Maintaining the Cisco Signaling Link Terminal

This chapter contains the recommended hardware maintenance procedures for the Cisco Signaling Link Terminal (SLT), which is designed to perform SS7 signal pre-processing for a Cisco Media Gateway Controller. The Cisco SLT consists of a custom Cisco IOS image running on a Cisco 2611 router. For information on upgrading and maintaining Cisco SLT software, refer to the Cisco Signaling Link Terminal documentation.

As part of an end-to-end telephony solution, the Cisco SLT provides reliable transport of Signaling System 7 (SS7) protocols across an IP network. The Cisco SLT uses the Cisco IOS SS7 Cisco SLT feature set, providing reliable interoperability with the Cisco Media Gateway Controller (MGC). The Cisco SLT uses Cisco's Reliable User Datagram Protocol (RUDP) to backhaul upper-layer SS7 protocols across an IP network.

When used for Signal Link Terminal applications, the modular Cisco 2611 dual Ethernet port router can be configured with dual serial as well as Multiflex WAN interface cards with integrated E1 data service units (DSUs) or T1 channel service units (CSUs)/DSUs. For additional flexibility, the Multiflex WAN interface cards can also be ordered with a dual-port Drop and Insert capability.

The following interface cards are supported:

- 1-port high-speed serial interface (WIC-1T)
- 2-port high-speed serial interface (WIC-2T)
- 1-port T1 multiflex trunk interface (VWIC-1MFT-T1)
- 1-port E1 multiflex trunk interface (VWIC-1MFT-E1)
- 2-port T1 multiflex trunk interface (VWIC-2MFT-T1)
- 2-port E1 multiflex trunk interface (VWIC-2MFT-E1)
- 2-port T1 multiflex trunk interface with Drop and Insert (VWIC-2MFT-T1-DI)
- 2-port E1 multiflex trunk interface with Drop and Insert (VWIC-2MFT-E1-DI)

Only SS7 serial interfaces and protocols are supported. There is no support for non-SS7 serial WAN protocols. Only two SS7 signaling links are supported per Cisco SLT, and only one SS7 signaling link is supported per T1 or E1 port.

Note: Presently, only one Ethernet port of the Cisco 2611 is supported for Cisco SLT communications with the Cisco MGC.
This chapter describes Cisco SLT hardware maintenance and includes the following sections:

- Checking Equipment Status, page 6-2
- Removing a Cisco SLT, page 6-5
- Replacing a Cisco SLT, page 6-6
- Replacing Hardware Components, page 6-13
- Additional Maintenance Tasks, page 6-15

Checking Equipment Status

You can check the status of the Cisco SLT devices using the following methods:

- Reading Cisco SLT LEDs
- Using Cisco IOS status queries
- Using CiscoWorks 2000, Cisco WAN Manager, or the Cisco MGC Node Manager (CMNM)

Cisco SLT LEDs

LEDs indicate the current operating condition of the Cisco SLT.

Front-Panel LEDs

Figure 6-1 shows the location of the LEDs on the Cisco SLT. Table 6-1 describes these LEDs.

Table 6-1 Cisco SLT Front-Panel LEDs

<table>
<thead>
<tr>
<th>LED</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>Indicates the Cisco SLT operating status. Goes on when power is supplied to the Cisco SLT and the Cisco SLT is operational.</td>
</tr>
</tbody>
</table>
| RPS | OFF—No RPS is attached.  
ON—RPS is attached and operational.  
Blink—RPS is attached, but has a failure. |
Table 6-1 Cisco SLT Front-Panel LEDs (continued)

<table>
<thead>
<tr>
<th>LED</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity</td>
<td>OFF—In the Cisco IOS software, but no network activity.</td>
</tr>
<tr>
<td></td>
<td>Blink (500 ms ON, 500 ms OFF)—In Remote Monitor (ROMMON), no errors.</td>
</tr>
<tr>
<td></td>
<td>Blink (500 ms ON, 500 ms OFF, 2 sec. between codes)—In ROMMON, error detected.</td>
</tr>
<tr>
<td></td>
<td>Blink (less than 500 ms)—In the Cisco IOS software, the blink rate reflects the level of activity.</td>
</tr>
</tbody>
</table>

1. RPS = Redundant Power System.

Rear-Panel LEDs

Figure 6-2 shows the location of the Cisco SLT rear-panel LEDs. Table 6-2 describes these LEDs.

Figure 6-2 Cisco SLT Rear-Panel LEDs

Table 6-2 Cisco SLT Rear-Panel LEDs

<table>
<thead>
<tr>
<th>LED</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Link</td>
<td>When this LED is lit, a link has been established with the hub or switch at the other end of the cable.</td>
</tr>
<tr>
<td>ACT</td>
<td>When this LED is lit, packets are being transmitted or received on the Ethernet interface.</td>
</tr>
</tbody>
</table>

WIC LEDs

Each serial card has one LED, labeled CONN for each port, which lights when the serial port is connected. When the port is in DTE mode, the CONN LED indicates that Data Set Ready (DSR), Data Carrier Detect (DCD), and Clear To Send (CTS) have been detected. When the port is in DCE mode, it indicates that Data Terminal Ready (DTR) and Request To Send (RTS) have been detected.
VWIC LEDs

You can distinguish between T1 and E1 interface cards by the labeling on the faceplate, as shown in Figure 6-4. Each multiflex trunk interface card has three LEDs, which are shown in Figure 6-4 and described in Table 6-3.

Table 6-3 1-Port Multiflex Trunk Interface Card LEDs

<table>
<thead>
<tr>
<th>LED</th>
<th>Description</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>LP LED</td>
<td>On means that a loopback or line state is detected or is manually set by the user. This LED is off during normal operation.</td>
<td>Yellow</td>
</tr>
<tr>
<td>AL LED</td>
<td>On means that there is a local or remote alarm state. This LED is off during normal operation.</td>
<td>Yellow</td>
</tr>
<tr>
<td>CD LED</td>
<td>On means that a carrier has been detected and the internal DSU/CSU in the WAN interface card is communicating with another DSU/CSU. This LED is on during normal operation.</td>
<td>Green</td>
</tr>
</tbody>
</table>

Using the Cisco SLT Operating System to Check Status

The Cisco SLT operating system includes a series of commands that enable you to determine if the unit is functioning correctly or where problems have occurred. A few of the relevant commands for checking status are listed here. To learn how to find more information concerning these and other IOS commands, refer to the Cisco IOS Software Documentation Organization.

Status commands that may help to monitor the health and state of your Cisco SLT at any given time include the following:
Removing a Cisco SLT

This section describes how to shut down a Cisco SLT and remove it. The assumption is that the system has been properly installed according to procedures described in the Cisco Media Gateway Controller Hardware Installation Guide, most notably the following procedures:

- Safety recommendations
- General site requirements
- Preparations for connecting to the network

Required Tools and Equipment

Following are the tools and parts that might be required for removing a Cisco SLT:

- Number 2 Phillips screwdriver
- Flat-blade screwdrivers: small, 3/16-inch (0.476 cm) and medium, 1/4-inch (0.625 cm)

The SS7-related commands (show SS7 mtp2, show SS7 sm, show rudp failures, and show rudp statistics) are part of Cisco’s RUDP session manager. They are not available on other Cisco equipment running IOS.
Replacing a Cisco SLT

This section describes how to install a new Cisco SLT or reinstall a repaired Cisco SLT.

Required Tools and Equipment

Following are the tools and parts that might be required for replacing a Cisco SLT:

- Number 2 Phillips screwdriver
- Flat-blade screwdrivers: small, 3/16-inch (0.476 cm) and medium, 1/4-inch (0.625 cm)
- ESD-preventive wrist strap
- Screws to secure the rack-mount brackets to the Cisco SLT

It is assumed that cables, Ethernet hub, and the console terminal remain from the original installation.

Mounting the Chassis in a Rack

This section describes the procedures for rack-mounting the chassis. A new chassis comes with brackets for use with a 19-inch rack or, if specified in your order, optional larger brackets for use with a 24-inch rack. The brackets are shown in Figure 6-5.

Warning To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:

- If the rack contains only one unit, mount the unit at the bottom of the rack.
- If the rack is a partially filled rack, load the rack from the bottom to the top, with the heaviest component at the bottom of the rack.
• If the rack contains stabilizing devices, install the stabilizers prior to mounting or servicing the unit in the rack.

**Figure 6-5 Identifying the Brackets**

| Bracket for use with a 19-inch rack | Bracket for use with 23-inch and 24-inch racks |

**Attaching the Brackets**

To install the chassis in a rack, attach the brackets in one of the following ways:

• With the front panel forward (see Figure 6-6 and Figure 6-7)
• With the rear panel forward (see Figure 6-8 and Figure 6-9)
• In a center-mount rack, with the rear panel forward (see Figure 6-10)

**Note**
Use the Cisco-supplied screws for this installation.

**Note**
If you are installing a Cisco SLT in a 19-inch rack with a 17.5-inch opening, orient the rack-mount brackets so that, when installed, they do not increase the width of the chassis. (See Figure 6-6.)

If you are installing a Cisco SLT in a 19-inch EIA-standard rack with a 17.75-inch opening or a 23- or 24-inch rack, orient the rack-mount brackets so that, when installed, they increase the width of the chassis. (See Figure 6-7.)

**Note**
The following illustrations show how to connect the bracket to one side of the chassis. The second bracket connects to the opposite side of the chassis.

**Figure 6-6 Bracket Installation—Front Panel Forward (19-Inch Rack with a 175-Inch Opening)**

Note: The second bracket attaches to the other side of the chassis.
When installed in a 19-inch rack with a 17.75-inch opening, the Cisco SLT protrudes beyond the front of the rack.

**Figure 6-7** Bracket Installation—Front Panel Forward (19-Inch Rack with a 17.75-Inch Opening or a 23-inch or 24-Inch Rack)

**Figure 6-8** Bracket Installation—Rear Panel Forward (19-Inch Rack with a 17.5-Inch Opening)

**Figure 6-9** Bracket Installation—Rear Panel Forward (19-Inch Rack with a 17.75-Inch Opening or a 23-inch or 24-Inch Rack)

**Figure 6-10** Center-Mount Bracket Installation—Rear Panel Forward
Installing the Cisco SLT in a Rack

After the brackets are secured to the chassis, you can rack-mount the Cisco SLT. Using the screws you provide, attach the chassis to the rack as shown in Figure 6-11.

Connecting the DC Power Supply

This section describes the DC power supply specifications and wiring.

Warning

This unit is intended for installation in restricted access areas. A restricted access area is where access can only be gained by service personnel through the use of a special tool, lock and key, or other means of security, and is controlled by the authority responsible for the location.

DC Power Specifications

The DC power supply is intended for use in DC-operating environments. Table 6-4 lists the power supply specifications.

<table>
<thead>
<tr>
<th>Description</th>
<th>Design Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power (input)</td>
<td>40W, –38 to –75 VDC</td>
</tr>
<tr>
<td>Wire gauge for power connections</td>
<td>14 AWG(^1)</td>
</tr>
</tbody>
</table>

1. AWG = American Wire Gauge.

Wiring the DC Power Supply

If you ordered a Cisco SLT with a DC power supply, follow the directions in this section to wire the terminal block.

Warning

Before performing any of the following procedures, ensure that power is removed from the DC circuit. To ensure that all power is OFF, locate the circuit breaker on the panel board that services the DC circuit, switch the circuit breaker to the OFF position, and tape the switch handle of the circuit breaker in the OFF position.
Warning Figure 6-12 shows the DC power supply terminal block. The proper wiring sequence is ground to ground, positive to positive (line to L), and negative to negative (neutral to N). Note that the ground wire should always be connected first and disconnected last.

Caution Do not over torque the terminal block captive thumbscrew or terminal block contact screws. The recommended torque is 8.2 ± 0.4 inch-lb.

Warning After wiring the DC power supply, remove the tape from the circuit breaker switch handle and reinstate power by moving the handle of the circuit breaker to the ON position.

Warning Secure all power cabling when installing this unit to avoid disturbing field-wiring connections.

Note This product is intended for installation in restricted access areas and is approved for use with 14 AWG copper conductors only. The installation must comply with all applicable codes.

To wire the terminal block, complete the following steps:

**Step 1** Attach the appropriate lugs at the wire end of the power supply cord.

**Step 2** Wire the DC power supply to the terminal block, as shown in Figure 6-12.

*Figure 6-12 DC Power Supply Connections*
Connecting to a Network

This section explains how to connect the Cisco SLT to the control signaling LAN. It is assumed that the cables required to connect the Cisco SLT to the LAN are available from the Cisco SLT being replaced.

**Warning**

Do not work on the system, or connect or disconnect cables during periods of lightning activity.

Connect the Ethernet 10BaseT port to an Ethernet 10BaseT port on the LAN switch.

Connecting the Console Terminal and Modem

Cisco SLTs include asynchronous serial console and auxiliary ports. These ports provide local administrative access to your Cisco SLT (with a console terminal) or remote access (with a modem).

Identifying a Rollover Cable

Use a rollover cable to connect to the asynchronous serial console and auxiliary ports. You can identify a rollover cable by comparing the two modular ends of the cable. When you hold the two cable ends side-by-side with the tab at the back, as shown in Figure 6-13, the wire connected to the pin on the outside of the left plug should be the same color as the wire connected to the pin on the outside of the right plug. If your cable came from Cisco Systems, pin 1 is white on one connector, and pin 8 is white on the other (a rollover cable reverses pins 1 and 8, 2 and 7, 3 and 6, and 4 and 5).

*Figure 6-13 Identifying a Rollover Cable*
Connecting to the Console Port

Take the following steps to connect a terminal (an ASCII terminal or a PC running terminal emulation software) to the console port on the Cisco SLT:

**Step 1** Connect the terminal using the thin, flat, RJ-45-to-RJ-45 rollover cable (looks like a telephone cable) and an RJ-45-to-DB-9 or RJ-45-to-DB-25 adapter (labeled TERMINAL) included with the Cisco SLT. (See Figure 6-14.)

**Step 2** Configure your terminal or PC terminal emulation software for 9600 baud, 8 data bits, no parity, and 2 stop bits.

For information on console port pinouts, see the online document *Cisco Modular Access Router Cabling Specifications* on the Documentation CD-ROM that accompanied your Cisco SLT package.

---

**Cisco SLT Interface Numbering**

Each individual network interface on a Cisco SLT is identified by a slot number and a unit number. The Cisco SLT chassis contains one slot in which you can install a network module. Figure 6-15 shows the slot location in the Cisco SLT chassis.
Install the New Software

After you have installed the Cisco SLT, power it on. (If the Cisco SLT does not power on, proceed to Appendix B, “Troubleshooting Cisco SLT Signaling.”)

After the hardware has been installed and powered on, you must configure the Cisco SLT. Refer to the Cisco Media Gateway Controller Software Release 7 Installation and Configuration Guide.

After the Cisco SLT has been configured, you must install a special release of the Cisco IOS software on the Cisco SLT. The filename of the current Cisco SLT image is c2600-ipss7-mz.121-1.T.bin.

To copy a system image from a Trivial File Transfer Protocol (TFTP) server to a Flash memory file system, use the following command in EXEC mode:

\[\text{copy tftp://[location]/directory/filename} \text{ flash-filesystem:[filename]}\]

Replacing Hardware Components

Each Cisco SLT is equipped with at least one WAN interface card. This section describes how to replace the WAN interface cards in the Cisco SLTs, and contains the following subsections:

- **Required Tools and Equipment**, page 6-14
- **Installing a WAN Interface Card**, page 6-14

Figure 6-16 shows the WIC-2T WAN interface card.
Required Tools and Equipment

In addition to the WIC and the Cisco SLT, you will need these items to install and connect your card:

- Number 1 Phillips screwdriver.
- Appropriate connecting cable—The cables should already be available. For more information on cable types, see the online document Cisco Modular Router Cable Specifications on the Documentation CD-ROM that came with your Cisco SLT package, or on Cisco Connection Online.
- Synchronous modem, channel service unit/data service unit (CSU/DSU), or other data circuit-terminating equipment (DCE) (serial card only)—Used to connect the WAN interface card to a digital WAN line.

Installing a WAN Interface Card

This section describes the procedure for installing a WIC-2T WAN interface card in a Cisco SLT slot. You can install the WIC-2T either before or after mounting the Cisco SLT, whichever is more convenient. Similarly, you can install the WIC-2T in the network module either before or after installing the network module in the Cisco SLT chassis.

Caution

WICs do not support online insertion and removal (hot-swapping). Before inserting a card into the network module or Cisco SLT chassis, you must turn off electrical power and disconnect network cables.

Warning

Before performing any of the following procedures, ensure that power is removed from the DC circuit. To ensure that all power is OFF, locate the circuit breaker on the panel board that services the DC circuit, switch the circuit breaker to the OFF position, and tape the switch handle of the circuit breaker in the OFF position.

To install WAN interface cards in a Cisco SLT WIC chassis slot, complete the following procedure:

Step 1

Turn off power to the Cisco SLT. However, to channel ESD voltages to ground, do not unplug the power cable. Remove all network interface cables, including telephone cables, from the rear panel.
### Additional Maintenance Tasks

This section contains selected maintenance procedures you might need to perform on a Cisco SLT as your internetworking needs change, including the following:

- Upgrading DRAM, page 6-16
- Opening the Chassis, page 6-16
- Replacing the System-Code SIMM, page 6-19
- Closing the Chassis, page 6-21
- Procedures for Recovering Boot and System Images, page 6-22

Additional maintenance procedures are available on the Documentation CD-ROM that shipped with the Cisco SLT.
To see translated versions of warnings in this section, see the *Regulatory Compliance and Safety Information* document that accompanied your Cisco SLT.

**Caution**

Before opening the chassis, be sure that you have discharged all static electricity from your body and the power is off.

**Warning**

Before working on a chassis or working near power supplies, unplug the power cord on AC units; disconnect the power at the circuit breaker on DC units.

### Upgrading DRAM

This section describes how to upgrade dynamic random-access memory (DRAM) on the system card. You might need to upgrade DRAM if you have loaded a new Cisco IOS software feature set or release.

To see how much memory is currently installed in the Cisco SLT, enter the `show version` command. Near the middle of the resulting output, a message similar to the following appears:

```
Cisco 2611(MPC860) processor (revision 0x200) with 28672K/4096K bytes of memory.
```

This line shows how much memory is installed (in this example, 28672K/4096K). The first number represents primary memory, and the second number represents shared memory.

For information about recommended DRAM part numbers for your Cisco SLT, refer to the *Cisco 2600 Series Hardware Installation Guide*.

### Cisco SLT DRAM

Cisco SLTs contain two 100-pin dual in-line memory module (DIMM) sockets (or banks) for DRAM, numbered 0 and 1. (See Figure 6-20.) Each socket can be filled with a 100-pin DRAM DIMM. You can use the `memory-size iomem` software command to configure DRAM as a mixture of shared memory, which is used for data transmitted or received by network modules and WAN interface cards, and primary or main memory, which is reserved for the CPU. For further information about this command, see the Cisco IOS configuration guides and command references.

### Opening the Chassis

This section describes the procedure for opening the chassis by removing the chassis cover.

**Warning**

Do not touch the power supply when the power cord is connected. For systems with a power switch, line voltages are present within the power supply even when the power switch is OFF and the power cord is connected. For systems without a power switch, line voltages are present within the power supply when the power cord is connected.
Tools Required

You will need the following tools to remove and replace the DRAM DIMMs on the Cisco SLT:

- Number 2 Phillips screwdriver
- ESD-preventive wrist strap
- DRAM DIMM required for your planned upgrade

Removing the Chassis Cover

You must open the chassis to access the internal components.

Warning Before opening the chassis, disconnect the telephone-network cables to avoid contact with telephone-network voltages.

To remove the chassis cover, complete the following steps:

Step 1 Power off the Cisco SLT.
Step 2 Disconnect all cables from the rear panel of the Cisco SLT.
Step 3 Remove the screws located on the top of the chassis. Note that the chassis is composed of two sections, top and bottom.
Step 4 Holding the chassis with both hands, position it as shown in Figure 6-18.
Step 5 Slide the top section away from the bottom section as shown in Figure 6-19.

Figure 6-18  Holding Chassis for Cover Removal

Figure 6-19  Removing Chassis Cover

Step 6 When the top cover is off, set it aside. Figure 6-20 shows the layout of the system cards.
DRAM DIMM Installation

Take the following steps to install the DRAM DIMMs:

---

**Step 1**  
Power off the Cisco SLT.

**Step 2**  
Attach an ESD-preventive wrist strap.

**Step 3**  
Open the cover following the instructions in the “Opening the Chassis” section on page 6-16.

**Step 4**  
Remove the existing DRAM DIMM by pulling outward on the connectors to unlatch them, as shown in Figure 6-21. Be careful not to break the holders on the DIMM connector.

---

**Caution**  
To prevent damage, do not press on the center of the DIMMs. Handle each DIMM carefully.

---

**Step 5**  
Position the new DIMM so that the polarization notch is located at the left end of the DIMM socket as shown in Figure 6-21.
Step 6  Insert the new DRAM DIMM by sliding the end with the metal fingers into the DIMM connector socket at approximately a 90° angle to the system card. Gently rock the DIMM back into place until the latch on either side snaps into place. Do not use excessive force, because the connector might break.

Step 7  Replace the Cisco SLT cover. Follow the instructions in the “Closing the Chassis” section on page 6-21.

Replacing the System-Code SIMM

The system code (Cisco SLT operating system software) is stored in a Flash memory 80-pin single in-line memory module (SIMM).

For information about recommended SIMM part numbers for your Cisco SLT, refer to the Cisco 2600 Series Hardware Installation Guide.
Tools Required

You will need the following tools to remove and replace the system-code SIMM on the Cisco SLT:

- Medium-size flat-blade screwdriver (1/4 inch [0.625 cm])
- Electrostatic discharge (ESD)-preventive wrist strap
- System-code SIMM

Preparing to Install the System-Code SIMM

There is one system-code (Flash memory) SIMM socket on the system board. You can verify how much Flash memory is already installed in your Cisco SLT by entering the `show flash` EXEC command.

Caution

The system code is stored on the Flash memory SIMM, but new system-code SIMMs are shipped without preinstalled software. Before continuing with this procedure, use the `copy flash tftp` EXEC command to back up the system code to a Trivial File Transfer Protocol (TFTP) server.

Note

For more information about the `copy flash tftp` command and other related commands, refer to the Cisco IOS configuration and command reference publications. These publications are available on the Documentation CD-ROM that came with your Cisco SLT, and on Cisco.com.

System-Code SIMM Replacement

Take the following steps to upgrade the system-code Flash memory SIMM:

Step 1
If you have not already done so, enter the `copy flash tftp` EXEC command to back up the system code.

Step 2
Power off the Cisco SLT.

Step 3
Remove all cables from the rear panel of the Cisco SLT.

Step 4
Attach an ESD-preventive wrist or ankle strap.

Step 5
Open the chassis cover, following the procedure in the “Opening the Chassis” section on page 6-16.

Step 6
Locate the system-code SIMM on the system card. (See Figure 6-20.)

Step 7
If necessary, remove the existing system-code SIMM by pulling outward on the connector holders to unlatch them. The connector holds the SIMM tightly, so be careful not to break the holders on the SIMM connector. (See Figure 6-22.)

Step 8
Position the new SIMM so that the polarization notch is located at the left end of the SIMM socket.

Caution

To prevent damage, do not press on the center of the SIMM. Handle each SIMM carefully. Note that some Flash memory SIMMs have the components mounted on the rear side; therefore, when inserting the SIMM, always use the polarization notch as a reference and not the position of the components on the SIMM.

Step 9
Insert the new SIMM by sliding the end with the metal fingers into the SIMM connector socket at approximately a 90° angle to the system card. Gently rock the SIMM back into place until the latches on both sides snap into place. Do not use excessive force because the connector might break.
Step 10  Replace the Cisco SLT cover following the procedure in the following section.
Refer to the “ Procedures for Recovering Boot and System Images ” section on page 6-22 for instructions on how to place the Cisco IOS image on the new SIMM.

Figure 6-22  Removing and Replacing the System-Code SIMM

Closing the Chassis
This section describes the procedure for closing the chassis by replacing the chassis cover.

Replacing the Cover
To replace the cover, complete the following steps:

Step 1  Position the two chassis sections, as shown in Figure 6-19.

Step 2  Referring to Figure 6-18, press the two chassis sections together and ensure that the top section fits into the rear of the bottom section, the bottom section fits into the front of the top section, and that the sides of the top and bottom sections fit together.

Caution  To fit the two sections together, it might be necessary to work them together at one end and then the other; however, use care to prevent bending the chassis edges.

Step 3  When the two sections fit together snugly, slide the chassis top until it fits into the front bezel.
Step 4  Replace the cover screws. Tighten the screws to no more than 8 or 9 inch/pound of torque.
Step 5  Reinstall the chassis on the wall, rack, desktop, or table.
Step 6  Reconnect all cables.

**Procedures for Recovering Boot and System Images**

If your Cisco SLT experiences difficulties and no longer contains a valid Cisco IOS software image in Flash memory, you can recover the Cisco IOS image using the procedures described in the *Cisco Signaling Link Controller* documentation.