

使用静态路由的PPPoA会话终止：使用aal5ciscopp的xDSL到Cisco 6400 UAC

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简介

此配置示例启用PC连接对Cisco 677非对称数字用户线(ADSL)路由器通过Cisco 6130高级数字用户线路接入复用器(ADSLAM)连接到单个或多个Cisco通用接入集中器(UAC)。此配置使用的特定设备没有要求。例如，您能用Cisco 678替换Cisco 677。

此配置示例有对ADSL rollout是普通在Cisco 677启用的一些个功能。这些功能是网络地址转换(NAT)、端口地址转换(PAT)和动态主机配置协议(DHCP)。这些功能允许cookie截断器转出。因为所有方框有相同的配置，有rollout和文档的巨大成本减少。

您能复制和插入基于Cisco IOS的节点路由处理器的代码和Node Switch Processor (NSP)到您的配置。然而，Cisco 677使用Cisco宽带操作系统(CBOS)，并且您不能复制和插入此代码。您使用配置Cisco 677的命令在此配置示例方面也包括。

先决条件

要求

本文档没有任何特定的要求。

使用的组件

本文档中的信息基于以下软件和硬件版本：

硬件

- PC或工作站
- Cisco 677 ADSL客户端前置设备(CPE)
- 您的本地Telco的ADSL服务
- 与NI-2的Cisco 6130 ADSLAM , ATU-C DMT-II
- 有1个x NRP和1个x NSP的Cisco 6400 UAC

软件

- Cisco 6400 UAC NRP的Cisco IOS软件版本12.0.7-DC
- Cisco 6400 UAC NSP的Cisco IOS软件版本12.0.7-DB
- Cisco 677 ADSL路由器的CBOS版本2.3.0.012
- Cisco 6130 ADSLAM的Cisco IOS软件版本12.0.8-DA1

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。

规则

有关文档规则的详细信息,请参阅 [Cisco 技术提示规则](#)。

配置

在此部分,您可以看到本文所描述功能的配置信息。

注意: 为了找到关于用于本文的命令的其他信息,参考[命令查找工具\(仅限注册用户\)](#)。

网络图

本文档使用以下网络设置:

配置

配置注释

您必须配置允许测试用户连接的一个永久性虚拟连接(PVC)在Cisco 6130。当您配置在NSP的PVP并且终止NRP的时PPP会话,在Cisco 6400必须记录虚拟路径标识符/虚拟信道标识符(VPI/VCI)配置。

此配置示例显示NSP的虚拟路径。此路径允许Cisco 6400穿过从ADSLAM的信元到终结路由器,或者到另一台ATM交换机。您能设置PVP换成ATM信元公司网络或ISP,不用PPP会话的终端在中心局查找的Cisco 6400。

此配置示例允许远程用户透明访问对他们的公司网络(如果他们连接)电子邮件,共享文件/打印,企业内部网和对Web浏览的互联网,等等。没有使用企业互联网连接。

当多条PVC在Cisco 677时配置,是可能的对路由流量通过每个PVC。ADSLAM和UAC-NSP路由/换成的配置这些PVC正确目的地、ISP/ASP或者公司,PPP能终止。此配置减少流量和从而增加在公司网络的可用的带宽并且使用当前ISP帐户为了运载Web流量。

本文档使用以下配置:

- [PC配置](#)
- [Cisco 67x CPE](#)
- [命令发出到Cisco 67x CPE](#)
- [61xx ADSLAM](#)
- [6400 NSP](#)
- [6400 NRP \(Slot 1\)](#)
- [6400 NRP \(Slot 2\)](#)

PC配置

设置IP寻址，以便自动地获取IP地址。设置WINS，以便使用DHCP WINS解决方法。保证没有设置默认网关。因为DHCP不能通过此信息，设置域名可以是必要的。

Cisco 67x CPE (show run)

```
[[ IP Routing = Section Start ]]
IP NAT = enabled
IP Port Address = 00, 172.22.10.254
IP Default Route for Unnumbered Links = 002, 01, 0
IP Static Route Table Entries for Unnumbered Links =
172.22.32.0, 001, 255.255.2
55.0, 1, 0;
[[ CBOS = Section Start ]]
NSOS Maximum Number of VCs = 2
NSOS Root Password = <
root password >
NSOS Enable Password = <
enable password >
[[ PPP Device Driver = Section Start ]]
PPP Port User Name = 00, <
username for wan0-0 >
PPP Port User Password = 00, <
password for wan0-0 >
PPP Port User Name = 01, <
username for wan0-1 >
PPP Port User Password = 01, <
password for wan0-1 >
PPP Port Option = 01, IPCP,IP Address,3,Auto,Negotiation
Not Required,Negotiable
,IP,0.0.0.0
[[ DHCP = Section Start ]]
DHCP Server = enabled
DHCP Server Pool IP = 00, 172.22.10.0
DHCP Server Pool Gateway = 00, 172.22.10.254
[[ ATM WAN Device Driver = Section Start ]]
ATM WAN Virtual Connection Parms = 00, 1, 32, 0
ATM WAN Virtual Connection Parms = 01, 2, 63, 0
```

命令发出到Cisco 67x CPE

```
cbos#set nat enabled
NAT is now enabled
You must use "write" then reboot for changes to take
effect.

cbos#set int wan0 maxvcs 2
You must use "write" and reboot for changes to take
effect.
```

```
cbos#write
NVRAM written.

cbos#reboot
Hello! Expanding CBOS image...
CBOS v2.3.5.012 - Release Software
User Access Verification
Password:<
root password >

cbos>en
Password:<
enable password >

cbos#set ppp wan0-0 login <username for wan0-0>
User name for wan0-0 has been set to router.

cbos#set ppp wan0-0 password <password for wan0-0>
Password for wan0-0 has been set to <password for wan0-0>

cbos#set ppp wan0-1 login <username for wan0-1>
Password for wan0-1 has been set to <username for wan0-1>

cbos#set ppp wan0-1 password <password for wan0-1>
Password for wan0-1 has been set to <password for wan0-1>

cbos#set ppp wan0-0 ipcp 0.0.0.0
PPP wan0-0 IPCP Address set to 0.0.0.0

cbos#set ppp wan0-1 ipcp 0.0.0.0
PPP wan0-1 IPCP Address set to 0.0.0.0

cbos#set int eth0 address 172.22.10.254
eth0 ip address changed from 10.0.0.1 to 172.22.10.254

cbos#set int eth0 netmask 255.255.255.0
eth0 netmask changed from 255.255.255.0 to 255.255.255.0
You must use "write" then reboot for changes to take effect

cbos#set dhcp server enable
DHCP Server enabled

cbos#set dhcp server pool 0 ip 172.22.10.0
Pool 0 IP parameter is now 172.22.10.0

cbos#set dhcp server pool 0 netmask 255.255.255.0
Pool 0 netmask parameter is now 255.255.255.0
Size of pool 0 is automatically changed to max size 252

cbos#set dhcp server pool 0 gateway 172.22.10.254
Pool 0 gateway parameter is now 172.22.10.254

cbos#set password exec <root password>
Exec Password Change Successful!

cbos#set password enable <enable password>
Enable Password Change Successful!

cbos#set route default wan0-1
Default Route set
```

```
cbos#set route add ip 172.22.32.0 mask 255.255.255.0 gw
wan0-0
Route added
cbos#set int wan0-0 close
Closing connection wan0-0

cbos#set int wan0-1 close
Closing connection wan0-1

cbos#set int wan0-0 vpi 1
Change completed.

cbos#set int wan0-0 vc1 32
Change completed.

cbos#set int wan0-1 vpi 2
Change completed.

cbos#set int wan0-1 vci 63
Change completed.

cbos#set int wan0-0 open
Opening connection wan0-0

cbos#set int wan0-1 open
Opening connection wan0-1

cbos#write
NVRAM written

cbos#reboot
```

61xx ADSLAM

```
cbos#set nat enabled
NAT is now enabled
You must use "write" then reboot for changes to take
effect.

cbos#set int wan0 maxvcs 2
You must use "write" and reboot for changes to take
effect.

cbos#write
NVRAM written.

cbos#reboot
Hello! Expanding CBOS image...
CBOS v2.3.5.012 - Release Software
User Access Verification
Password:<
root password >

cbos>en
Password:<
enable password >

cbos#set ppp wan0-0 login <username for wan0-0>
User name for wan0-0 has been set to router.

cbos#set ppp wan0-0 password <password for wan0-0>
Password for wan0-0 has been set to <password for wan0-
```

```
0>

cbos#set ppp wan0-1 login <username for wan0-1>
Password for wan0-1 has been set to <username for wan0-1>

cbos#set ppp wan0-1 password <password for wan0-1>
Password for wan0-1 has been set to <password for wan0-1>

cbos#set ppp wan0-0 ipcp 0.0.0.0
PPP wan0-0 IPCP Address set to 0.0.0.0

cbos#set ppp wan0-1 ipcp 0.0.0.0
PPP wan0-1 IPCP Address set to 0.0.0.0

cbos#set int eth0 address 172.22.10.254
eth0 ip address changed from 10.0.0.1 to 172.22.10.254

cbos#set int eth0 netmask 255.255.255.0
eth0 netmask changed from 255.255.255.0 to 255.255.255.0
You must use "write" then reboot for changes to take effect

cbos#set dhcp server enable
DHCP Server enabled

cbos#set dhcp server pool 0 ip 172.22.10.0
Pool 0 IP parameter is now 172.22.10.0

cbos#set dhcp server pool 0 netmask 255.255.255.0
Pool 0 netmask parameter is now 255.255.255.0
Size of pool 0 is automatically changed to max size 252

cbos#set dhcp server pool 0 gateway 172.22.10.254
Pool 0 gateway parameter is now 172.22.10.254

cbos#set password exec <root password>
Exec Password Change Successful!

cbos#set password enable <enable password>
Enable Password Change Successful!

cbos#set route default wan0-1
Default Route set

cbos#set route add ip 172.22.32.0 mask 255.255.255.0 gw
wan0-0
Route added
cbos#set int wan0-0 close
Closing connection wan0-0

cbos#set int wan0-1 close
Closing connection wan0-1

cbos#set int wan0-0 vpi 1
Change completed.

cbos#set int wan0-0 vc1 32
Change completed.

cbos#set int wan0-1 vpi 2
Change completed.
```

```
cbos#set int wan0-1 vci 63
```

```
Change completed.
```

```
cbos#set int wan0-0 open
```

```
Opening connection wan0-0
```

```
cbos#set int wan0-1 open
```

```
Opening connection wan0-1
```

```
cbos#write
```

```
NVRAM written
```

```
cbos#reboot
```

6400 NSP (slot 8)

```
cbos#set nat enabled
```

```
NAT is now enabled
```

```
You must use "write" then reboot for changes to take effect.
```

```
cbos#set int wan0 maxvcs 2
```

```
You must use "write" and reboot for changes to take effect.
```

```
cbos#write
```

```
NVRAM written.
```

```
cbos#reboot
```

```
Hello! Expanding CBOS image...
```

```
CBOS v2.3.5.012 - Release Software
```

```
User Access Verification
```

```
Password:<
```

```
root password >
```

```
cbos>en
```

```
Password:<
```

```
enable password >
```

```
cbos#set ppp wan0-0 login <username for wan0-0>
```

```
User name for wan0-0 has been set to router.
```

```
cbos#set ppp wan0-0 password <password for wan0-0>
```

```
Password for wan0-0 has been set to <password for wan0-0>
```

```
cbos#set ppp wan0-1 login <username for wan0-1>
```

```
Password for wan0-1 has been set to <username for wan0-1>
```

```
cbos#set ppp wan0-1 password <password for wan0-1>
```

```
Password for wan0-1 has been set to <password for wan0-1>
```

```
cbos#set ppp wan0-0 ipcp 0.0.0.0
```

```
PPP wan0-0 IPCP Address set to 0.0.0.0
```

```
cbos#set ppp wan0-1 ipcp 0.0.0.0
```

```
PPP wan0-1 IPCP Address set to 0.0.0.0
```

```
cbos#set int eth0 address 172.22.10.254
```

```
eth0 ip address changed from 10.0.0.1 to 172.22.10.254
```

```
cbsos#set int eth0 netmask 255.255.255.0
eth0 netmask changed from 255.255.255.0 to 255.255.255.0
You must use "write" then reboot for changes to take
effect

cbsos#set dhcp server enable
DHCP Server enabled

cbsos#set dhcp server pool 0 ip 172.22.10.0
Pool 0 IP parameter is now 172.22.10.0

cbsos#set dhcp server pool 0 netmask 255.255.255.0
Pool 0 netmask parameter is now 255.255.255.0
Size of pool 0 is automatically changed to max size 252

cbsos#set dhcp server pool 0 gateway 172.22.10.254
Pool 0 gateway parameter is now 172.22.10.254

cbsos#set password exec <root password>
Exec Password Change Successful!

cbsos#set password enable <enable password>
Enable Password Change Successful!

cbsos#set route default wan0-1
Default Route set

cbsos#set route add ip 172.22.32.0 mask 255.255.255.0 gw
wan0-0
Route added
cbsos#set int wan0-0 close
Closing connection wan0-0

cbsos#set int wan0-1 close
Closing connection wan0-1

cbsos#set int wan0-0 vpi 1
Change completed.

cbsos#set int wan0-0 vc1 32
Change completed.

cbsos#set int wan0-1 vpi 2
Change completed.

cbsos#set int wan0-1 vci 63
Change completed.

cbsos#set int wan0-0 open
Opening connection wan0-0

cbsos#set int wan0-1 open
Opening connection wan0-1

cbsos#write
NVRAM written

cbsos#reboot
```

6400 NRP (slot 1)

```
aaa new-model
aaa authentication ppp default local
```

```

!
!
username <username for wan0-0> password <password for
wan0-0>
!
!
interface ATM 0/0/0.200 multipoint
  no ip directed-broadcast
  pvc 40/40
    encapsulation aal5cisco ppp Virtual-Template 2
!
!
interface FastEthernet 0/0/0
  ip address 172.22.32.1 255.255.255.0
  no ip directed-broadcast
!
!
interface Virtual-Template 2
  ip unnumbered FastEthernet 0/0/0
  no ip directed-broadcast
  peer default ip address pool <pool name A>
  ppp authentication pap
!
!
ip local pool <pool name A> 172.22.40.25 172.22.40.50

```

6400 NRP (slot 2)

```

aaa new-model
aaa authentication ppp default local
!
!
username <username for wan0-1> password <password for
wan0-1>
!
!
interface ATM 0/0/0.300 multipoint
  no ip directed-broadcast
  pvc 50/51
    encapsulation aal5cisco ppp Virtual-Template 21
!
!
interface FastEthernet 0/0/0
  ip address 172.16.32.1 255.255.255.0
  no ip directed-broadcast
!
!
interface Virtual-Template 21
  ip unnumbered FastEthernet 0/0/0
  no ip directed-broadcast
  peer default ip address pool <pool name B>
  ppp authentication pap
!
!
ip local pool <pool name B> 172.16.100.10 172.16.100.25

```

验证

本部分提供的信息可帮助您确认您的配置是否可正常运行。

[命令输出解释程序工具](#) ([仅限注册用户](#)) 支持某些 **show** 命令，使用此工具可以查看对 **show** 命令

输出的分析。

在Cisco 675 CPE上使用这些指令：

- **show interface wan0** — shows培训了ADSL链路的速度。
- **show interface wan0-0** —显示关于wan0-0的PPP会话信息。
- **show interface wan0-1** —显示关于wan0-1的PPP会话信息。
- **show dhcp server pool 0** —在客户端站点显示DHCP信息。

请使用此on命令Cisco 6400 UAC：

- **show atm pvc** —显示正确PVC是否设立。

故障排除

本部分提供的信息可用于对配置进行故障排除。

使用在Cisco 6400 UAC的这些指令：

- **debug ppp协商**—表示PPP协商调试消息。
- **debug ppp authentication** —，如果客户端通过验证，显示。
- **debug ppp error** -显示与PPP连接协商和运行有关的协议错误和错误统计数据。

在您尝试其中任一调试指令前，参考[关于调试指令的重要信息](#)。

相关信息

- [Cisco DSL技术支持信息](#)
- [产品支持信息](#)
- [技术支持 - Cisco Systems](#)