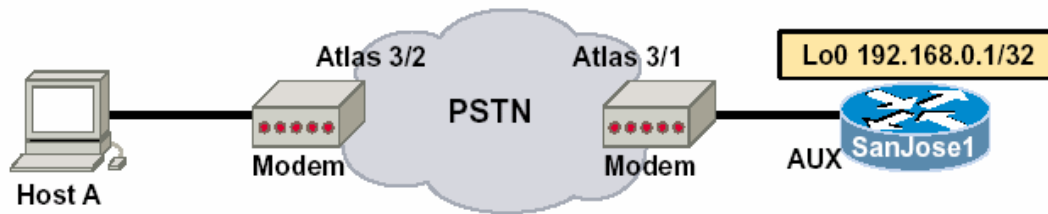


Configuring Asynchronous Dialup Connection on the AUX Port



Objective

In this lab, you will configure an AUX port on a Cisco router to accept dial-in connections from a workstation.

Scenario

The International Travel Agency wants you to configure their SanJose1 core router to accept dialup connections on its AUX port so it can be managed remotely in the event of a network failure. As the network administrator, you are to configure the modem to allow management sessions only. You will not be setting up DDR (Dial-On-Demand Routing).

Step 1

Before beginning this lab, it is recommended that you reload each router after erasing its startup configuration. This will prevent you from having problems caused by residual configurations. Build (cable) the network according to the above diagram. Use the Adtran Atlas 550 or similar device to simulate the PSTN. If you are using the Atlas 550, be sure the line cables from both modems are plugged into the octal FXS voice module ports of the Atlas 550 as labeled in the diagram.

Use a rollover cable and DCE modem adapter to connect the external modem to the router's AUX port.

Step 2

Configure SanJose1's AUX port for an asynchronous connection that will use authentication:

```
SanJose1(config)#line aux 0
SanJose1(config-line)#login
SanJose1(config-line)#password cisco
```

Set the line speed, flow control type, and number of stopbits:

```
SanJose1(config-line)#speed 115200
SanJose1(config-line)#flowcontrol hardware
SanJose1(config-line)#stopbits 1
```

Note that the maximum speed supported by the AUX port varies depending on the model router that you are using. On the 2600 and 3600 series routers, 115200 bps is the maximum while other platforms may only support up to 38400

bps. Typically, you should lock the modem speed at the maximum bit-rate supported by both the router and the modem.

Next, configure the line for both incoming and outgoing calls, and allow incoming calls using all available protocols and set an enable secret password:

```
SanJose1(config-line)#modem inout
SanJose1(config-line)#transport input all
SanJose1(config-line)#exit
SanJose1(config)#enable secret cisco
SanJose1(config)#exit
```

Step 3

On SanJose1, issue the **show line** command at the router prompt. A sample output is shown below.

```
SanJose1>show line
Tty Typ Tx/Rx A Modem Roty AccO AccI Uses Noise Overruns Int
* 0 CTY - - - - - 1 0 0/0 -
* 65 AUX 115200/115200- inout - - - 1 1 24/0 -
66 VTY - - - - - 0 0 0/0 -
67 VTY - - - - - 0 0 0/0 -
68 VTY - - - - - 0 0 0/0 -
69 VTY - - - - - 0 0 0/0 -
70 VTY - - - - - 0 0 0/0 -
Line(s) not in async mode -or- with no hardware support:
1-64
```

According to the output of this command, what is the line number for your router's AUX port?

Step 4

In this step, you will configure a router interface for TCP/IP. The router must have an operational interface with a valid IP address in order to establish a reverse Telnet connection to the modem. Although a physical interface could be configured with an IP address, you will configure SanJose1 with a loopback interface. A loopback interface is the best way to assign an IP address to the router because loopbacks are immune to link failure.

Use the following commands to configure the loopback interface:

```
SanJose1(config-line)#interface loopback0
SanJose1(config-if)#ip address 192.168.0.1 255.255.255.255
Note that a 32-bit mask is used when configuring a loopback IP address. If you do not use a 32-bit mask, you are configuring your router as if it were connected to an entire subnet or network.
```

Step 5

Once the loopback has an IP address, you can configure the modem using reverse Telnet. Before establishing a Telnet session, first secure virtual terminal access with the following commands:

```
SanJose1(config-if)#line vty 0 4
SanJose1(config-line)#login
SanJose1(config-line)#password cisco
SanJose1(config-line)#exit
```

Use the command below to open the reverse Telnet session to line 2. (If your router is not using line 65, you will have to change the last number to the line number appropriate to your router.)

```
SanJose1#telnet 192.168.0.1 2065 (2000 + Line #)
```

At this point, you should be prompted for a login password. Type the password **cisco** and press the **Enter** key, this should begin a session with the modem. Although there is no prompt, issue the following command:

AT

If the modem responds with an “**OK**,” you have successfully established a reverse Telnet connection. If you do not receive an OK, troubleshoot your configuration.

Step 6

View the modem’s current configuration by issuing the following command

```
OK
AT&V
```

1. What is the Speaker Volume set to? _____
2. According to the output of the **AT&V** command, what is the AT command used to configure the speaker volume? _____
3. What is the AutoAnswerRing# set to? _____
4. What is the **AT** command used to configure the AutoAnswerRing#? _____
5. What is the Flow Control set to? _____
6. What is the **AT** command used to configure the Flow Control? _____

Note that the ampersand (&) character, which denotes an “advanced” command, must be included in certain AT commands.

Configure the modem to answer on the second ring using the following command:

```
ATS0=2
```

Adjust the modem’s speaker volume, using this command:

```
ATL3
```

Use the appropriate command (**AT&V**) to view the modem’s current settings and verify that your configurations have taken effect.

Finally, write (save) your configurations to NVRAM with this command:

```
AT&W
```

Step 7

Now that your modem is configured, suspend the reverse Telnet session by pressing **Control-Shift-6** at the same time, release, then press **X**. You should be returned to the router prompt. From the router prompt, disconnect the reverse Telnet session to the modem:

```
SanJose1#disconnect
```

If you do not disconnect this session, you will not be able to connect to the router via the dialup.

On Host A, use the modem control panel to check that the modem is properly installed and working. Run HyperTerminal and select the modem from the “Connect To” window. Then configure HyperTerminal to dial the appropriate number. If you are using the Adtran Atlas 550, this number will be 555-6001.

At the password prompt, enter the **cisco** password. Next, you should see SanJose1’s user mode prompt. Issue the **who** command as shown:

```
SanJose>who  
Line User Host(s) Idle Location  
0 con 0 idle 00:26:49  
* 2 tty 2 idle 00:00:00  
Interface User Mode Idle Peer Address
```

1. According to the output of this command, what TTY are you using to communicate with the router? _____

2. Since you cannot use this connection to route TCP/IP traffic, what is the benefit of configuring a AUX interface to accept calls this way?
