CHAPTER 13

ATM

This chapter describes ATM provisioning procedures for the Cisco 6705 and Cisco 6732, and includes the following sections:

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- Assigning Virtual Paths and Virtual Channels, page 13-3
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You can provision ATM virtual paths (VPs) and virtual channels (VCs) on the following linecards on the Cisco 6705 or Cisco 6732 for use with internal and external ATM connections:

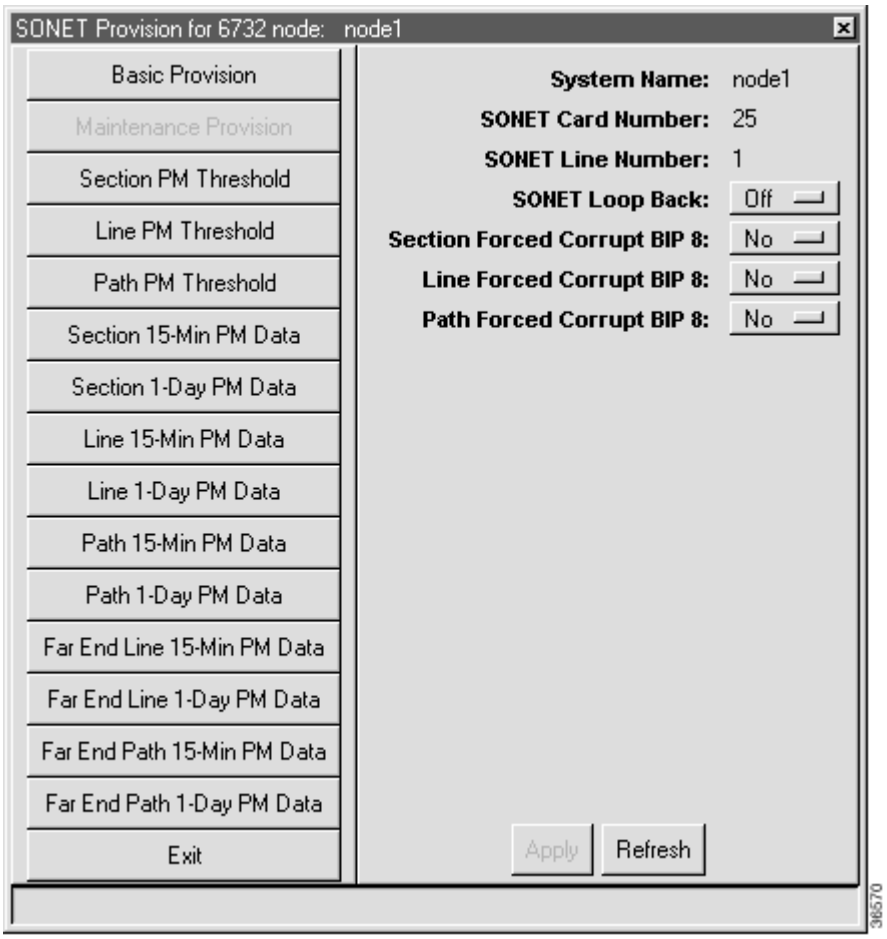
- MSDSL-2W
- T1-2,V.35
- OC3c-UNI

Provisioning Lines

Before provisioning a line, be sure the card and line are in service. For procedures on placing a card in service, see Chapter 6, “About Placing Cards In Service”. For procedures on placing a line in service, see the “About Line Provisioning” section on page 7-2.

Step 1 From Cisco 6700 NodeView, double-click the LED in the icon of the line that you intend to provision. EMS launches the line provisioning window. (See Figure 13-1.)

Figure 13-1 Provisioning Line for ATM



Step 2 Set the **Physical Layer Admin Status** to **inService**.

Step 3 Leave all other parameters at their default values.

Step 4 Click **Apply** to provision the line.

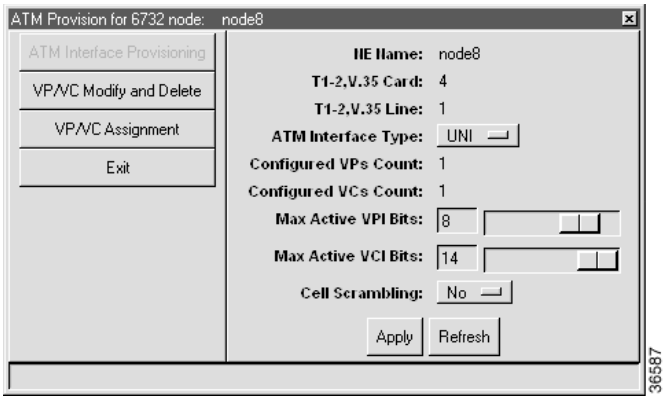
Step 5 Repeat this procedure to provision other lines on the line card.

Assigning Virtual Paths and Virtual Channels

Each line must be provisioned with at least one virtual path (VP) and one virtual channel (VC) before ATM traffic can be accommodated.

Step 1 From Cisco 6700 NodeView, right-click the line to be provisioned, and select **Start ATM Provisioning** from the popup menu. EMS launches the ATM provisioning window. (See Figure 13-2.)

Figure 13-2 ATM Provisioning Window

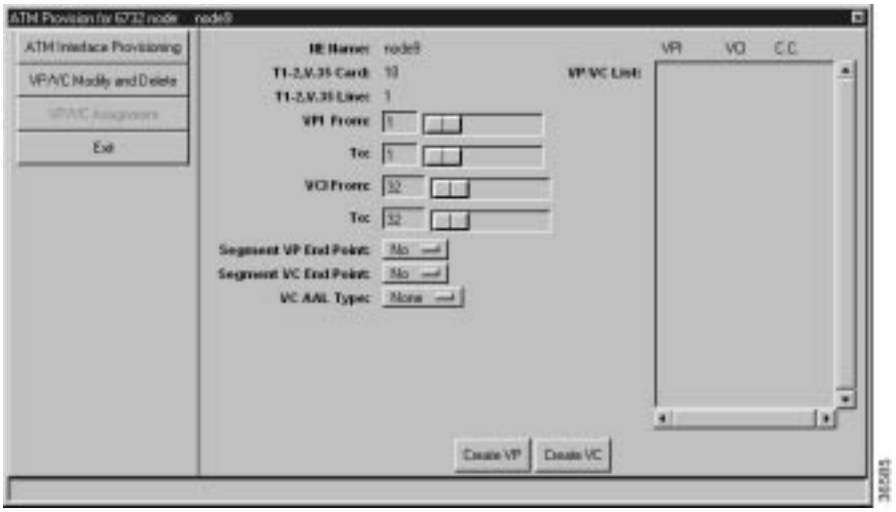


Step 2 Set the following ATM parameters:

- **ATM Interface Type–UNI** or **NNI**.
- **Max Active VPI Bits–**move the slider to set the value. If the ATM interface type is set to UNI, you can only provision up to eight VPI bits.
- **Max Active VCI Bits–**move the slider to set the value.
- **Cell Scrambling–**Select **Yes** or **No**.

Step 3 Click **VP/VC Assignment** on the function bar. EMS launches ATM Provisioning Window view that is used to assign VP/VCs. (See Figure 13-3.)

Figure 13-3 VP/VC Assignment Window



Step 4 Set the following ATM parameters:

- **VPI From/To**—Enter the range of VPIs to be assigned to this line.
- **VCI From/To**—Enter the range of VCIs to be assigned to this line.
- **Segment VP Endpoint**—Segment endpoint parameters do not have to be set, since the card is a segment endpoint.
- **Segment VC Endpoint**—Segment endpoint parameters do not have to be set, since the card is a segment endpoint.
- **VC AAL Type**—When using a Cisco 6705, select **AAL5** to provision the new VCs for ATM Adaptation Layer 5 (AAL5), or select **None** to provision VCs without using an adaption layer.

Step 5 Click **Create VP** to provision the VPs. The newly-created VPs appear in the **VP/VC List** at the right side of the window.

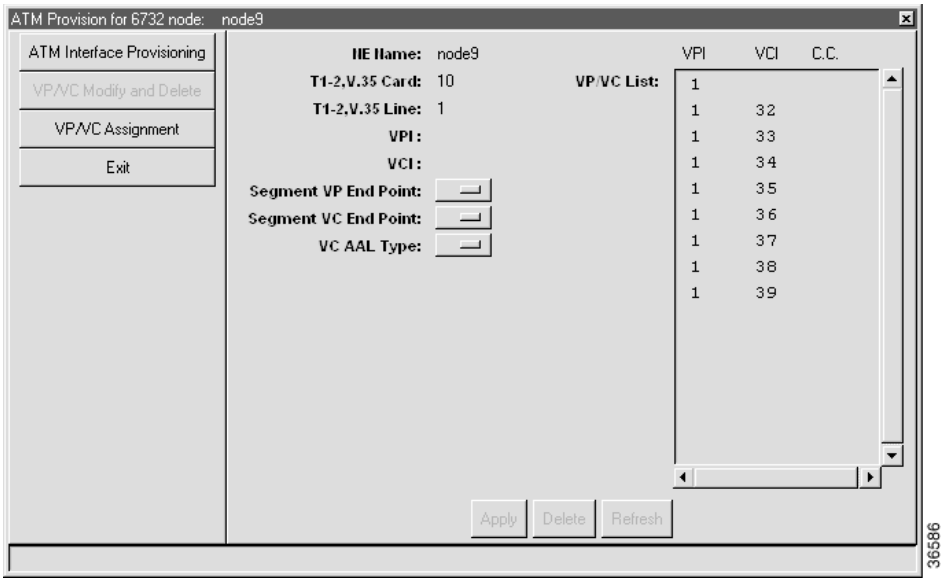
Step 6 Click **Create VC** to provision the VCs. The newly-created VCs also appear in the **VP/VC List**.

Deleting VPs and VCs

Step 1 From Cisco 6700 NodeView, right-click the LED in the icon of the appropriate line and select **Start ATM Provisioning** from the pop-up menu. EMS launches the ATM provisioning window. (See Figure 13-3 on page 13-4.)

Step 2 Select **VP/VC Modify and Delete** in the function bar. EMS displays a list of VPs and VCs provisioned on the line. (See Figure 13-4.)

Figure 13-4 VP/VC Assignment Window, Modify and Delete Display



Step 3 In the **VP/VC List** at the right side of the window, highlight the VPs and VCs you intend to delete.

Step 4 Click **Delete**. EMS removes the highlighted VPs and VCs from the list.

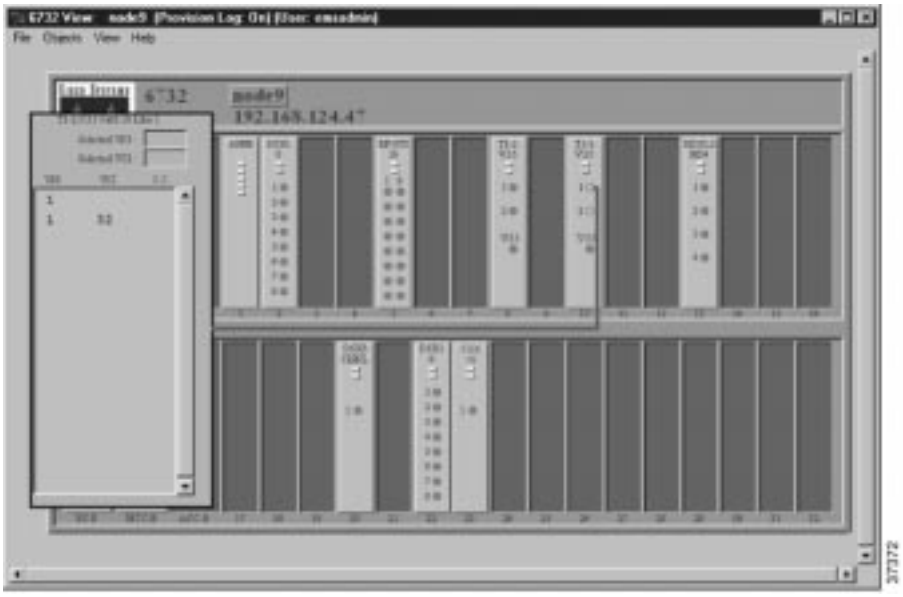
Creating ATM Cross Connects

After a line had been provisioned with a VP and VC, you can create an ATM cross connect to another line in the NE chassis.

To create an ATM cross connect, complete the following steps starting in Cisco 6700 NodeView:

Step 1 Right-click the line to start the cross connect, and select **ATM Cross Connect** from the popup menu. EMS displays a list of all available VP/VCs on the line. (See Figure 13-5.)

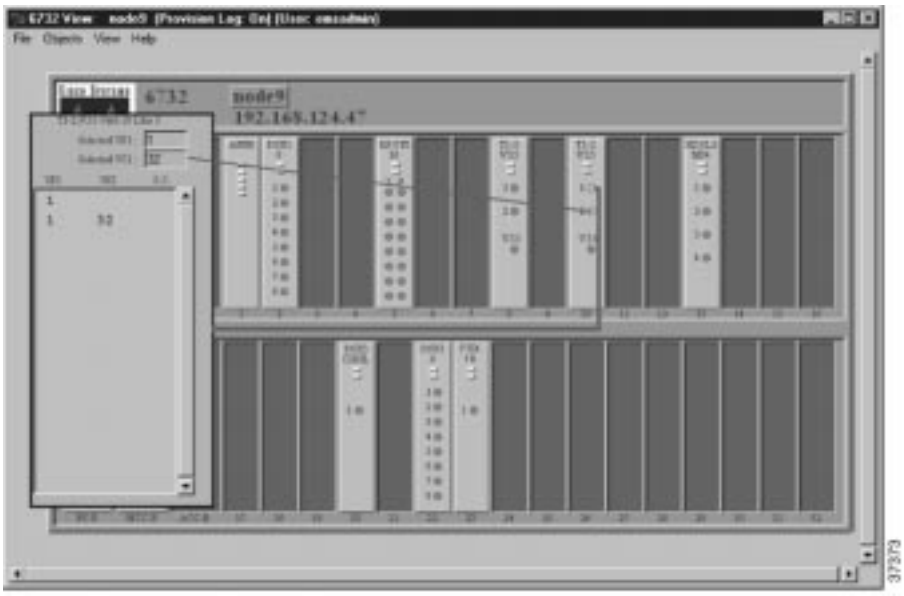
Figure 13-5 ATM Cross Connect VP/VC Display



Step 2 Highlight the VP/VC to be cross connected. EMS displays the VP/VC number in the Selected VPI and Selected VCI boxes at the top of the list. (See Figure 13-6.)

Step 3 Click the **Selected VCI** text box, and drag the cursor to the desired facility.

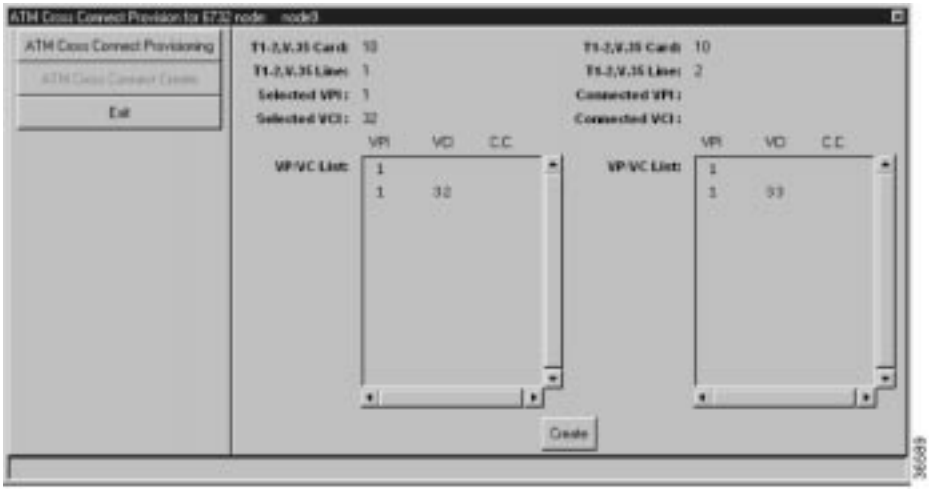
Figure 13-6 Draw ATM Cross Connect



Step 4 After the visual cross connect is drawn, EMS launches the ATM Cross Connect Provisioning window. (See Figure 13-7.)

The VP/VC list on the left shows all VP/VCs for the source (originating) line, and the VP/VC list on the right shows all VP/VCs for the destination line.

Figure 13-7 ATM Cross Connect Provisioning Window

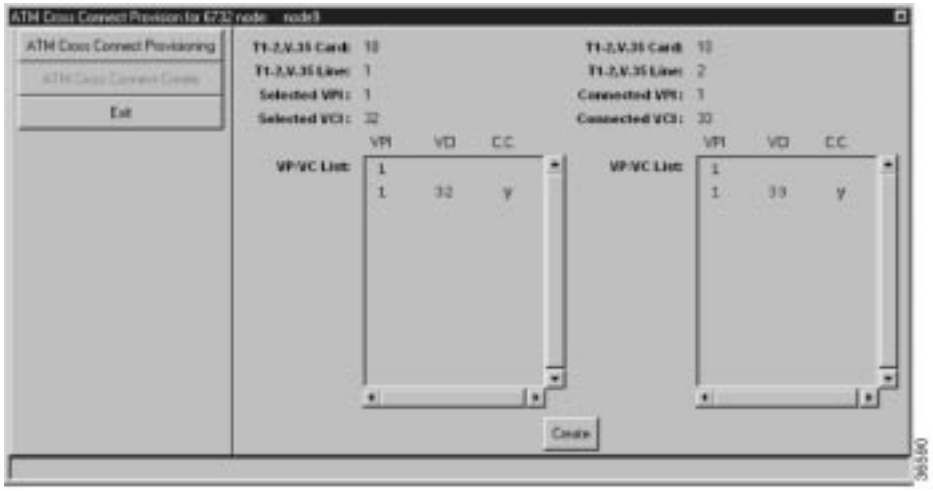


Step 5 Highlight the source VP/VC to be cross connected in the left **VP/VC List**.

Step 6 Highlight the destination VP/VC in the right **VP/VC List**. You must select at least one VP/VC on each line. (If you have multiple VCs in the list, you can select a range of VCs.)

Step 7 Click **Create** to provision the ATM cross connection. EMS confirms the cross connect creation by displaying the letter “y” in the “CC” column, next to the connected VP/VCs. (See Figure 13-8.)

Figure 13-8 ATM Cross Connections Confirmed



Deleting ATM Cross Connects

There are several ways to delete an ATM cross connect:

- From the ATM cross connect provision window, while in the process of creating cross connects
- From Cisco 6700 NodeView
- After the cross connects have been created.

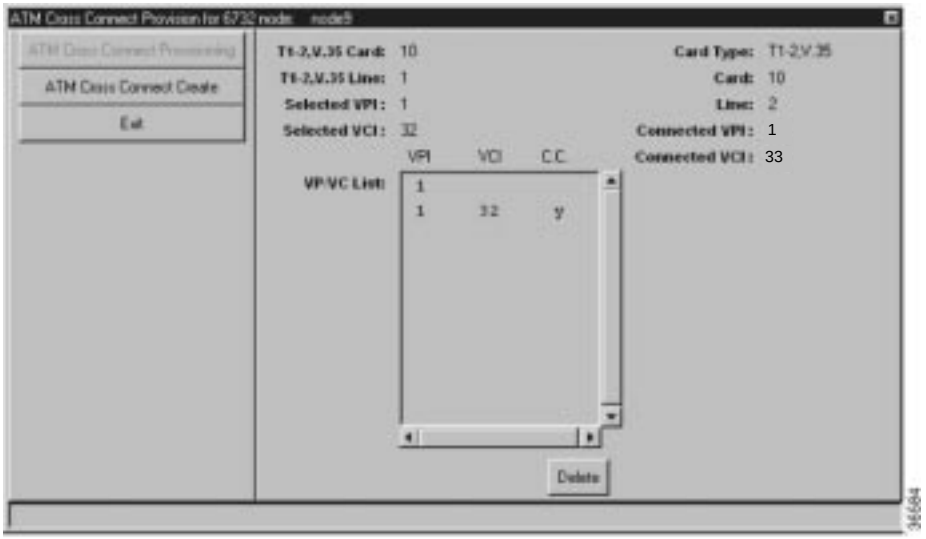
Deletion While Creating Cross Connects

Step 1 From the ATM Cross Connect Provision window (see Figure 13-7 on page 13-7), select the row(s) with a “y” in the C.C. column, as shown in Figure 13-8 on page 13-8.

Step 2 Click **ATM Cross Connect Provisioning** on the function bar.

Step 3 In the window that appears (see Figure 13-9), select the row with a “y” in the C.C. column.

Figure 13-9 ATM Cross Connect Window



Step 4 Click **Delete** and respond to the prompt. The “y” disappears from the C.C. column.

Deletion from Cisco 6700 NodeView

To delete ATM cross connects, complete the following steps starting in Cisco 6700 NodeView:

Step 1 Right-click a line, and select **Start ATM Cross Connect** from the popup menu. EMS launches the ATM cross connect VP/VC display showing all VP/VCs configured on that line in the VP/VC List. (See Figure 13-5 on page 13-6.)

Step 2 Select a line in the list that has a confirmed VP/VC cross connect (look for the “y”). A graphic line appears representing the cross connect. (See Figure 13-6 on page 13-7.)

Step 3 Double-click the graphic line. EMS launches the ATM cross connect window

Step 4 In the **VP/VC List**, highlight the VP/VCs to be deleted.

Step 5 Click **Delete**. EMS removes the deleted cross connects from the VP/VC list display and removes the “y” from C.C. column on the list.

Closing the ATM Cross Connect Display

Step 1 In Cisco 6700 NodeView, right-click the VPI/VCI list.

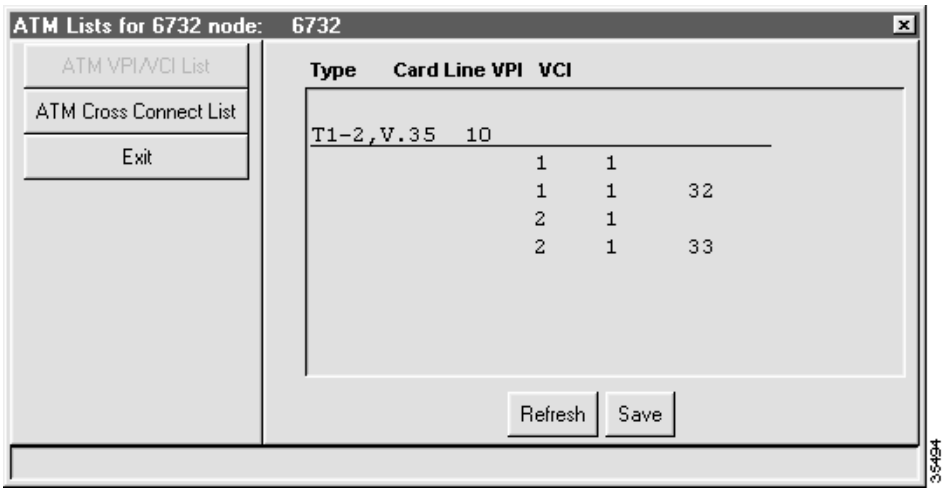
Step 2 Select **End ATM Cross Connect Display** from the popup menu. EMS closes the cross connect display.

Viewing ATM Lists

ATM lists show VP/VC assignments and ATM cross connects.

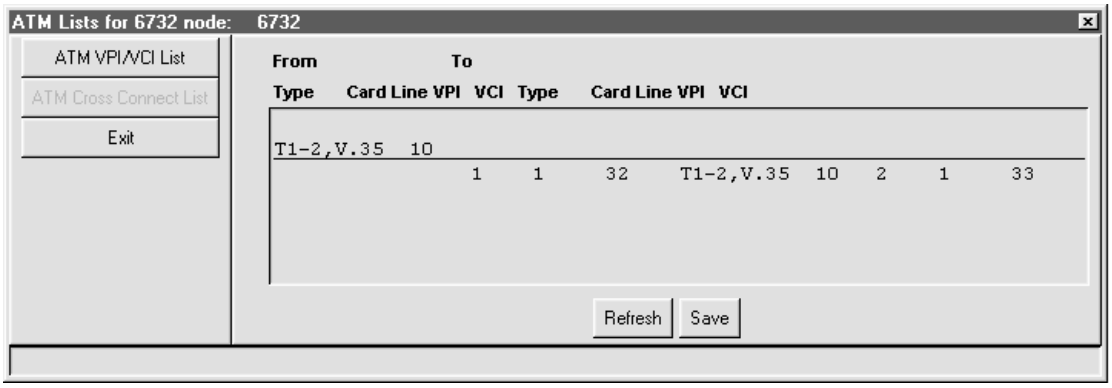
Step 1 From Cisco 6700 NodeView, select **Objects > ATM Lists** from the NodeView menu bar. EMS launches the ATM VPI/VCI list. (See Figure 13-10.)

Figure 13-10 ATM VPI/VCI List



Step 2 Select **ATM Cross Connect List** from the function bar. EMS launches the ATM cross connect list. (See Figure 13-11.)

Figure 13-11 ATM Cross Connect List



Step 3 Click **Exit** to return to Cisco 6700 NodeView.

Troubleshooting ATM Provisioning and Cross Connects

Step 1 Verify that you have applied power to the chassis and that all cables are properly connected.

Step 2 Verify that the module is correctly installed in the chassis.

- The module is properly aligned with, and inserted into, the backplane.
- The lever is down and holding the module securely in place.

Step 3 Check to see that the TX and RX cables are properly connected. (See Chapter 2, “Installing EMS”.)

Step 4 Check to see that both the module and line are set to InService. For procedures on placing a card in service, see Chapter 6, “About Placing Cards In Service”. For procedures on placing a line in service, see the “About Line Provisioning” section on page 7-2.

Step 5 Verify that a signal is being received by testing the line with a line loopback, then testing the cross-connect with an equipment loopback (see Figure 13-12). Check to see that the near-end and far-end modules have the same provisioning in regards to:

- Application type (Cbit or M13)
- TC Mapping (see Figure 13-2 on page 13-3)
- Cell Scrambling (see Figure 13-2 on page 13-3)
- UNI vs. NNI (see Figure 13-2 on page 13-3)

Step 6 Verify that you have put up a cross-connect. (See Figure 13-6 on page 13-7.) You need a VP or a VP/VC on each module in order to cross-connect successfully.

Step 7 Be sure you have provisioned the correct cross-connect VP/VC values. For example, if you have a VP 6/VC 100 coming into a cross-connect that is provisioned as VP 20/ VC 12, the system will not pass this data through. The system only recognizes the VP/VCs it is provisioned for.

Step 8 Swap out the module, if required, and repeat these troubleshooting steps again.

Figure 13-12 Troubleshooting with Line Loopbacks