割隧道](#)

[如果客户端没有进行加密配置](#)

[如果客户端经过加密配置而路由器却没有](#)

[对 PC 进行加密配置后禁用 MS-CHAP](#)

[当 RADIUS 服务器不能通讯时](#)

[相关信息](#)

简介

点对点隧道协议(PPTP)支持被添加了到在Cisco 7100及7200路由器平台的Cisco IOS软件版本12.0.5.xe5。更多平台的支持在Cisco IOS软件版本12.1.5.T被添加了。

请求注释(RFC) 2637描述PPTP。即根据此RFC， PPTP访问集线器(PAC)是客户端(PC或呼叫方)，并且PPTP网络服务器(PNS)是服务器(即呼叫的路由器或设备)。

先决条件

要求

本文假设，您设置对路由器的PPTP连接有本地微软询问握手认证协议V1验证(和或者使用这些文档

，要求MS-CHAP V1)的Microsoft点对点加密[MPPE]的，并且他们已经工作。远程验证拨入用户服务(RADIUS)为MPPE加密支持要求;TACACS+工作为验证，但是不为MPPE密钥。

[使用的组件](#)

本文档中的信息基于以下软件和硬件版本。

- Microsoft IAS可选组件在有活动目录的Microsoft 2000高级服务器安装。
- 一个Cisco 3600路由器。
- Cisco IOS软件版本c3640-io3s56i-mz.121-5.T。

此配置使用在Windows 2000 Advanced Server安装的Microsoft IAS作为RADIUS服务器。

本文档中的信息都是基于特定实验室环境中的设备创建的。本文档中使用的所有设备最初均采用原始(默认)配置。如果您是在真实网络上操作，请确保您在使用任何命令前已经了解其潜在影响。

[规则](#)

有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

[背景理论](#)

此配置示例展示如何设置PC连接到路由器(在地址10.200.20.2)，然后验证用户对Microsoft的互联网认证服务器(IAS) (在10.200.20.245)在允许用户前到网络。PPTP支持是可用的与思科安全访问控制服务器(ACS)版本2.5为Windows。然而，它可能不与路由器一起使用由于Cisco Bug ID CSCds92266。如果使用Cisco Secure，我们推荐使用Cisco Secure版本2.6或以上。Cisco Secure UNIX不支持MPPE。与MPPE支持的其他两个RADIUS应用程序是Microsoft RADIUS和Funk RADIUS。

[配置](#)

本部分提供有关如何配置本文档所述功能的信息。

注意：要查找本文档中使用的命令的其他相关信息，请使用 IOS 命令查找工具

[网络图](#)

本文档使用下图所示的网络设置。

拨号客户端的IP池：

- 网关路由器：192.168.1.2 | 192.168.1.254
- LNS：172.16.10.1 | 172.16.10.10

虽然上述设置使用一个拨号客户端连接到网络服务提供商(ISP)路由器通过拨号，您能通过所有媒体联络PC和网关路由器，例如LAN。

[为 Microsoft IAS 配置 Windows 2000 Advanced Server](#)

此部分显示如何配置Microsoft IAS的Windows 2000 Advanced Server：

1. 确保安装了 Microsoft IAS。要安装Microsoft IAS，请登陆作为管理员。在**网络服务**下，确保清除所有复选框。选择Internet Authentication Server复选框然后点击OK键。
2. 在“Windows 组件向导”中，单击**下一步**。如果出现提示，请插入 Windows 2000 CD。
3. 在必需文件复制后请点击**芬通社**然后关上所有windows。您不需要重新启动。

配置 RADIUS 客户端

此部分显示步骤配置RADIUS客户端：

1. 从**管理工具**中，打开“Internet 身份验证服务器控制台”，然后单击“客户端”。
2. 在**友好名称**方框中，请键入网络接入服务器(NAS)的IP地址。
3. 单击**使用此IP选项**。
4. 在**客户端供应商**请丢弃下来列表框，保证**RADIUS Standard**选项选择。
5. 在**共享共享的塞克雷**和**确认秘密**方框，键入密码然后单击**芬通社**。
6. 在控制台结构树中，在**互联网认证服务**的右键单击，然后单击**开始**。
7. 关闭控制台。

配置 IAS 上的用户

不同于Cisco Secure，Windows 2000 RADIUS用户数据库紧密绑定对Windows用户数据库。万一**活动目录**在您的Windows 2000服务器安装，请创建您从**激活目录用户和计算机**的新的拨号用户。如果**活动目录**没有安装，请使用**本地用户和组**从**管理工具**创建新用户。

配置活动目录的用户

此部分显示步骤配置活动目录的用户：

1. 在 **Active Directory 用户和计算机**控制台中，展开您的域。用鼠标右键单击**用户**。移动选择**新用户**。创建一个名为 tac 的新用户。
2. 键入在**Password及Confirm Password**对话框的一个密码。
3. 清除**用户必须在下次登录字段更改密码并且其次单击**。
4. 打开**用户TAC**属性框。切换至**拨入**选项卡。在**远程访问权限 (拨入或 VPN)**下，单击“允许访问”，然后单击“确定”。

配置用户，如果活动目录没有安装

如果活动目录没有安装，此部分显示步骤配置用户：

1. 从**Administrative Tools**部分，请点击**计算机管理**。展开**计算机管理控制台**，然后单击“本地用户和组”。用鼠标右键单击在**用户**滚动条选择**新用户**。创建一个名为 tac 的新用户。
2. 键入在**Password及Confirm Password**对话框的一个密码。
3. 清除**用户下次登录时须更改密码**选项，然后单击“下一步”。
4. 打开**新用户**呼叫**TAC**的属性框。切换至**拨入**选项卡。在**远程访问权限 (拨入或 VPN)**下，单击“允许访问”，然后单击“确定”。

将远程访问策略应用于 Windows 用户

此部分显示步骤运用Remote access Policy对Windows用户：

1. 从**管理工具**，请打开**互联网验证服务器控制台**并且点击**Remote access Policy**。
2. 点击**Add按钮**在**Specify the Conditions to Match**，并且添加**服务类型**。选择可用的类型如**成帧**并且添加它到**Selected Types列表**。按确定。
3. 单击“指定匹配条件”上的**添加按钮**，然后添加“帧协议”。选择可用的类型作为**ppp**并且添加它到**Selected Types列表**。按确定。
4. 单击“指定匹配条件”上的**添加按钮**，然后添加“Windows 组”，以添加用户所属的 Windows 组。选择组并且添加它到**所选类型**并且按**OK**。
5. 在**Allow Access if Dial-in Permission is Enabled**属性，请选择**批准远程接入**。
6. 关闭控制台。

为 PPTP 配置 Windows 2000 客户端

下面的部分显示步骤配置PPTP的Windows 2000客户端：

1. 从**开始菜单**，请选择**设置**，然后：**控制面板和网络和拨号连接**或者**网络和拨号连接**然后**Make New Connection**。请使用**向导**创建呼叫**PPTP**的连接。此连接通过 Internet 连接到专用网络。您也需要指定PPTP网络服务器(PNS) IP地址或名称。
2. 新连接显示在“控制面板”下的**网络和拨号连接**窗口中。从这里，请点击右边的鼠标按钮编辑其属性。在**Networking选项**下，请确保**Type Of Server I Am Calling**字段设置为**PPTP**。如果计划从网关分配对此客户端的一个动态内部地址，通过本地池或动态主机配置协议(DHCP)，选择**TCP/IP协议**并确保客户端配置自动地获取IP地址。您可以自动地也发出DNS信息。**高级按钮**允许您定义静态Windows Internet Naming Service (WINS)和DNS信息。**选项卡**允许您关闭IPSec或分配一项不同的策略到连接。
3. 在**安全选项卡**下，您能定义用户验证参数。例如，PAP、CHAP或者MS-CHAP或者Windows登陆。一旦连接配置，您能双击对此显示登录画面然后连接。

配置

使用下列路由器配置，用户能连接用户名**TAC**和密码**admin**，即使RADIUS服务器不可用(这是可能的，当Microsoft IAS将配置)时。以下配置示例概述L2TP的required命令，不用IPSec。

安格拉

```
angela#show running-config Building configuration...
Current configuration : 1606 bytes ! version 12.1 no
service single-slot-reload-enable service timestamps
debug datetime msec service timestamps log datetime msec
no service password-encryption ! hostname angela !
logging rate-limit console 10 except errors !---Enable
AAA services here aaa new-model aaa authentication login
default group radius local aaa authentication login
console none aaa authentication ppp default group radius
local aaa authorization network default group radius
local enable password ! username tac password 0 admin
memory-size iomem 30 ip subnet-zero ! ! no ip finger no
ip domain-lookup ip host rund 172.17.247.195 ! ip audit
notify log ip audit po max-events 100 ip address-pool
local !---Enable VPN/Virtual Private Dialup Network
(VPDN) services !---and define groups and their
respective parameters. vpdn enable no vpdn logging ! !
vpdn-group PPTP_WIN2KClient !---Default PPTP VPDN group
!---Allow the router to accept incoming Requests accept-
dialin protocol pptp virtual-template 1 ! ! ! call rsvp-
sync ! ! ! ! ! ! controller E1 2/0 ! ! interface
```

```
Loopback0 ip address 172.16.10.100 255.255.255.0 !
interface Ethernet0/0 ip address 10.200.20.2
255.255.255.0 half-duplex ! interface Virtual-Templatel
ip unnumbered Loopback0 peer default ip address pool
default !--- The following encryption command is
optional !--- and could be added later. ppp encrypt mppe
40 ppp authentication ms-chap ! ip local pool default
172.16.10.1 172.16.10.10 ip classless ip route 0.0.0.0
0.0.0.0 10.200.20.1 ip route 192.168.1.0 255.255.255.0
10.200.20.250 no ip http server ! radius-server host
10.200.20.245 auth-port 1645 acct-port 1646 radius-
server retransmit 3 radius-server key cisco ! dial-peer
cor custom ! ! ! ! ! line con 0 exec-timeout 0 0 login
authentication console transport input none line 33 50
modem InOut line aux 0 line vty 0 4 exec-timeout 0 0
password ! end angela#show debug General OS: AAA
Authentication debugging is on AAA Authorization
debugging is on PPP: MPPE Events debugging is on PPP
protocol negotiation debugging is on VPN: L2X protocol
events debugging is on L2X protocol errors debugging is
on VPDN events debugging is on VPDN errors debugging is
on Radius protocol debugging is on angela# *Mar 7
04:21:07.719: L2X: TCP connect reqd from 0.0.0.0:2000
*Mar 7 04:21:07.991: Tnl 29 PPTP: Tunnel created; peer
initiated *Mar 7 04:21:08.207: Tnl 29 PPTP: SCCRQ-ok ->
state change wt-sccrq to estabd *Mar 7 04:21:09.267:
VPDN: Session vaccess task running *Mar 7 04:21:09.267:
Vil VPDN: Virtual interface created *Mar 7 04:21:09.267:
Vil VPDN: Clone from Vtemplate 1 *Mar 7 04:21:09.343:
Tnl/Cl 29/29 PPTP: VAccess created *Mar 7 04:21:09.343:
Vil Tnl/Cl 29/29 PPTP: vacc-ok -> #state change wt-vacc
to estabd *Mar 7 04:21:09.343: Vil VPDN: Bind interface
direction=2 *Mar 7 04:21:09.347: %LINK-3-UPDOWN:
Interface Virtual-Access1, changed state to up *Mar 7
04:21:09.347: Vil PPP: Using set call direction *Mar 7
04:21:09.347: Vil PPP: Treating connection as a callin
*Mar 7 04:21:09.347: Vil PPP: Phase is ESTABLISHING,
Passive Open [0 sess, 0 load] *Mar 7 04:21:09.347: Vil
LCP: State is Listen *Mar 7 04:21:10.347: %LINEPROTO-5-
UPDOWN: Line protocol on Interface Virtual-Access1,
changed state to up *Mar 7 04:21:11.347: Vil LCP:
TIMEout: State Listen *Mar 7 04:21:11.347: Vil
AAA/AUTHOR/FSM: (0): LCP succeeds trivially *Mar 7
04:21:11.347: Vil LCP: O CONFREQ [Listen] id 7 len 15
*Mar 7 04:21:11.347: Vil LCP: AuthProto MS-CHAP
(0x0305C22380) *Mar 7 04:21:11.347: Vil LCP: MagicNumber
0x3050EB1F (0x05063050EB1F) *Mar 7 04:21:11.635: Vil
LCP: I CONFACK [REQsent] id 7 len 15 *Mar 7
04:21:11.635: Vil LCP: AuthProto MS-CHAP (0x0305C22380)
*Mar 7 04:21:11.635: Vil LCP: MagicNumber 0x3050EB1F
(0x05063050EB1F) *Mar 7 04:21:13.327: Vil LCP: I CONFREQ
[ACKrcvd] id 1 len 44 *Mar 7 04:21:13.327: Vil LCP:
MagicNumber 0x35BE1CB0 (0x050635BE1CB0) *Mar 7
04:21:13.327: Vil LCP: PFC (0x0702) *Mar 7 04:21:13.327:
Vil LCP: ACFC (0x0802) *Mar 7 04:21:13.327: Vil LCP:
Callback 6 (0x0D0306) *Mar 7 04:21:13.327: Vil LCP: MRRU
1614 (0x1104064E) *Mar 7 04:21:13.327: Vil LCP:
EndpointDisc 1 Local *Mar 7 04:21:13.327: Vil LCP:
(0x1317016AC616B006CC4281A1CA941E39) *Mar 7
04:21:13.331: Vil LCP: (0xB9182600000008) *Mar 7
04:21:13.331: Vil LCP: O CONFREQ [ACKrcvd] id 1 len 34
*Mar 7 04:21:13.331: Vil LCP: Callback 6 (0x0D0306) *Mar
7 04:21:13.331: Vil LCP: MRRU 1614 (0x1104064E) *Mar 7
04:21:13.331: Vil LCP: EndpointDisc 1 Local *Mar 7
```

```
04:21:13.331: Vil LCP:
(0x1317016AC616B006CC4281A1CA941E39) *Mar 7
04:21:13.331: Vil LCP: (0xB9182600000008) *Mar 7
04:21:13.347: Vil LCP: TIMEOUT: State ACKrcvd *Mar 7
04:21:13.347: Vil LCP: O CONFREQ [ACKrcvd] id 8 len 15
*Mar 7 04:21:13.347: Vil LCP: AuthProto MS-CHAP
(0x0305C22380) *Mar 7 04:21:13.347: Vil LCP: MagicNumber
0x3050EB1F (0x05063050EB1F) *Mar 7 04:21:13.647: Vil
LCP: I CONFREQ [REQsent] id 2 len 14 *Mar 7
04:21:13.651: Vil LCP: MagicNumber 0x35BE1CB0
(0x050635BE1CB0) *Mar 7 04:21:13.651: Vil LCP: PFC
(0x0702) *Mar 7 04:21:13.651: Vil LCP: ACFC (0x0802)
*Mar 7 04:21:13.651: Vil LCP: O CONFACK [REQsent] id 2
len 14 *Mar 7 04:21:13.651: Vil LCP: MagicNumber
0x35BE1CB0 (0x050635BE1CB0) *Mar 7 04:21:13.651: Vil
LCP: PFC (0x0702) *Mar 7 04:21:13.651: Vil LCP: ACFC
(0x0802) *Mar 7 04:21:13.723: Vil LCP: I CONFACK
[ACKsent] id 8 len 15 *Mar 7 04:21:13.723: Vil LCP:
AuthProto MS-CHAP (0x0305C22380) *Mar 7 04:21:13.723:
Vil LCP: MagicNumber 0x3050EB1F (0x05063050EB1F) *Mar 7
04:21:13.723: Vil LCP: State is Open *Mar 7
04:21:13.723: Vil PPP: Phase is AUTHENTICATING, by this
end [0 sess, 0 load] *Mar 7 04:21:13.723: Vil MS-CHAP: O
CHALLENGE id 20 len 21 from "angela " *Mar 7
04:21:14.035: Vil LCP: I IDENTIFY [Open] id 3 len 18
magic 0x35BE1CB0 MSRASV5.00 *Mar 7 04:21:14.099: Vil
LCP: I IDENTIFY [Open] id 4 len 24 magic 0x35BE1CB0
MSRAS-1-RSHANMUG *Mar 7 04:21:14.223: Vil MS-CHAP: I
RESPONSE id 20 len 57 from "tac" *Mar 7 04:21:14.223:
AAA: parse name=Virtual-Access1 idb type=21 tty=-1 *Mar
7 04:21:14.223: AAA: name=Virtual-Access1 flags=0x11
type=5 shelf=0 slot=0 adapter=0 port=1 channel=0 *Mar 7
04:21:14.223: AAA/MEMORY: create_user (0x62740E7C)
user='tac' ruser='' port='Virtual-Access1' rem_addr=''
authen_type=MSCHAP service=PPP priv=1 *Mar 7
04:21:14.223: AAA/AUTHEN/START (2474402925):
port='Virtual-Access1' list='' action=LOGIN service=PPP
*Mar 7 04:21:14.223: AAA/AUTHEN/START (2474402925):
using "default" list *Mar 7 04:21:14.223:
AAA/AUTHEN/START (2474402925): Method=radius (radius)
*Mar 7 04:21:14.223: RADIUS: ustruct sharecount=0 *Mar 7
04:21:14.223: RADIUS: Initial Transmit Virtual-Access1
id 116 10.200.20.245:1645, Access-Request, len 129 *Mar
7 04:21:14.227: Attribute 4 6 0AC81402 *Mar 7
04:21:14.227: Attribute 5 6 00000001 *Mar 7
04:21:14.227: Attribute 61 6 00000005 *Mar 7
04:21:14.227: Attribute 1 5 7461631A *Mar 7
04:21:14.227: Attribute 26 16 000001370B0AFD11 *Mar 7
04:21:14.227: Attribute 26 58 0000013701341401 *Mar 7
04:21:14.227: Attribute 6 6 00000002 *Mar 7
04:21:14.227: Attribute 7 6 00000001 *Mar 7
04:21:14.239: RADIUS: Received from id 116
10.200.20.245:1645, Access-Accept, len 116 *Mar 7
04:21:14.239: Attribute 7 6 00000001 *Mar 7
04:21:14.239: Attribute 6 6 00000002 *Mar 7
04:21:14.239: Attribute 25 32 64080750 *Mar 7
04:21:14.239: Attribute 26 40 000001370C223440 *Mar 7
04:21:14.239: Attribute 26 12 000001370A06144E *Mar 7
04:21:14.239: AAA/AUTHEN (2474402925): status = PASS
*Mar 7 04:21:14.243: Vil AAA/AUTHOR/LCP: Authorize LCP
*Mar 7 04:21:14.243: Vil AAA/AUTHOR/LCP (2434357606):
Port='Virtual-Access1' list='' service=NET *Mar 7
04:21:14.243: AAA/AUTHOR/LCP: Vil (2434357606)
user='tac' *Mar 7 04:21:14.243: Vil AAA/AUTHOR/LCP
```

```
(2434357606): send AV service=ppp *Mar 7 04:21:14.243:
Vil AAA/AUTHOR/LCP (2434357606): send AV protocol=lcp
*Mar 7 04:21:14.243: Vil AAA/AUTHOR/LCP (2434357606):
found list "default" *Mar 7 04:21:14.243: Vil
AAA/AUTHOR/LCP (2434357606): Method=radius (radius) *Mar
7 04:21:14.243: RADIUS: unrecognized Microsoft VSA type
10 *Mar 7 04:21:14.243: Vil AAA/AUTHOR (2434357606):
Post authorization status = PASS_REPL *Mar 7
04:21:14.243: Vil AAA/AUTHOR/LCP: Processing AV
service=ppp *Mar 7 04:21:14.243: Vil AAA/AUTHOR/LCP:
Processing AV
mschap_mppe_keys*1p1T11=lv101~11a1W11151\1V1M1#11Z1`1k1}
111 *Mar 7 04:21:14.243: Vil MS-CHAP: O SUCCESS id 20
len 4 *Mar 7 04:21:14.243: Vil PPP: Phase is UP [0 sess,
0 load] *Mar 7 04:21:14.247: Vil AAA/AUTHOR/FSM: (0):
Can we start IPCP? *Mar 7 04:21:14.247: Vil
AAA/AUTHOR/FSM (1553311212): Port='Virtual-Access1'
list='' service=NET *Mar 7 04:21:14.247: AAA/AUTHOR/FSM:
Vil (1553311212) user='tac' *Mar 7 04:21:14.247: Vil
AAA/AUTHOR/FSM (1553311212): send AV service=ppp *Mar 7
04:21:14.247: Vil AAA/AUTHOR/FSM (1553311212): send AV
protocol=ip *Mar 7 04:21:14.247: Vil AAA/AUTHOR/FSM
(1553311212): found list "default" *Mar 7 04:21:14.247:
Vil AAA/AUTHOR/FSM (1553311212): Method=radius (radius)
*Mar 7 04:21:14.247: RADIUS: unrecognized Microsoft VSA
type 10 *Mar 7 04:21:14.247: Vil AAA/AUTHOR
(1553311212): Post authorization status = PASS_REPL *Mar
7 04:21:14.247: Vil AAA/AUTHOR/FSM: We can start IPCP
*Mar 7 04:21:14.247: Vil IPCP: O CONFREQ [Not
negotiated] id 4 len 10 *Mar 7 04:21:14.247: Vil IPCP:
Address 172.16.10.100 (0x0306AC100A64) *Mar 7
04:21:14.247: Vil AAA/AUTHOR/FSM: (0): Can we start CCP?
*Mar 7 04:21:14.247: Vil AAA/AUTHOR/FSM (3663845178):
Port='Virtual-Access1' list='' service=NET *Mar 7
04:21:14.251: AAA/AUTHOR/FSM: Vil (3663845178)
user='tac' *Mar 7 04:21:14.251: Vil AAA/AUTHOR/FSM
(3663845178): send AV service=ppp *Mar 7 04:21:14.251:
Vil AAA/AUTHOR/FSM (3663845178): send AV protocol=ccp
*Mar 7 04:21:14.251: Vil AAA/AUTHOR/FSM (3663845178):
found list "default" *Mar 7 04:21:14.251: Vil
AAA/AUTHOR/FSM (3663845178): Method=radius (radius) *Mar
7 04:21:14.251: RADIUS: unrecognized Microsoft VSA type
10 *Mar 7 04:21:14.251: Vil AAA/AUTHOR (3663845178):
Post authorization status = PASS_REPL *Mar 7
04:21:14.251: Vil AAA/AUTHOR/FSM: We can start CCP *Mar
7 04:21:14.251: Vil CCP: O CONFREQ [Closed] id 3 len 10
*Mar 7 04:21:14.251: Vil CCP: MS-PPC supported bits
0x01000020 (0x120601000020) *Mar 7 04:21:14.523: Vil
CCP: I CONFREQ [REQsent] id 5 len 10 *Mar 7
04:21:14.523: Vil CCP: MS-PPC supported bits 0x010000F1
(0x1206010000F1) *Mar 7 04:21:14.523: Vil MPPE: don't
understand all options, NAK *Mar 7 04:21:14.523: Vil
AAA/AUTHOR/FSM: Check for unauthorized mandatory AV's
*Mar 7 04:21:14.523: Vil AAA/AUTHOR/FSM: Processing AV
service=ppp *Mar 7 04:21:14.523: Vil AAA/AUTHOR/FSM:
Processing AV
mschap_mppe_keys*1p1T11=lv101~11a1W11151\1V1M1#11Z1`1k1}
111 *Mar 7 04:21:14.523: Vil AAA/AUTHOR/FSM: Succeeded
*Mar 7 04:21:14.523: Vil CCP: O CONFNAK [REQsent] id 5
len 10 *Mar 7 04:21:14.523: Vil CCP: MS-PPC supported
bits 0x01000020 (0x120601000020) *Mar 7 04:21:14.607:
Vil IPCP: I CONFREQ [REQsent] id 6 len 34 *Mar 7
04:21:14.607: Vil IPCP: Address 0.0.0.0 (0x030600000000)
*Mar 7 04:21:14.607: Vil IPCP: PrimaryDNS 0.0.0.0
```

```
(0x810600000000) *Mar 7 04:21:14.607: Vil IPCP:
PrimaryWINS 0.0.0.0 (0x820600000000) *Mar 7
04:21:14.607: Vil IPCP: SecondaryDNS 0.0.0.0
(0x830600000000) *Mar 7 04:21:14.607: Vil IPCP:
SecondaryWINS 0.0.0.0 (0x840600000000) *Mar 7
04:21:14.607: Vil AAA/AUTHOR/IPCP: Start. Her address
0.0.0.0, we want 0.0.0.0 *Mar 7 04:21:14.607: Vil
AAA/AUTHOR/IPCP: Processing AV service=ppp *Mar 7
04:21:14.607: Vil AAA/AUTHOR/IPCP: Processing AV
mschap_mppe_keys*lp1T11=lv101~11a1W11151\1V1M1#11Z1`1k1}
111 *Mar 7 04:21:14.607: Vil AAA/AUTHOR/IPCP:
Authorization succeeded *Mar 7 04:21:14.607: Vil
AAA/AUTHOR/IPCP: Done. Her address 0.0.0.0, we want
0.0.0.0 *Mar 7 04:21:14.607: Vil IPCP: Pool returned
172.16.10.1 *Mar 7 04:21:14.607: Vil IPCP: O CONFREJ
[REQsent] id 6 len 28 *Mar 7 04:21:14.607: Vil IPCP:
PrimaryDNS 0.0.0.0 (0x810600000000) *Mar 7 04:21:14.611:
Vil IPCP: PrimaryWINS 0.0.0.0 (0x820600000000) *Mar 7
04:21:14.611: Vil IPCP: SecondaryDNS 0.0.0.0
(0x830600000000) *Mar 7 04:21:14.611: Vil IPCP:
SecondaryWINS 0.0.0.0 (0x840600000000) *Mar 7
04:21:14.675: Vil IPCP: I CONFACK [REQsent] id 4 len 10
*Mar 7 04:21:14.675: Vil IPCP: Address 172.16.10.100
(0x0306AC100A64) *Mar 7 04:21:14.731: Vil CCP: I CONFACK
[REQsent] id 3 len 10 *Mar 7 04:21:14.731: Vil CCP: MS-
PPC supported bits 0x01000020 (0x120601000020) *Mar 7
04:21:14.939: Vil CCP: I CONFREQ [ACKrcvd] id 7 len 10
*Mar 7 04:21:14.939: Vil CCP: MS-PPC supported bits
0x01000020 (0x120601000020) *Mar 7 04:21:14.939: Vil
AAA/AUTHOR/FSM: Check for unauthorized mandatory AV's
*Mar 7 04:21:14.939: Vil AAA/AUTHOR/FSM: Processing AV
service=ppp *Mar 7 04:21:14.939: Vil AAA/AUTHOR/FSM:
Processing AV
mschap_mppe_keys*lp1T11=lv101~11a1W11151\1V1M1#11Z1`1k1}
111 *Mar 7 04:21:14.939: Vil AAA/AUTHOR/FSM: Succeeded
*Mar 7 04:21:14.939: Vil CCP: O CONFACK [ACKrcvd] id 7
len 10 *Mar 7 04:21:14.939: Vil CCP: MS-PPC supported
bits 0x01000020 (0x120601000020) *Mar 7 04:21:14.943:
Vil CCP: State is Open *Mar 7 04:21:14.943: Vil MPPE:
Generate keys using RADIUS data *Mar 7 04:21:14.943: Vil
MPPE: Initialize keys *Mar 7 04:21:14.943: Vil MPPE: [40
bit encryption] [stateless mode] *Mar 7 04:21:14.991:
Vil IPCP: I CONFREQ [ACKrcvd] id 8 len 10 *Mar 7
04:21:14.991: Vil IPCP: Address 0.0.0.0 (0x030600000000)
*Mar 7 04:21:14.991: Vil AAA/AUTHOR/IPCP: Start. Her
address 0.0.0.0, we want 172.16.10.1 *Mar 7
04:21:14.991: Vil AAA/AUTHOR/IPCP: Processing AV
service=ppp *Mar 7 04:21:14.995: Vil AAA/AUTHOR/IPCP:
Processing AV
mschap_mppe_keys*lp1T11=lv101~11a1W11151\1V1M1#11Z1`1k1}
111 *Mar 7 04:21:14.995: Vil AAA/AUTHOR/IPCP:
Authorization succeeded *Mar 7 04:21:14.995: Vil
AAA/AUTHOR/IPCP: Done. Her address 0.0.0.0, we want
172.16.10.1 *Mar 7 04:21:14.995: Vil IPCP: O CONFNAK
[ACKrcvd] id 8 len 10 *Mar 7 04:21:14.995: Vil IPCP:
Address 172.16.10.1 (0x0306AC100A01) *Mar 7
04:21:15.263: Vil IPCP: I CONFREQ [ACKrcvd] id 9 len 10
*Mar 7 04:21:15.263: Vil IPCP: Address 172.16.10.1
(0x0306AC100A01) *Mar 7 04:21:15.263: Vil
AAA/AUTHOR/IPCP: Start. Her address 172.16.10.1, we want
172.16.10.1 *Mar 7 04:21:15.267: Vil AAA/AUTHOR/IPCP
(2052567766): Port='Virtual-Access1' list='' service=NET
*Mar 7 04:21:15.267: AAA/AUTHOR/IPCP: Vil (2052567766)
user='tac' *Mar 7 04:21:15.267: Vil AAA/AUTHOR/IPCP
```



```
(2052567766): send AV service=ppp *Mar 7 04:21:15.267:
Vil AAA/AUTHOR/IPCP (2052567766): send AV protocol=ip
*Mar 7 04:21:15.267: Vil AAA/AUTHOR/IPCP (2052567766):
send AV addr*172.16.10.1 *Mar 7 04:21:15.267: Vil
AAA/AUTHOR/IPCP (2052567766): found list "default" *Mar
7 04:21:15.267: Vil AAA/AUTHOR/IPCP (2052567766):
Method=radius (radius) *Mar 7 04:21:15.267: RADIUS:
unrecognized Microsoft VSA type 10 *Mar 7 04:21:15.267:
Vil AAA/AUTHOR (2052567766): Post authorization status =
PASS_REPL *Mar 7 04:21:15.267: Vil AAA/AUTHOR/IPCP:
Reject 172.16.10.1, using 172.16.10.1 *Mar 7
04:21:15.267: Vil AAA/AUTHOR/IPCP: Processing AV
service=ppp *Mar 7 04:21:15.267: Vil AAA/AUTHOR/IPCP:
Processing AV
mschap_mppe_keys*1p1T11=lv101~11a1W11151\1V1M1#11Z1`1k1}
111 *Mar 7 04:21:15.267: Vil AAA/AUTHOR/IPCP: Processing
AV addr*172.16.10.1 *Mar 7 04:21:15.267: Vil
AAA/AUTHOR/IPCP: Authorization succeeded *Mar 7
04:21:15.267: Vil AAA/AUTHOR/IPCP: Done. Her address
172.16.10.1, we want 172.16.10.1 *Mar 7 04:21:15.271:
Vil IPCP: O CONFACK [ACKrcvd] id 9 len 10 *Mar 7
04:21:15.271: Vil IPCP: Address 172.16.10.1
(0x0306AC100A01) *Mar 7 04:21:15.271: Vil IPCP: State is
Open *Mar 7 04:21:15.271: Vil IPCP: Install route to
172.16.10.1 *Mar 7 04:21:22.571: Vil LCP: I ECHOREP
[Open] id 1 len 12 magic 0x35BE1CB0 *Mar 7 04:21:22.571:
Vil LCP: Received id 1, sent id 1, line up *Mar 7
04:21:30.387: Vil LCP: I ECHOREP [Open] id 2 len 12
magic 0x35BE1CB0 *Mar 7 04:21:30.387: Vil LCP: Received
id 2, sent id 2, line up angela#show vpdn %No active
L2TP tunnels %No active L2F tunnels PPTP Tunnel and
Session Information Total tunnels 1 sessions 1 LocID
Remote Name State Remote Address Port Sessions 29 estabd
192.168.1.47 2000 1 LocID RemID TunID Intf Username
State Last Chg 29 32768 29 Vil tac estabd 00:00:31 %No
active PPPoE tunnels angela# *Mar 7 04:21:40.471: Vil
LCP: I ECHOREP [Open] id 3 len 12 magic 0x35BE1CB0 *Mar
7 04:21:40.471: Vil LCP: Received id 3, sent id 3, line
up *Mar 7 04:21:49.887: Vil LCP: I ECHOREP [Open] id 4
len 12 magic 0x35BE1CB0 *Mar 7 04:21:49.887: Vil LCP:
Received id 4, sent id 4, line up angela#ping
192.168.1.47 Type escape sequence to abort. Sending 5,
100-byte ICMP Echos to 192.168.1.47, timeout is 2
seconds: !!!!! Success rate is 100 percent (5/5), round-
trip min/avg/max = 484/584/732 ms *Mar 7 04:21:59.855:
Vil LCP: I ECHOREP [Open] id 5 len 12 magic 0x35BE1CB0
*Mar 7 04:21:59.859: Vil LCP: Received id 5, sent id 5,
line up *Mar 7 04:22:06.323: Tnl 29 PPTP: timeout ->
state change estabd to estabd *Mar 7 04:22:08.111: Tnl
29 PPTP: EchoRQ -> state change estabd to estabd *Mar 7
04:22:08.111: Tnl 29 PPTP: EchoRQ -> echo state change
Idle to Idle *Mar 7 04:22:09.879: Vil LCP: I ECHOREP
[Open] id 6 len 12 magic 0x35BE1CB0 *Mar 7 04:22:09.879:
Vil LCP: Received id 6, sent id 6, line up angela#ping
172.16.10.1 Type escape sequence to abort. Sending 5,
100-byte ICMP Echos to 172.16.10.1, timeout is 2
seconds: !!!!! Success rate is 100 percent (5/5), round-
trip min/avg/max = 584/707/1084 ms *Mar 7 04:22:39.863:
Vil LCP: I ECHOREP [Open] id 7 len 12 magic 0x35BE1CB0
*Mar 7 04:22:39.863: Vil LCP: Received id 7, sent id 7,
line up angela#clear vpdn tunnel pptp tac Could not find
specified tunnel angela#show vpdn tunnel %No active L2TP
tunnels %No active L2F tunnels PPTP Tunnel Information
Total tunnels 1 sessions 1 LocID Remote Name State
```

```
Remote Address Port Sessions 29 estabd 192.168.1.47 2000
1 %No active PPPoE tunnels angela# *Mar 7 04:23:05.347:
Tnl 29 PPTP: timeout -> state change estabd to estabd
angela# *Mar 7 04:23:08.019: Tnl 29 PPTP: EchoRQ ->
state change estabd to estabd *Mar 7 04:23:08.019: Tnl
29 PPTP: EchoRQ -> echo state change Idle to Idle
angela# *Mar 7 04:23:09.887: Vi1 LCP: I ECHOREP [Open]
id 10 len 12 magic 0x35BE1CB0 *Mar 7 04:23:09.887: Vi1
LCP: Received id 10, sent id 10, line up
```

验证

本部分所提供的信息可用于确认您的配置是否正常工作。

输出解释器工具支持某些 **show** 命令（只限于注册用户），通过它可以查看 **show** 命令输出的分析。

- **show vpdn** -显示关于活动第2层转发(L2F)协议隧道和消息标识符的信息在VPDN。您能也使用**show vpdn ?**看到其他特定VPDN的显示命令。

故障排除

本部分提供的信息可用于对配置进行故障排除。

故障排除命令

输出解释器工具支持某些 **show** 命令（只限于注册用户），通过它可以查看 **show** 命令输出的分析。

注意： 在发出 **debug** 命令之前，请参阅[有关 Debug 命令的重要信息](#)。

- **debug aaa authentication** -显示关于AAA/TACACS+验证的信息。
- **debug aaa authorization** -显示关于AAA/TACACS+特权的信息。
- **debug ppp negotiation** - 显示在 PPP 启动期间传输的 PPP 数据包，在此启动期间将协商 PPP 选项。
- **debug ppp authentication** -显示认证协议消息，包括质询验证协议(CHAP)信息包交换和密码认证协议交换。
- **debug radius** -显示详细的调试信息关联与RADIUS。如果验证工作，但是有与MPPE加密的问题，请使用其中一个下面调试指令。
- **debug ppp mppe packet** -显示所有流入流出的MPPE流量。
- **debug ppp mppe event** -显示关键MPPE出现。
- **debug ppp mppe detailed** -显示冗长MPPE信息。
- **debug vpdn l2x-packets** -显示关于L2F协议报头和状态的消息。
- **debug vpdn events** -显示关于正常隧道建立的一部分或关闭的事件的消息。
- **debug vpdn errors** -显示防止一个通道设立造成一个已建隧道关闭的错误或错误。
- **debug vpdn packets** -显示被交换的每个协议信息包。此选项可能会导致出现大量的调试消息，因此通常只应在具有单个活动会话的调试机箱中使用。

分割隧道

让我们假设网关路由器是ISP路由器。当PPTP通道在PC时出来，PPTP路由比上一个默认安装与高度量标准，因此我们丢失Internet连接。补救此，修改Microsoft路由删除默认和重新安装默认路由（这要求知道IP地址PPTP客户端分配;对于当前示例，这是172.16.10.1）：

```
route delete 0.0.0.0
route add 0.0.0.0 mask 0.0.0.0 192.168.1.47 metric 1
route add 172.16.10.1 mask 255.255.255.0 192.168.1.47 metric 1
```

如果客户端没有进行加密配置

在用于PPTP会话的拨号连接的**安全选项卡**下，您能定义用户验证参数。例如，这可以是PAP、CHAP、MS-CHAP或者Windows登陆。如果选择**允许的不加密**(服务器断开，如果要求加密)在VPN连接的**Properties**部分的选项，您可以发现在客户端的一PPTP错误消息：

```
Registering your computer on the network..
Error 734: The PPP link control protocol was terminated.
Debugs on the router:
*Mar 8 22:38:52.496: Vi1 AAA/AUTHOR/FSM: Check for unauthorized mandatory
AV's
*Mar 8 22:38:52.496: Vi1 AAA/AUTHOR/FSM: Processing AV service=ppp
*Mar 8 22:38:52.496: Vi1 AAA/AUTHOR/FSM: Processing AV protocol=ccp
*Mar 8 22:38:52.496: Vi1 AAA/AUTHOR/FSM: Succeeded
*Mar 8 22:38:52.500: Vi1 CCP: O CONFACK [ACKrcvd] id 7 len 10
*Mar 8 22:38:52.500: Vi1 CCP: MS-PPC supported bits 0x01000020
(0x120601000020)
*Mar 8 22:38:52.500: Vi1 CCP: State is Open
*Mar 8 22:38:52.500: Vi1 MPPE: RADIUS keying material missing
*Mar 8 22:38:52.500: Vi1 CCP: O TERMREQ [Open] id 5 len 4
*Mar 8 22:38:52.524: Vi1 IPCP: I CONFREQ [ACKrcvd] id 8 len 10
*Mar 8 22:38:52.524: Vi1 IPCP: Address 0.0.0.0 (0x030600000000)
*Mar 8 22:38:52.524: Vi1 AAA/AUTHOR/IPCP: Start.
Her address 0.0.0.0, we want 172.16.10.1
*Mar 8 22:38:52.524: Vi1 AAA/AUTHOR/IPCP: Processing AV service=ppp
*Mar 8 22:38:52.524: Vi1 AAA/AUTHOR/IPCP: Processing AV protocol=ip
*Mar 8 22:38:52.524: Vi1 AAA/AUTHOR/IPCP: Authorization succeeded
*Mar 8 22:38:52.524: Vi1 AAA/AUTHOR/IPCP: Done.
Her address 0.0.0.0, we want 172.16.10.1
*Mar 8 22:38:52.524: Vi1 IPCP: O CONFNAK [ACKrcvd] id 8 len 10
*Mar 8 22:38:52.524: Vi1 IPCP: Address 172.16.10.1 (0x0306AC100A01)
*Mar 8 22:38:52.640: Vi1 CCP: I TERMACK [TERMsent] id 5 len 4
*Mar 8 22:38:52.640: Vi1 CCP: State is Closed
*Mar 8 22:38:52.640: Vi1 MPPE: Required encryption not negotiated
*Mar 8 22:38:52.640: Vi1 IPCP: State is Closed
*Mar 8 22:38:52.640: Vi1 PPP: Phase is TERMINATING [0 sess, 0 load]
*Mar 8 22:38:52.640: Vi1 LCP: O TERMREQ [Open] id 13 len 4
*Mar 8 22:38:52.660: Vi1 IPCP: LCP not open, discarding packet
*Mar 8 22:38:52.776: Vi1 LCP: I TERMACK [TERMsent] id 13 len 4
*Mar 8 22:38:52.776: Vi1 AAA/AUTHOR/FSM: (0): LCP succeeds trivially
*Mar 8 22:38:52.780: Vi1 LCP: State is Closed
*Mar 8 22:38:52.780: Vi1 PPP: Phase is DOWN [0 sess, 0 load]
*Mar 8 22:38:52.780: Vi1 VPDN: Cleanup
*Mar 8 22:38:52.780: Vi1 VPDN: Reset
*Mar 8 22:38:52.780: Vi1
Tnl/Cl 33/33 PPTP: close -> state change estabd to terminal
*Mar 8 22:38:52.780: Vi1 Tnl/Cl 33/33 PPTP:
Destroying session, trace follows:
*Mar 8 22:38:52.780: -Traceback= 60C4A150 60C4AE48 60C49F68 60C4B5AC
60C30450 60C18B10 60C19238 60602CC4 605FC380 605FB730 605FD614 605F72A8
6040DE0C 6040DDF8
*Mar 8 22:38:52.784: Vi1 Tnl/Cl 33/33 PPTP:
Releasing idb for tunnel 33 session 33
*Mar 8 22:38:52.784: Vi1 VPDN: Reset
```

```
*Mar 8 22:38:52.784: Tnl 33 PPTP:
no-sess -> state change estabd to wt-stprp
*Mar 8 22:38:52.784: Vi1 VPDN: Unbind interface
*Mar 8 22:38:52.784: Vi1 VPDN: Unbind interface
*Mar 8 22:38:52.784: Vi1 VPDN: Reset
*Mar 8 22:38:52.784: Vi1 VPDN: Unbind interface
```

如果客户端经过加密配置而路由器却没有

我们能看到在PC:的下列信息

```
Registering your computer on the network..
Error 742: The remote computer doesnt support the required data
encryption type.
On the Router:
*Mar 9 01:06:00.868: Vi2 CCP: I CONFREQ [Not negotiated] id 5 len 10
*Mar 9 01:06:00.868: Vi2 CCP: MS-PPC supported bits 0x010000B1
(0x1206010000B1)
*Mar 9 01:06:00.868: Vi2 LCP: O PROTREJ [Open] id 18 len 16 protocol CCP
(0x80FD0105000A1206010000B1)
*Mar 9 01:06:00.876: Vi2 IPCP: I CONFREQ [REQsent] id 6 len 34
*Mar 9 01:06:00.876: Vi2 IPCP: Address 0.0.0.0 (0x030600000000)
*Mar 9 01:06:00.876: Vi2 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
*Mar 9 01:06:00.876: Vi2 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
*Mar 9 01:06:00.876: Vi2 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
*Mar 9 01:06:00.876: Vi2 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
*Mar 9 01:06:00.880: Vi2 AAA/AUTHOR/IPCP: Start.
Her address 0.0.0.0, we want 0.0.0.0
*Mar 9 01:06:00.880: Vi2 AAA/AUTHOR/IPCP: Processing AV service=ppp
*Mar 9 01:06:00.880: Vi2 AAA/AUTHOR/IPCP: Processing AV
mschap_mppe_keys*1p1T11=1v1O1~11a1W11151\1V1M1#1
1Z1`1k1}111
*Mar 9 01:06:00.880: Vi2 AAA/AUTHOR/IPCP: Authorization succeeded
*Mar 9 01:06:00.880: Vi2 AAA/AUTHOR/IPCP: Done.
Her address 0.0.0.0, we want 0.0.0.0
*Mar 9 01:06:00.880: Vi2 IPCP: Pool returned 172.16.10.1
*Mar 9 01:06:00.880: Vi2 IPCP: O CONFREQ [REQsent] id 6 len 28
*Mar 9 01:06:00.880: Vi2 IPCP: PrimaryDNS 0.0.0.0 (0x810600000000)
*Mar 9 01:06:00.880: Vi2 IPCP: PrimaryWINS 0.0.0.0 (0x820600000000)
*Mar 9 01:06:00.880: Vi2 IPCP: SecondaryDNS 0.0.0.0 (0x830600000000)
*Mar 9 01:06:00.880: Vi2 IPCP: SecondaryWINS 0.0.0.0 (0x840600000000)
*Mar 9 01:06:00.884: Vi2 IPCP: I CONFACK [REQsent] id 8 len 10
*Mar 9 01:06:00.884: Vi2 IPCP: Address 172.16.10.100 (0x0306AC100A64)
*Mar 9 01:06:01.024: Vi2 LCP: I TERMREQ [Open] id 7 len 16
(0x79127FBE003CCD74000002E6)
*Mar 9 01:06:01.024: Vi2 LCP: O TERMACK [Open] id 7 len 4
*Mar 9 01:06:01.152: Vi2 Tnl/Cl 38/38 PPTP: ClearReq -> state change
estabd to terminal
*Mar 9 01:06:01.152: Vi2 Tnl/Cl 38/38 PPTP: Destroying session, trace
follows:
*Mar 9 01:06:01.152: -Traceback= 60C4A150 60C4AE48 60C49F68 60C4B2CC
60C4B558 60C485E0 60C486E0 60C48AB8 6040DE0C 6040DDF8
*Mar 9 01:06:01.156: Vi2 Tnl/Cl 38/38 PPTP: Releasing idb for tunnel 38
session 38
*Mar 9 01:06:01.156: Vi2 VPDN: Reset
*Mar 9 01:06:01.156: Tnl 38 PPTP: no-sess -> state change estabd to
wt-stprp
*Mar 9 01:06:01.160: %LINK-3-UPDOWN: Interface Virtual-Access2, changed
state to down
*Mar 9 01:06:01.160: Vi2 LCP: State is Closed
*Mar 9 01:06:01.160: Vi2 IPCP: State is Closed
*Mar 9 01:06:01.160: Vi2 PPP: Phase is DOWN [0 sess, 0 load]
*Mar 9 01:06:01.160: Vi2 VPDN: Cleanup
```

```
*Mar 9 01:06:01.160: Vi2 VPDN: Reset
*Mar 9 01:06:01.160: Vi2 VPDN: Unbind interface
*Mar 9 01:06:01.160: Vi2 VPDN: Unbind interface
*Mar 9 01:06:01.160: Vi2 VPDN: Reset
*Mar 9 01:06:01.160: Vi2 VPDN: Unbind interface
*Mar 9 01:06:01.160: AAA/MEMORY: free_user (0x6273D528) user='tac' ruser=''
port='Virtual-Access2' rem_addr='' authen_type=MSCHAP service=PPP priv=1
*Mar 9 01:06:01.324: Tnl 38 PPTP: StopCCRQ -> state change wt-stprp to wt-stprp
*Mar 9 01:06:01.324: Tnl 38 PPTP: Destroy tunnel
*Mar 9 01:06:02.160: %LINEPROTO-5-UPDOWN: Line protocol on Interface
Virtual-Access2, changed state to down
```

[对 PC 进行加密配置后禁用 MS-CHAP](#)

我们能看到在PC:的下列信息

The current encryption selection requires EAP or some version of MS-CHAP logon security methods.

如果用户指定不正确的用户名或密码，我们能看到以下输出。

在PC:

```
Verifying Username and Password..
Error 691: Access was denied because the username and/or password
was invalid on the domain.
```

在路由器上：

```
*Mar 9 01:13:43.192: RADIUS: Received from id 139 10.200.20.245:1645,
Access-Reject, len 42
*Mar 9 01:13:43.192: Attribute 26 22 0000013702101545
*Mar 9 01:13:43.192: AAA/AUTHEN (608505327): status = FAIL
*Mar 9 01:13:43.192: Vi2 CHAP: Unable to validate Response. Username tac:
Authentication failure
*Mar 9 01:13:43.192: Vi2 MS-CHAP: O FAILURE id 21 len 13 msg is "E=691 R=0"
*Mar 9 01:13:43.192: Vi2 PPP: Phase is TERMINATING [0 sess, 0 load]
*Mar 9 01:13:43.192: Vi2 LCP: O TERMREQ [Open] id 20 len 4
*Mar 9 01:13:43.196: AAA/MEMORY: free_user (0x62740E7C) user='tac'
ruser='' port='Virtual-Access2' rem_addr='' authen_type=MSCHAP service=PPP
priv=1
```

[当 RADIUS 服务器不能通讯时](#)

我们能看到在路由器的以下输出：

```
*Mar 9 01:18:32.944: RADIUS: Retransmit id 141
*Mar 9 01:18:42.944: RADIUS: Tried all servers.
*Mar 9 01:18:42.944: RADIUS: No valid server found. Trying any viable server
*Mar 9 01:18:42.944: RADIUS: Tried all servers.
*Mar 9 01:18:42.944: RADIUS: No response for id 141
*Mar 9 01:18:42.944: Radius: No response from server
*Mar 9 01:18:42.944: AAA/AUTHEN (374484072): status = ERROR
```

[相关信息](#)

- [PPTP with MPPE](#)
- [PPTP技术页](#)
- [了解 VPDN](#)
- [了解Radius](#)
- [配置用于Windows 路由器 PPTP 认证的 CiscoSecure ACS](#)

- [技术支持和文档 - Cisco Systems](#)