### CHAPTER 5

# **Provisioning Cards and Lines**

This section describes the general procedures used to provision cards and lines on the Cisco 6700 NE.

### Launch the Node View

Card and line provisioning is done from the **node view** of an NE. From the node view, you can provision all cards and lines in the NE.

To launch the node view, double-click the node icon, or right-click the node icon and select **Node View** from the popup menu. (See Figure 5-1.)



### Figure 5-1 Right-Click Popup Menu

Depending on the chassis type, EMS launches the Cisco 6732 node view (see Figure 5-2) or the Cisco 6705 node view (see Figure 5-3).



### Figure 5-2 Cisco 6732 Node View





Node ID Conflict

If the node ID entered in EMS differs from the current node ID assigned to the NE, EMS reports a node ID conflict. (See Figure 5-4.)

#### Figure 5-4 Node ID Conflict

6732 M	essage 🛛 🗙	
0	Specified Node ID 3 is not defined in the Node ID list and different from NE Node ID 1. Do you want to add the specifed Node ID to the Node ID list and set NE Node ID as the specified Node ID?	
	Yes No	31289

- Select Yes to override the NE provisioning and assign the EMS node ID to the NE.
- Select **No** to leave the NE with its original (conflicting) node ID.

**Example:** You create a node in EMS net view and assign a node ID of **3**, but the Cisco 6700 NE is provisioned with a node ID of **1**. When you double-click the node icon, EMS reports a node ID conflict. Selecting **Yes** changes the NE node ID to **3**. Selecting **No** leaves the NE with its node ID of **1**.

#### No Response

If EMS is unable to connect with the NE, you will see a warning message describing the problem. The following list identifies common issues that might prevent the EMS workstation from communicating with the NE:

- The EMS workstation is not configured with the correct IP address. See Chapter 3, "Initial Provisioning," for the IP address configuration procedure, and contact your EMS administrator to obtain a valid IP address for the NE.
- The Ethernet cable connecting the EMS workstation to the NE is not a crossover cable. Contact your EMS administrator to obtain a crossover cable.
- The Cisco 6700 NE is not powered on. Contact your EMS administrator to ensure the proper connection between the NE and power source.
- The Cisco 6700 NE is configured with an IP address other than the factory default IP addresses. This may occur if the NE was previously configured for a different network. To reset the NE with factory default IP addresses, contact your EMS administrator for the proper procedure.
- The node is configured for the wrong type of NE. While EMS will still be able to communicate with the NE, the warning message will occur each time node view is launched. To correct this, delete the node icon in net view, and create a node using the correct chassis type. See Chapter 4, "Provisioning Nodes," for the node creation procedure.

### Adding a Card

EMS detects all cards in the Cisco 6732 or Cisco 6705 chassis.

- **Step 1** Insert a card in the desired chassis slot. For detailed card and slot information, consult the *Cisco 6732 Full Access Device Hardware Installation Guide* or the *Cisco 6705 Integrated Access Device Hardware Installation Guide*.
- **Step 2** From the net view, open the node view of the chassis using one of the following methods:
  - Double-click the node icon
  - Right-click the node icon, and select Node View from the popup menu.

Step 3 Select View > Refresh Card Display from the menu bar. (See Figure 5-5.)

#### Figure 5-5 Node View Menu

7% 6732 View	r: node1 (	Provision L	.og:	□	×		
File Objects	File Objects View Help						
	Refresh Ca	ard Display					
Cisco	View Stand	dby Side		le 1	1		
		02	192	2.168			
PS	A MCC-A		AMM	BRG	i I		
			רררר	L			
				•	31294		

EMS refreshes the node view display to reflect newly inserted cards.

### **Provisioning Slots**

To provision a slot for a particular card in a Cisco 6732 or Cisco 6705 chassis, complete the following steps from node view:

**Step 1** Double-click the slot to be provisioned. EMS launches the plugin slot provisioning window. (See Figure 5-6.)

### Figure 5-6 Plugin Slot Provisioning Window

Plugin Slot Provision for 6732 node: node9						
Basic Provisioning Exit	System Name: node9 Slot ID: 6 Designated Card Type: Slot Equipped: None Apply Refresh					

- **Step 2** In the **Designated Card Type** field, select the desired card type from the pull-down list. EMS displays only the cards that are compatible with the selected slot. For more information about slot and card compatibility, consult the *Cisco 6732 Full Access Device Hardware Installation Guide* or the *Cisco 6705 Integrated Access Device Hardware Installation Guide*.
- **Step 3** Click **Apply** to provision the slot.

### **Placing Cards In Service**

EMS provides both individual and batch procedures for placing cards in service.

### Individual Card Provisioning

To place an individual card in service, complete the following steps starting in node view:

**Step 1** Double-click the card to be placed in service. EMS launches the plugin card provisioning window. (See Figure 5-7.)

Sau Treasury	System Barne:	made9	
Cold Reset	CardiD:	2	
The Processor	Card Type:	05x1,8	
astronuary	Admin Status:	Incensice	
Enl	Operation Status:	Up	
			J.Ē
	Software Version:	1.3	
	CLEI Code:	SECF240EAA	
	Sectal Bumber:	3637	
		Babart	

### Figure 5-7 Plugin Card Provisioning Window

- Step 2 Set the Admin Status field to InService.
- **Step 3** Click **Apply** to place the card in service.
- Step 4 Click the Exit button on the left side of the window to return to node view.

### **Batch Card Provisioning**

To place cards multiple cards in service using the batch procedure, complete the following steps starting in node view:

Step 1 Select Objects > Card Batch Provisioning from the node view menu bar. (See Figure 5-8.)

#### Figure 5-8 Node View Menu



**Step 2** EMS displays the card batch provisioning window. (See Figure 5-9.) The **Card List** lists all cards that the NE has detected as installed.

#### Figure 5-9 Card Batch Provisioning Window

Canth Adams Shabus Blayon, Sat	System Bane:	mode9			
Ent	Admin Status For Selected Cards:	inferrice			
	CardUst	Type	Number	Altern	
		F8-A	F8-A	inService	
		75-3	PS-8	infervice	
		BCC-A	BCC-A	infervice	
		BCC-B	BCC-B	infervice	
		ARE	1	infervice	
		3521,6	2	outOffervice	
		SPOTS, 16	5	outOdService	
		71-2, 9.35	10	outOfService	
		HD512, H54	13	outOffervice	
		8070,8	15	outOthervice	
					1.
		and see	1		
		Set Refres	6		

- Step 3 In the Admin Status for Selected Cards field, select inService.
- **Step 4** In the **Card List** window, select the line cards to be placed in service.
- **Step 5** Click the **Apply** button to put the cards in service. EMS works down the list, changing each **outOfService** to **inService**.
- Step 6 Click the Exit button on the left side of the window to return to node view.

### **Provisioning Broadband Card 1:1 Protection**

EMS allows one-to-one (1:1) protection of the following broadband cards:

- DSX3-CHNL
- STSX1-CHNL

If one card fails, the second card will automatically restore the traffic through the chassis to the backplane. This ensures greater dependablity in the event of a hardware failure.

Broadband protection can only be provisioned on designated broadband slots. Two pairs of slots in the Cisco 6732 chassis are designated for broadband protection:

- Slots 17 and 18
- Slots 19 and 20

In addition to provisioning broadband protection with EMS, the protected cards require a special cable, provided with the card, designed specifically for joining the two cards. For more information, see the *Cisco 6732 Full Access Device Hardware Installation Guide*.

**Note** Extended Super Frame (ESF) connections and inter-node data links (INDL) are not protected with broadband line card protection.

To launch the broadband protection provisioning window, select **Objects > Protection Group** from the node view menu. (See Figure 5-10.)





EMS launches the protection group provisioning window. (See Figure 5-11.)

Protection Group Provision for 67 Protection Group Provision Protection Group List Exit	732 node: node1 System Hame: Protection Group ID: Protected Card: Protecting Card: Protect Active Status: Protect Switch Type:	node1
	Protect Switch Type: Protect Linear Direction: Protect Revertive: Wait to Restore(seconds): Protect Switch Request: Protect Switch Direction: Protect Switch Status:	
	Protect Problem List: Apply	Refresh Delete

Figure 5-11 Protection Group Provisioning Window

Complete the following fields to provision broadband 1:1 protection:

- **Protected Switch Direction**: select **ProtectingToProtected**, which allows the protecting card to take over for the protected card.
- **Proctection Group ID**: select **1** for slots 17 and 18, or **2** for slots 19 and 20.
- **Protected Card**: enter the slot number of the active card. This is the card that remains active during normal operation.
- **Protecting Card**: enter the slot number of the standby card. This is the card that becomes active in the event of an active card failure.
- **Protect Revertive**: select **Yes**. This allows the active card to switch back into service automatically when fully functional.
- Protect Switch Request: select Release. This allows the switch request to be established.

Click Apply to activate broadband 1:1 protection.

### Placing Multiple Lines In Service (Batch Provisioning)

To place multiple lines in service, complete the following steps starting in node view:

Step 1 Select Objects > Line Batch Provisioning from the node view menu bar. (See Figure 5-12.)

#### Figure 5-12 Node View Menu





Figure 5-13 Line Admin Status Assignment Window

(ine lidture Status Recognition)	6732 Hame: node5	Admin Status:			
05/1.8 Low Batch Revisioning	Cand Type: RP015.16	Result List:	Ced Line	AdmenStatur	
Analog Line Batch Provisioning	Card List (30) Seeted	<b>E</b>			
T1 Line Batch Provisioning	24 💻	Γ.			
M13A/T051Adhin State Arogeneet					
M13WT051Eatch Provisioning					
Ent					
		40			1.3
	9	1			
		Azzgn Dear R	efects		

- Step 3 In the Admin Status field, select inService.
- Step 4 In the Card Type field, select one of the line card types that are currently installed in the NE. If the selected card type is present, EMS displays the slot numbers for each card in the Card List window. For example, if your NE has FXS/16 cards in slots 3 and 4, selecting the FXS card type will display 3 and 4 in the card list window.
- **Step 5** In the **Card List** window, click each card number while holding down the **Control** key to select (highlight) the card.
- **Step 6** When all card numbers are selected, click the right arrow next to the card list window. The **Result List** (on the right side of the window) displays all lines on the selected cards, along with the status (**inService** or **outOfService**) of each line. (See Figure 5-14.)

Line Adres (Aska Responden)	4732 Harne:	Ceben .		Admin Status:	lieSer	vice		
OSH S Leve Batch Provisioning	Card Type:	RP015.18		Result List:	Card	Line	AdminiStature	19573
	CardList	Card	Selected		5	t	Out of Seculoe	
Analog Line Eletch Phowsoning		* 5	• 5 5		5	2	Out Of Service	
T1 Line Batch Provisioning		24	<b>•</b> : •		5	3	Out Of Securice	
					1.8	4	Out Of Service	-
M13V1051Advan Status Acograment					83		OutofBervice	
N13//1051 Each Provisioning					5.	4	Out Offervice	
					5	7	Out.OfService	
210					1.6		Outothervice	
					8.		Out Offervice	
					5	10	Out Of Service	-1
		-	1 1					1.5
		-			den			

Figure 5-14 Line Batch Provisioning Window with Selected Cards

- **Step 7** In the **Result List** window, select the lines to be placed in service.
- **Step 8** After the lines are selected, click the **Apply** button to put the lines in service. EMS works down the list, changing each **outOfService** to **inService**.
- **Step 9** Return to Step 4 and repeat these steps for each card type present in the NE.
- Step 10 Click the Exit button on the left side of the window to return to node view.
- Step 11 Select View > Refresh Card Display to update the node view display. Lines that have been placed in service will display a green LED.

### **Provisioning Lines**

To provision a line on a Cisco 6700 line card, double-click the line icon. EMS displays the appropriate line provision window.

The following sections describe basic provisioning for individual lines on the following Cisco 6700 line cards.

### Analog Cards (FXS/16, RPOTS/16, and RUVG/8)

**Note** Figure 5-15 shows the RPOTS/16 line provisioning window. The FXS/16 and RUVG/8 line provisioning windows are identical in structure and appearance (with **FXS,16** or **RUVG,8** appearing in place of **RPOTS,16**).

### Figure 5-15 RPOTS/16 Line Provisioning Window

RPOTS,16 Line Provision for	6732 node: node1	×
RPOTS,16 Basic Provisioning	6732 Name:	node1
Fxit	RPOTS,16 Card Number:	32
	RPOTS,16 Line Number:	1 -
	Admin Status:	InService 😐
	Operation Status:	Down
	Interface GroupType:	TR008 -
	Interface Group ID:	1 -
	CRV:	
	Generic Signal Function:	ls 💷
	On Hook:	Fulltime
	Line Test:	Off
	Termination Mode:	ohm900And2dB 🖵
	Red Lined:	false
	Apply	Refresh

In the Line Number field, select the analog line to be provisioned.

Set the following parameters according to your application:

- Admin Status: Set the status of the individual line, InService or OutOfService.
- Generic Signal Function: Select ls (default) or gs.
- **Termination Mode**: Select one of the following modes, expressed in ohms and digital-to-analog signal loss in dB:
  - ohm600and0dB
  - ohm600and1dB (default for RUVG/8)
  - ohm600and2dB (default for FXS/16)
  - ohm600and5dB
  - ohm900andM2dB (minus 2dB)
  - ohm900and2dB (default for RPOTS/16)
  - ohm900and5dB

After making changes in the basic provisioning window, click **Apply** to provision the line. Repeat steps through to provision additional lines on the card.

### Analog Line Batch Provisioning

Step 1 Select Objects > Line Batch Provisioning from the node view menu bar. (See Figure 5-12.)

🎋 6732 View: node1 (Provision Log: 💶 🗙									
File	e Objects View Help								
	Analog Line Test								
	Card Batch Provisioning								
	Interface Group	noe	le 1						
	Protection Group	192	2.168						
	CRV Batch Provisioning			- I					
	Line Batch Provisioning	AMM	BRG						
	Bulk DS1 Cross Connect		3						
	TDM Cross Connect Lists								
	ATM Lists								
	Plugin Card Detail Information			<b>▼</b> 18					
	Problem List Summary		Þ						

### Figure 5-16 Node View Menu



Figure 5-17 Line Admin Status Assignment Window



**Step 3** Select **Analog Line Batch Provisioning** in the function bar. EMS displays the analog line batch provisioning window. (See Figure 5-18.)

### Figure 5-18 Analog Line Batch Provisioning Window

Line Batch Provision for 6732 node:	node9						X
Line Admin Status Assignment	6732 Name:	node9					
DSX1,8 Line Batch Provisioning	Card Type:	RUVG,8					
Analog Line Batch Provisioning	Card List	Lard	Line	Selected	-	Generic Signal Function:	
T1 Line Batch Provisioning		8	2	•		On Hook:	Fulltime
M13/VT-DS1 Admin Status Assignment		8	3			Termination Mode:	ohm600And1dB 💴
M13//T-DS1 Batch Provisioning		8	4				
		8	6				
Exit		8	7				
		8	8				
		<u> </u>		1	•		
				Pro	vision	Clear	

- **Step 4** Set the **Card Type** to the card or cards to be provisioned.
- **Step 5** In the **Card List**, highlist the lines to be provisioned.
- **Step 6** Click the right arrow between the **Card List** and the **Selected** list. EMS places the selected lines in the **Selected** list.
- **Step 7** Set the following parameters according to your application:
  - Generic Signal Function: Select ls (default) or gs.
  - **Termination Mode**: Select one of the following modes, expressed in ohms and digital-to-analog signal loss in dB:
    - ohm600and0dB
    - ohm600and1dB (default for RUVG/8)
    - ohm600and2dB (default for FXS/16)
    - ohm600and5dB
    - ohm900andM2dB (minus 2dB)
    - ohm900and2dB (default for RPOTS/16)
    - ohm900and5dB
- **Step 8** Click **Apply** to provision the lines.

### DSX1/8 Card

DSX1,8 Line Provision for I	6732 node: node1	×
DSX1,8 Basic Provisioning	6732 Name:	node1
15-Min PM Threshold	DSX1,8 Card Number:	8
1 Day DM Threehold	DSX1,8 Line Number:	1-1
	Admin Status:	
15-Min PM Data	Operation Status:	Down
1-Day PM Data	Interface Group:	None
Far End 15-Min PM Data	Interface Group Member ID:	
Far End 1-Day PM Data	Line Coding:	B6ZS -
Exit	Line Frame Type:	ESF
	DS0 Mapping:	_D4
	Protect Group ID:	3
	Protect Unit Type:	Protected —
	Line Buildout:	534-655 Feet
	Loopback:	
	Reset PM Count:	
	Line Test:	
	Apply	Lefresh DS0 Signaling

#### Figure 5-19 DSX1/8 Line Provisioning Window

Set the following parameters according to your DSX1 application:

- DSX1/8 Line Number: Select the line number to be provisioned on the selected card.
- Interface Group: Select None, TR008, or GR303.
- Interface Group ID: Select the interface group ID, from 1 to 4.
- Interface Group Member ID: Select a member ID for this DSX1.
- Line Coding: Select B8ZS (binary 8 zero substitution) or AMI (alternate mark inversion).
- Line Frame Type: Select ESF (extended superframe), SF (superframe), or SLC96 (subscriber loop carrier, 96 lines).
- DS0 Mapping: Select D1, SLC-D4 (for use with TR-008), or D4 (for use with GR-303).
- **Protect Unit Type**: Not used.
- Line Buildout: Select the transmit line length from the pulldown menu.
- Loopback: Select Off (disable loopback), Line (facing away from the NE), or Equipment (internal loopback).
- **Reset PM Count**: Select **Yes** to reset the performance monitoring data. See Chapter 13, "System Maintenance and Monitoring," for PM information and procedures.

• **DS0 Signaling**: Clicking this button opens the DS0 signaling window (see "DS0 Signaling Window" below).

After making changes in the basic provisioning window, click **Apply** to provision the line.

### **DS0 Signaling Window**

From the DSX1/8 line provisioning window (see Figure 5-19), click **DS0 Signaling** to open the DS0 signaling window (see Figure 5-20).

DS0 Signa	aling l	Pro	ovisioning	J					
DSX1,8 Card: 2									
DSX1,8 Line: 1									
DS0 List:									
DSO	1	:	robbedBit						
DSO	2	:	robbedBit	L					
DSO	З	:	robbedBit	L					
DSO	4	:	robbedBit	L					
DSO	5	:	robbedBit	L					
DSO	6	:	robbedBit	L					
DSO	7	:	robbedBit	L					
DSO	8	:	robbedBit	L					
DSO	9	:	robbedBit	L					
DSO	10	:	robbedBit	L					
DSO	11	:	robbedBit	L					
DSO	12	:	robbedBit	L					
DSO	13	:	robbedBit	L					
DSO	14	:	robbedBit						
DSO	15	:	robbedBit						
DSO	16	:	robbedBit						
DSO	17	:	robbedBit						
DSO	18	:	robbedBit						
Signaling For Selected DS0's: robbedBit									
Apply Refresh Dismiss									

Figure 5-20 DS0 Signaling Window

- **Step 1** Highlight the DS0 channels to be modified.
- **Step 2** Set the Signaling for Selected DS0s:
  - **robbedBit**: Eighth bit is robbed in frames 6 and 12 in D4 framing (AB signaling) and 6, 12, 18, and 24 in ESF framing (ABCD signaling).
  - **clearChannel**: DS0 channel is used exclusively for data transmision.
- **Step 3** Click **Apply** to provision the selected DS0 channels.

### DSX1 Line Batch Provisioning

**Step 1** Select **Objects > Line Batch Provisioning** from the node view menu bar. (See Figure 5-21.)

% 6732 View: node1 (Provision Log: 💶 🗙						
File	Objects View Help					
	Analog Line Test					
	Card Batch Provisioning					
	Interface Group	noe	le 1			
	Protection Group	192.168				
	CRV Batch Provisioning	1104	nng l			
	Line Batch Provisioning	MINTY	BRG			
	Bulk DS1 Cross Connect					
	TDM Cross Connect Lists					
	ATM Lists					
	Plugin Card Detail Information			<b>-</b>  8		
	Problem List Summary		•	1 8		

### Figure 5-21 Node View Menu



Figure 5-22 Line Admin Status Assignment Window



**Step 3** Select **DSX1,8 Line Batch Provisioning** in the function bar. EMS displays the DSX1 line batch provisioning window. (See Figure 5-23.)

#### Line Batch Provision for 6732 node: node9 Line Admin Status Assignment 6732 Name: node9 Card Type: DSX1,8 Card List Selected Card Line Analog Line Batch Provisioning B8ZS 1 ⇒ Line Coding: -4 ŧ Line Frame Type: 4 2 ESF T1 Line Batch Provisioning 4 3 DS0 Mapping: D4 M13/VT-DS1 Admin Status Assignment 4 4 Protect Unit Type: Protected M13/VT-DS1 Batch Provisioning 4 5 Line Buildout: 534-655 Feet 4 6 Loopback: Off Exit 4 7 Reset PM Count: No ----4 8 Clear Provision

#### Figure 5-23 DSX1 Line Batch Provisioning Window

**Step 4** In the **Card List**, highlist the lines to be provisioned.

- **Step 5** Click the right arrow between the **Card List** and the **Selected** list. EMS places the selected lines in the **Selected** list.
- **Step 6** Set the following parameters according to your application:

Set the following parameters according to your DSX1 application:

- Line Coding: Select B8ZS (binary 8 zero substitution) or AMI (alternate mark inversion).
- Line Frame Type: Select ESF (extended superframe), SF (superframe), HDLU-C (high speed digital line unit, central), or HDLU-R (high speed digital line unit, remote).
- **DS0 Mapping**: Select **D1**, **SLC-D4** (for use with TR-008), or **D4** (for use with GR-303).
- Protect Unit Type: Not used.
- Line Buildout: Select the transmit line length from the pulldown menu.
- Loopback: Select Off (disable loopback), Line (facing away from the NE), or Equipment (internal loopback).
- **Reset PM Count**: Select **Yes** to reset the performance monitoring data. See Chapter 13, "System Maintenance and Monitoring," for PM information and procedures.
- **Step 7** Click **Apply** to provision the lines.

## T1-2-V35 Card

T1-2,V.35 Line Provision for	6732 node: node1	×	
T1-2,V.35 Basic Provisioning	6732 Name:	node1	
15-Min PM Threshold	T1-2,V.35 Card:	16	
	T1-2,V.35 Line:		
1-Day PM Threshold	Admin Status:	InService —	
15-Min PM Data	Operation Status:	Down	
1-Day PM Data	Line Coding:	<u>B8ZS</u>	
	Line Frame Type:	ESF	
Far End 15-Min PM Data	DS0 Mapping:	D4	
Far End 1-Day PM Data	Line Mode:	DSX1	
	Line Buildout:	_534-655 Feet	
EXI	Loopback:	<u>Off</u>	
	Reset PM Count:	No —	
	Line Test:	Off	
	Line Power:		
	Bundle Size:		
	T1-2,V.35 Problem List:	<b></b>	
	Annte		
		Herresh USU Signaling	١Ę.
			Б.

#### Figure 5-24 T1 Basic Provisioning Window

Set the following parameters according to your T1 application:

- DSX1/8 Line Number: Select the line number to be provisioned on the selected card.
- Line Coding: Select B8ZS (binary 8 zero substitution) or AMI (alternate mark inversion).
- Line Frame Type: Select ESF (extended superframe), SF (superframe), HDLU-C (high speed digital line unit, central), or HDLU-R (high speed digital line unit, remote).
- DS0 Mapping: Select D1, SLC-D4 (for use with TR-008), or D4 (for use with GR-303).
- Line Mode: Select DSX1 or T1 line mode.
- Line Buildout: Select the transmit line length from the pulldown menu.
- Loopback: Select Off (disable loopback), Line (facing away from the NE), or Equipment (internal loopback).
- **Reset PM Count**: Select **Yes** to reset the performance monitoring data. See Chapter 13, "System Maintenance and Monitoring," for PM information and procedures.
- **DS0 Signaling**: Clicking this button opens the DS0 signaling window.

After making changes in the basic provisioning window, click Apply to provision the line.

### Provisioning the V.35 Port

V.35 Provisioning for 67	32 node: node1	×
V.35 Basic Provisioning	6732 Name:	node1
Exit	T1-2,V.35 Card:	16
	Admin Status:	InService —
	Operation Status:	Up
	Block Size:	
	Receive Clock Inverted:	No 🛁
	Transmit Clock Inverted:	No -
	Data Inverted:	Yes 🔟
	Loopback:	Off -
	Problem List:	
		Apply Refresh

#### Figure 5-25 V.35 Port Basic Provisioning Window

Set the following parameters according to your T1 application:

- Block Size: Select the number of DS0 channels to be provisioned for the V.35 port.
- Receive Clock Inverted: Select Yes to invert the received clocking signal.
- Transmit Clock Inverted: Select Yes to invert the transmitted clocking signal.
- Data Inverted: Select Yes to invert the data over the V.35 port.
- Loopback: Select Off (disable loopback), Line (facing away from the NE), or Equipment (internal loopback).

After making changes in the basic provisioning window, click **Apply** to provision the line.

### T1 Line Batch Provisioning

**Step 1** Select **Objects > Line Batch Provisioning** from the node view menu bar. (See Figure 5-26.)

% 6732 View: node1 (Provision Log: 💶 🗙						
File	Objects View Help					
	Analog Line Test					
	Card Batch Provisioning					
	Interface Group	noe	le 1			
	Protection Group	192.168				
	CRV Batch Provisioning	1104	nna l			
	Line Batch Provisioning	MINIA	BRG			
	Bulk DS1 Cross Connect		1			
	TDM Cross Connect Lists					
	ATM Lists					
	Plugin Card Detail Information			<b>-</b>  8		
	Problem List Summary		►	1 8		

### Figure 5-26 Node View Menu



Figure 5-27 Line Admin Status Assignment Window



**Step 3** Select **T1 Line Batch Provisioning** in the function bar. EMS displays the T1 line batch provisioning window. (See Figure 5-28.)

### Figure 5-28 T1 Line Batch Provisioning Window

Line Batch Provision for 6732 node:	node9						×
Line Admin Status Assignment	6732 Name:	node9					
DSX1,8 Line Batch Provisioning	Card Type:	T1-2,V.35	and T1>	(JUNV4			
Analog Line Batch Provisioning	Card List	Card	Line			1	
		10	1.	-	Ê	Line Coding	
11 Line Batch Provisioning		10	۷.	<u> </u>		DS0 Mapping:	
M13/VT-DS1 Admin Status Assignment						Line Buildout:	534-655 Feet
M13/VT-DS1 Batch Provisioning						Loopback:	0#
Exit						Reset PM Count:	No 💷
		<b>_</b>			<u> </u>	]	
	Provision Clear						

- Step 4 Set the Type to VT-DS-1 (STSX1).
- **Step 5** In the **Card List**, highlist the lines to be provisioned.
- **Step 6** Click the right arrow between the **Card List** and the **Selected** list. EMS places the selected lines in the **Selected** list.
- **Step 7** Set the following parameters according to your application:
  - Line Coding: Select B8ZS (binary 8 zero substitution) or AMI (alternate mark inversion).
  - Line Frame Type: Select ESF (extended superframe), SF (superframe), HDLU-C (high speed digital line unit, central), or HDLU-R (high speed digital line unit, remote).
  - **DS0 Mapping**: Select **D1**, **SLC-D4** (for use with TR-008), or **D4** (for use with GR-303).
  - Line Buildout: Select the transmit line length from the pulldown menu.
  - Loopback: Select Off (disable loopback), Line (facing away from the NE), or Equipment (internal loopback).
  - **Reset PM Count**: Select **Yes** to reset the performance monitoring data. See Chapter 13, "System Maintenance and Monitoring," for PM information and procedures.
- **Step 8** Click **Apply** to provision the lines.