

Configurando um Cisco 6400 para suporte a MUX-PPP, SNAP e utilização de uma subinterface atm ilmi-pvc-discovery

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Este documento descreve uma configuração de exemplo para um Cisco 6400 Universal Access Concentrator (UAC) que suporta MUX-PPP e Subnetwork Access Protocol (SNAP) e usa uma subinterface atm ilmi-pvc-discovery.

[Prerequisites](#)

[Requirements](#)

Não existem requisitos específicos para este documento.

[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.

[Conventions](#)

For more information on document conventions, refer to the [Cisco Technical Tips Conventions](#).

Configurar

Nesta seção, você encontrará informações para configurar os recursos descritos neste documento.

Observação: para encontrar informações adicionais sobre os comandos usados neste documento, use a [ferramenta Command Lookup Tool](#) (somente clientes [registrados](#)).

Configuração

Este documento utiliza esta configuração:

NRP1 do Cisco 6400

```
!  
version 12.0  
no service pad  
service timestamps debug datetime msec  
service timestamps log datetime msec  
no service password-encryption  
!  
hostname Access-6400-NRP1  
!  
enable password <password>  
!  
username <username> password 0 <password>  
username <username1> password 0 <password1>  
username <username2> password 0 <password2>  
!  
!  
!  
!  
redundancy  
  main-cpu  
    auto-sync standard  
  no secondary console enable  
ip subnet-zero  
ip domain-name cisco.com  
ip name-server 171.68.10.70  
!  
!  
!  
bridge irb  
!  
!  
process-max-time 200  
!  
interface Loopback1  
  ip address 10.1.1.1 255.255.255.0  
  no ip directed-broadcast  
!  
interface ATM0/0/0  
  no ip address  
  no ip directed-broadcast  
  no atm ilmi-keepalive  
  atm ilmi-pvc-discovery subinterface  
  pvc 0/16 ilmi  
!  
!
```

```

interface ATM0/0/0.1 multipoint
  !--- For VPI starting with number 1 (example: 1/34). no
  ip directed-broadcast class-int bridgel bridge-group 1 !
interface ATM0/0/0.4 multipoint !--- For VPI starting
with number 4 (example: 4/33). no ip directed-broadcast
class-int router ! interface Ethernet0/0/1 no ip address
no ip directed-broadcast ! interface Ethernet0/0/0 ip
address 171.68.186.117 255.255.255.240 no ip directed-
broadcast ! interface FastEthernet0/0/0 no ip address no
ip directed-broadcast shutdown ! interface Virtual-
Templatel ip unnumbered Loopback1 no ip directed-
broadcast peer default ip address pool mypool ppp
authentication chap ! interface BVI1 mac-address ip
address 10.10.33.1 255.255.255.0 no ip directed-
broadcast ! ip local pool mypool 10.1.1.2 10.1.1.200 ip
classless ip route 0.0.0.0 0.0.0.0 171.68.186.113 no ip
http server ! ! vc-class atm bridgel encapsulation
aal5snap ! vc-class atm router encapsulation aal5mux ppp
Virtual-Templatel tacacs-server host 171.68.201.249
tacacs-server last-resort succeed tacacs-server
optional-passwords tacacs-server extended ! bridge 1
protocol ieee bridge 1 route ip ! line con 0 transport
input none line aux 0 line vty 0 4 password xxxxxx login
local ! end

```

Verificar

Esta seção fornece informações que você pode usar para confirmar se sua configuração está funcionando adequadamente.

A [Output Interpreter Tool \(somente clientes registrados\)](#) oferece suporte a determinados comandos show, o que permite exibir uma análise da saída do comando show.

Saída do comando show atm pvc

```

Access-6400-NRP1# show atm pvc
      VCD /                Peak Avg/Min Burst
Interface Name  VPI  VCI  Type  Encaps  SC  Kbps  Kbps  Cells  Sts
0/0/0          2    0   16  PVC    ILMI  UBR  155000          UP
0/0/0.1        7    1   34  PVC-D  SNAP  UBR  155000          UP
!--- Snap (bridge). !--- Subinterface 1 took VPI . 0/0/0.4 8 4 33 PVC-D MUX UBR 155000 UP !---
mux (ppp) !--- Subinterface 4 took VPI 4.

```

Troubleshoot

Esta seção fornece informações que podem ser usadas para o troubleshooting da sua configuração.

Comandos para Troubleshooting

A [Output Interpreter Tool \(somente clientes registrados\)](#) oferece suporte a determinados comandos show, o que permite exibir uma análise da saída do comando show.

Observação: antes de inserir o comando **debug**, consulte [Informações importantes sobre os comandos debug](#).

Depurando eventos ATM

A saída a seguir mostra o identificador de caminho virtual/identificador de canal virtual (VPI/VCI) que o processador de rota de nó (NRP) aprende com o processador de switch de nó (NSP).

```
Access-6400-NRP1# debug atm events
```

```
ATM events debugging is on
```

```
Shut/no Shut on main ATM0/0/0 interface
```

```
Access-6400-NRP1#
```

```
*Dec 16 15:51:43.667: ATM0/0/0 nrp_sarmgr_shutdown: state=0
*Dec 16 15:51:44.515: Resetting ATM0/0/0
*Dec 16 15:51:45.015: Resetting ATM0/0/0
*Dec 16 15:51:45.015: nrp_sarmgr_config(ATM0/0/0)
*Dec 16 15:51:45.015: nrp_sarmgr_enable(ATM0/0/0)
*Dec 16 15:51:45.215: nrp_sarmgr_enable(ATM0/0/0): restarting VCs: 0
*Dec 16 15:51:45.215: nrp_sarmgr_setup_vc(ATM0/0/0): vc:2 vpi:0 vci:16
*Dec 16 15:51:45.223: %SYS-5-CONFIG-I: Configured from console by console
*Dec 16 15:51:45.667: %LINK-3-UPDOWN: Interface ATM0/0/0, changed state to up
*Dec 16 15:51:46.667: %LINEPROTO-5-UPDOWN: Line protocol on Interface ATM0/0/0,
changed state to up
*Dec 16 15:51:47.219: %LINK-3-UPDOWN: Interface BV11, changed state to up
*Dec 16 15:51:47.471: Reserved bw for 1/34 Available bw = 155000
*Dec 16 15:51:47.471: nrp_sarmgr_setup_vc(ATM0/0/0): vc:13 vpi:1 vci:34
*Dec 16 15:51:47.475: Reserved bw for 4/33 Available bw = 155000
*Dec 16 15:51:47.527: nrp_sarmgr_setup_vc(ATM0/0/0): vc:14 vpi:4 vci:33
*Dec 16 15:51:48.219: %LINEPROTO-5-UPDOWN: Line protocol on Interface BV11,
changed state to up
*Dec 16 15:51:49.019: nrp_sarmgr_teardown_vc(ATM0/0/0): vc:13 vpi:1 vci:34
*Dec 16 15:51:49.179: nrp_sarmgr_teardown_vc(ATM0/0/0): vc:14 vpi:4 vci:33
*Dec 16 15:51:49.339: PPP-ATM(Virtual-Access1) deleting vaccess on VC 14
*Dec 16 15:51:49.351: %LANE-6-INFO: ATM0/0/0: ILMI prefix add event received
*Dec 16 15:51:49.659: Reserved bw for 1/34 Available bw = 155000
*Dec 16 15:51:49.659: nrp_sarmgr_setup_vc(ATM0/0/0): vc:15 vpi:1 vci:34
*Dec 16 15:51:49.659: Reserved bw for 4/33 Available bw = 155000
*Dec 16 15:51:49.715: nrp_sarmgr_setup_vc(ATM0/0/0): vc:16 vpi:4 vci:33
*Dec 16 15:51:55.419: %LINK-3-UPDOWN: Interface Virtual-Access1, changed state to up
Access-6400-NRP1#
```

Saída de Depuração PPP para Cisco 675 no IP Routing Mode

```
Success rate is 0 percent (0/5)
```

```
Access-6400-NRP1#
```

```
*Dec 16 15:38:03.439: Vi1 LCP: I CONFREQ [Open] id 42 len 14
*Dec 16 15:38:03.439: Vi1 LCP: MagicNumber 0xA60C0000 (0x0506A60C0000)
*Dec 16 15:38:03.439: Vi1 LCP: MRU 2048 (0x01040800)
*Dec 16 15:38:03.439: Vi1 IPCP: State is Closed
*Dec 16 15:38:03.439: Vi1 PPP: Phase is ESTABLISHING
*Dec 16 15:38:03.439: Vi1 LCP: O CONFREQ [Open] id 132 len 15
*Dec 16 15:38:03.439: Vi1 LCP: AuthProto CHAP (0x0305C22305)
*Dec 16 15:38:03.439: Vi1 LCP: MagicNumber 0x30995E50 (0x050630995E50)
*Dec 16 15:38:03.439: Vi1 LCP: O CONFACK [Open] id 42 len 14
*Dec 16 15:38:03.439: Vi1 LCP: MagicNumber 0xA60C0000 (0x0506A60C0000)
*Dec 16 15:38:03.439: Vi1 LCP: MRU 2048 (0x01040800)
*Dec 16 15:38:03.443: Vi1 IPCP: Remove route to 10.1.1.2
*Dec 16 15:38:03.443: Vi1 LCP: I CONFACK [ACKsent] id 132 len 15
*Dec 16 15:38:03.443: Vi1 LCP: AuthProto CHAP (0x0305C22305)
*Dec 16 15:38:03.443: Vi1 LCP: MagicNumber 0x30995E50 (0x050630995E50)
*Dec 16 15:38:03.447: Vi1 LCP: State is Open
*Dec 16 15:38:03.447: Vi1 PPP: Phase is AUTHENTICATING, by this end
*Dec 16 15:38:03.447: Vi1 CHAP: O CHALLENGE id 4 len 37 from "Access-6400-NRP1"
```

```

*Dec 16 15:38:03.451: Vi1 CHAP: I RESPONSE id 4 len 26 from "cisco"
*Dec 16 15:38:03.451: Vi1 CHAP: O SUCCESS id 4 len 4
*Dec 16 15:38:03.451: Vi1 PPP: Phase is UP
*Dec 16 15:38:03.451: Vi1 IPCP: O CONFREQ [Closed] id 5 len 16
*Dec 16 15:38:03.451: Vi1 IPCP: Address 10.1.1.1 (0x03060A010101)
*Dec 16 15:38:03.451: Vi1 IPCP: Type20 (0x900600000000)
*Dec 16 15:38:03.455: Vi1 IPCP: I CONFREQ [REQsent] id 43 len 10
*Dec 16 15:38:03.455: Vi1 IPCP: Address 10.1.1.2 (0x03060A010102)
*Dec 16 15:38:03.455: Vi1 IPCP: O CONFACK [REQsent] id 43 len 10
*Dec 16 15:38:03.455: Vi1 IPCP: Address 10.1.1.2 (0x03060A010102)
*Dec 16 15:38:03.455: Vi1 IPCP: I CONFREJ [ACKsent] id 5 len 10
*Dec 16 15:38:03.455: Vi1 IPCP: Type20 (0x900600000000)
*Dec 16 15:38:03.455: Vi1 IPCP: O CONFREQ [ACKsent] id 6 len 10
*Dec 16 15:38:03.455: Vi1 IPCP: Address 10.1.1.1 (0x03060A010101)
*Dec 16 15:38:03.463: Vi1 IPCP: I CONFACK [ACKsent] id 6 len 10
*Dec 16 15:38:03.463: Vi1 IPCP: Address 10.1.1.1 (0x03060A010101)
*Dec 16 15:38:03.463: Vi1 IPCP: State is Open
*Dec 16 15:38:03.463: Vi1 IPCP: Install route to 10.1.1.2

```

saída do comando show

```
Access-6400-NRP1# show user
```

Line	User	Host(s)	Idle	Location
* 0	con 0	idle	00:00:00	
Vi1		Virtual PPP (ATM)	00:06:45	
Interface	User	Mode	Idle	Peer Address

```
Access-6400-NRP1# show interface atm 0/0/0 accounting
```

```
ATM0/0/0
Protocol      Pkts In   Chars In  Pkts Out   Chars Out
Trans. Bridge      0         0          3         222
Spanning Tree      0         0        1384       65048
PPP over ATM       358       6646       605       11657
```

```
Access-6400-NRP1# show interface atm 0/0/0
```

```

ATM0/0/0 is up, line protocol is up
Hardware is ATM-SAR
MTU 4470 bytes, sub MTU 4470, BW 156250 Kbit, DLY 80 usec,
 reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ATM, loopback not supported
Keepalive not supported
Encapsulation(s): AAL5, PVC mode
2047 maximum active VCs, 3 current VCCs
VC idle disconnect time: 300 seconds
Last input 00:09:37, output 00:00:00, output hang never
Last clearing of "show interface" counters never
Queueing strategy: fifo
Output queue 0/40, 0 drops; input queue 0/75, 0 drops
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
 1307 packets input, 57832 bytes, 0 no buffer
  Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
 2876 packets output, 123055 bytes, 0 underruns
  0 output errors, 0 collisions, 3 interface resets
  0 output buffer failures, 0 output buffers swapped out
Access-6400-NRP1#
Access-6400-NRP1#
Access-6400-NRP1#

```

```
Access-6400-NRP1# show interface atm 0/0/0.1
ATM0/0/0.1 is up, line protocol is up
Hardware is ATM-SAR
MTU 4470 bytes, BW 156250 Kbit, DLY 80 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ATM
0 packets input, 0 bytes
1392 packets output, 59937 bytes
0 OAM cells input, 0 OAM cells output
```

```
Access-6400-NRP1# show interface atm 0/0/0.4
ATM0/0/0.4 is up, line protocol is up
Hardware is ATM-SAR
MTU 4470 bytes, BW 156250 Kbit, DLY 80 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ATM
705 packets input, 11705 bytes
615 packets output, 9415 bytes
0 OAM cells input, 0 OAM cells output
```

```
Access-6400-NRP1# show atm vc 15
ATM0/0/0.1: VCD: 15, VPI: 1, VCI: 34
UBR, PeakRate: 155000
AAL5-LLC/SNAP, etype:0x0, Flags: 0xC20, VCmode: 0x0
OAM frequency: 0 second(s)
InARP frequency: 15 minutes(s)
InPkts: 0, OutPkts: 321, InBytes: 0, OutBytes: 13803
InPRoc: 0, OutPRoc: 321, Broadcasts: 0
InFast: 0, OutFast: 0, InAS: 0, OutAS: 0
OAM cells received: 0
OAM cells sent: 0
Status: UP
Access-6400-NRP1#
```

```
Access-6400-NRP1# show atm vc 16
ATM0/0/0.4: VCD: 16, VPI: 4, VCI: 33
UBR, PeakRate: 155000
AAL5-MUX, etype:0x9, Flags: 0xC23, VCmode: 0x0
OAM frequency: 0 second(s)
InARP DISABLED
InPkts: 6, OutPkts: 143, InBytes: 48, OutBytes: 2420
InPRoc: 3, OutPRoc: 143
InFast: 0, OutFast: 0, InAS: 3, OutAS: 0
OAM cells received: 0
OAM cells sent: 0
Status: UP
PPP: Virtual-Access1 from Virtual-Templat1
Access-6400-NRP1#
```

```
Access-6400-NRP1# show interface virtual-access 1
Virtual-Access1 is up, line protocol is down
Hardware is Virtual Access interface
Interface is unnumbered. Using address of Loopback1 (10.1.1.1)
MTU 1500 bytes, BW 100000 Kbit, DLY 100000 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation PPP, loopback not set
Keepalive set (10 sec)
DTR is pulsed for 5 seconds on reset
LCP REQsent
Closed: IPCP
```

```
Bound to ATM0/0/0.4 VCD: 16, VPI: 4, VCI: 33
Cloned from virtual-template: 1
Last input 00:12:07, output never, output hang never
Last clearing of "show interface" counters 00:12:18
Queueing strategy: fifo > Output queue 0/40, 0 drops; input queue 0/75, 0 drops
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
 3 packets input, 18 bytes, 0 no buffer
Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
158 packets output, 2675 bytes, 0 underruns
0 output errors, 0 collisions, 0 interface resets
0 output buffer failures, 0 output buffers swapped out
0 carrier transitions
Access-6400-NRP1#
```

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- [Suporte técnico DSL](#)
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- [Suporte Técnico - Cisco Systems](#)