



# Configuring General Switch Features

This chapter describes how to set up general switch features that apply to multiple switch interfaces, and begins with a configuration quickstart procedure, which introduces the configuration tasks. The following sections provided detailed information on how to complete the configuration tasks.

## Configuration Quickstart

The quickstart procedure is provided as an overview and as a quick reference for those who have already configured the MGX 8850 switch.

	Command	Purpose
Step 1	<pre>sysVersionSet "version" reboot</pre>	<p>Select the runtime firmware version the switch will use on the PXM45 card and restart the switch with that firmware. For example:</p> <pre>sysVersionSet "002.000.012.000"</pre> <p>Note that these commands must be entered at the PXM45 backup boot prompt: <code>pxm45bkup&gt;</code>.</p> <p>See <a href="#">“Initializing the Switch,”</a> which appears later in this chapter.</p>
Step 2	<pre>username password</pre>	<p>Start a management session.</p> <p>For instructions on starting a session from a terminal or workstation attached to the CP port, see <a href="#">“Starting a CLI Management Session After Initialization,”</a> which appears later in this chapter.</p> <p>For information on other ways to manage a switch, see <a href="#">“Appendix C, “Supporting and Using Additional CLI Access Options.”</a></p> <p>Note: To perform all the procedures in this quickstart procedure, you must log in as a user with SERVICE_GP privileges. The default user with these privileges is <code>service</code> and the password default password is <code>serviceuser</code>. For more information on access privileges, see <a href="#">“Configuring User Access,”</a> which appears later in this chapter.</p>

	Command	Purpose
Step 3	<b>adduser</b> <username> <accessLevel>  Related commands:  <b>cnfpasswd</b> <b>cnfuser</b> <options> <b>deluser</b> <username>	Configure user access. This step is optional.  See “ <a href="#">Configuring User Access</a> ,” which appears later in this chapter.
Step 4	<b>cnfname</b> <node name>	Configure the switch name.  See “ <a href="#">Setting and Viewing the Switch Name</a> ,” which appears later in this chapter.
Step 5	<b>cnfdate</b> <mm:dd:yyyy> <b>cnftmzn</b> <timezone> <b>cnftmzgmt</b> <timeoffsetGMT> <b>cnftime</b> <hh:mm:ss>  Related commands:  <b>dsptime</b>	Configure the switch time.  See “ <a href="#">Viewing and Setting the Switch Date and Time</a> ,” which appears later in this chapter.
Step 6	<b>addcontroller</b> <options>  Related commands:  <b>dspscontrollers</b>	Add the PNNI controller.  See “ <a href="#">Configuring the PNNI Controller</a> ,” which appears later in this chapter.
Step 7	<b>cnfclksrc</b> <options>	Configure any BITS clock ports the switch will use. This step is optional.  See “ <a href="#">Configuring BITS Clock Sources</a> ,” which appears later in this chapter.
Step 8	<b>cnfpnni-node</b> <options>	Set the PNNI node address.  See “ <a href="#">Setting the PNNI Node Address</a> ,” which appears later in this chapter.
Step 9	<b>bootchange</b> <b>ipifconfig</b> <options>	Set the IP address or addresses for LAN access.  See “ <a href="#">Setting the Switch IP Addresses</a> ,” which appears later in this chapter.
Step 10	<b>cnfspvcprfx</b> <prefix>  Related commands:  <b>dspspvcprfx</b>	Set the SPVC prefix.  See “ <a href="#">Setting and Viewing the SPVC Prefix</a> ,” which appears later in this chapter.
Step 11	<b>cnfsnmp</b> community [string] <b>cnfsnmp</b> contact [string] <b>cnfsnmp</b> location [string]  Related commands:  <b>dspsnmp</b>	Configure SNMP management.  See “ <a href="#">Configuring for Network Management</a> ,” which appears later in this chapter.

# Initializing the Switch

After you assemble a new switch, as described in the *Cisco MGX 8850 Hardware Installation Guide*, you must initialize the switch before you can configure it. Although PXM45 cards ship with the latest version of boot firmware on the front card, the runtime firmware cannot be loaded until both front and back cards are installed. When you initialize the switch, you are configuring the switch to load a specific runtime firmware version from the PXM45 hard disk back card.

A new switch must be initialized using a console port management session. As shown in [Figure 2-1](#), a console port management session requires a terminal or workstation with a serial connection to the Console Port (CP) port on the PXM45 UI-S3 back card.

**Figure 2-1 Workstation Connection to Console Port**

To initialize the switch, use the following procedure.

- Step 1** Physically connect a terminal or workstation to the PXM45 UI-S3 back card as shown in [Figure 2-1](#). You can use any personal computer or UNIX workstation with a terminal emulation program that emulates the VT-100.



**Note** You can connect the terminal to a PXM45 in either slot 7 or slot 8.

- Step 2** Start the terminal, or if using a workstation, start a terminal emulation program and configure it to connect to the switch through the serial port on the workstation. For instructions on configuring the terminal emulation program, refer to the documentation for the program.

The default switch configuration supports the following settings: 9600 bps, 8 data bits, no parity, 1 stop bit, no hardware flow control.

**Step 3** At the workstation, enter the command that connects the terminal emulation program to another computer.

**Step 4** If the switch power is not on, turn on the switch power as described in the *Cisco MGX 8850 Hardware Installation Guide*.

**Note**

You can connect the workstation to the switch before or after power is applied. If you connect the terminal emulation program to the switch before power is applied, the terminal emulation program displays the switch startup messages.

**Step 5** If the switch does not display any messages or prompt, press **Return**.

When startup is complete for an uninitialized switch, it will display the PXM45 backup boot prompt:

```
pxm45bkup>
```

**Step 6** Locate and write down the version number for the runtime firmware provided with your switch. You need this version number to complete the next step.

The version number is listed in the *2.0.12 Version Software Release Notes, Cisco WAN MGX 8850 Software* and must be entered using the same format listed in the firmware file name. For example, if the firmware filename is `pxm45_002.000.001.000_mgx.fw`, the firmware version number you will enter is **002.000.001.000**.

**Step 7** When the PXM45 backup boot prompt appears, define the PXM45 runtime firmware version by entering the **sysVersionSet** command as follows:

```
pxm45bkup> sysVersionSet "version"
```

Replace *version* with the version number for the runtime firmware. For example:

```
pxm45bkup> sysVersionSet "002.000.001.000"
```

**Step 8** Reboot the switch by entering the **reboot** command as follows:

```
pxm45bkup> reboot
```

During initialization, the switch will appear to boot twice. When the reboot is complete, the switch displays the Login prompt, which indicates that the firmware is loaded and the switch is ready for configuration.

**Tips**

The **sysVersionSet** command has failed if the switch reboot process stops and displays the message "Can not open file C:/version" or the message "Unable to determine size of C:/FW/filename." If this happens, press **Return** to display the backup boot prompt, then refer to "[Troubleshooting Upgrade Problems](#)" in [Appendix A](#), "[Downloading and Installing Software Upgrades](#)."

**Step 9** To log in to the switch, enter the login name supplied with your switch, and then enter the password for that login name. For example:

```
Login: superuser
password:
```

```
unknown.7.PXM.a >
```

**Note**

The number 7 in the switch prompt indicates you have initialized the PXM45 in slot 7. If you are initializing the PXM45 in slot 8, the switch prompt displays the number 8.

The switch does not display the password during login. When login is complete, the switch prompt appears.

The switch prompt for PXM45 and AXSM cards uses the following format:

```
nodename.slot.cardtype.state>
```

Table 2-1 describes the components in the CLI prompt.

**Table 2-1 CLI Prompt Components**

Component	Description
<i>nodename</i>	The <i>nodename</i> is the name of the node. When a new switch starts up, the node name is set to “unknown.” To change the name, see “ <a href="#">Setting and Viewing the Switch Name</a> ,” which appears later in this chapter.
<i>slot</i>	The <i>slot</i> number indicates which card you are configuring. For most general switch configuration procedures, you need to configure the switch using the PXM45 cards in slots 7 or 8. For many line and trunk configuration procedures, you need to modify service modules (such as the AXSM card), which can be in slots 1-6 and 9-14.
<i>cardtype</i>	The <i>cardtype</i> identifies the model of the card, such as PXM or AXSM.
<i>state</i>	The card <i>state</i> is active (a), standby (s), or initialized (i). Cards are labeled as <i>initialized</i> during switch startup.

After initialization, the PXM45 card in the initialized slot becomes active. If a second PXM45 is installed in the other slot, the active PXM45 initiates a runtime firmware load on the other slot. After the runtime firmware loads on the non-active PXM45, the card enters standby mode, ready to take control if the active card fails.

After you log in, the switch maintains your session for 10 minutes (600 seconds) after the last keystroke is entered. If the session is idle longer than 600 seconds, the session is terminated.



**Tips**

To restart an automatically terminated session, press **Return**. The switch will prompt you for a login name and password.

**Step 10** To change the session time-out period, enter the **timeout** command as follows:

```
unknown.7.PXM.a > timeout <seconds>
```

Replace *seconds* with the number of seconds you want the session to remain active before it times out. The maximum value is 600. To disable time-out, enter 0 seconds. The switch uses the new timeout value until you terminate the session. Each time a new session is started, the timeout value returns to the default value, 600 seconds.

Once you have completed the procedure above, you have established a Command Line Interface (CLI) management session. You can use a CLI management session to configure or monitor the switch.

# Starting a CLI Management Session After Initialization

After initialization, you can terminate and start sessions at any time using the terminal or workstation connection to the CP port, which was described in the previous section.



## Tips

The switch also supports several other types of management connections, including remote connections. For instructions on supporting and starting other types of CLI management sessions, see [Appendix C, “Supporting and Using Additional CLI Access Options.”](#)

To start a CLI management session at the CP port for switch configuration and monitoring, use the following procedure.

- Step 1** Turn on the terminal or start the terminal session.
- For instructions on preparing the terminal and the connection, refer to the previous section, “[Initializing the Switch.](#)”
- Step 2** If the `Login` prompt does not appear, press **Return**. The `Login` prompt comes from the switch and indicates that the terminal has successfully connected to the switch.
- Step 3** When the `Login` prompt appears, enter the login name supplied with your switch, and then enter the password for that login name. For example:

```
Login: superuser
password:

pop20one.7.PXM.a >
```



## Note

To perform most of the procedures in this chapter, you will need to login as a user with `SUPER_GP` privileges (Default username and password: `superuser, superuser`).

The switch does not display the password during login. When login is complete, the switch prompt appears.

The switch prompt for PXM45 and AXSM cards uses the following format:

```
nodename.slot.cardtype.state>
```

[Table 2-1](#) describes the components in the switch prompt.

After you log in, the switch maintains your session for 10 minutes (600 seconds) after the last keystroke is entered. If the session is idle longer than 600 seconds, the session is terminated.



## Tips

To restart an automatically terminated session, press **Return**. The switch will then prompt you for a login name and password.

- Step 4** To change the session time-out period, enter the `timeout` command as follows:

```
unknown.7.PXM.a > timeout <seconds>
```

Replace *seconds* with the number of seconds you want the session to remain active before it times out. The maximum value is 600. To disable time-out, enter 0 seconds. The switch uses the new timeout value until you terminate the session. Each time a new session is started, the timeout value returns to the default value, 600 seconds.

Once you have completed the procedure above, you have established a Command Line Interface (CLI) management session. You can use a CLI management session to configure or monitor the switch.

## Ending a CLI Management Session

CLI management sessions automatically terminate after the configured idle time. The default idle time is 600 seconds (10 minutes) and can be changed with the **timeout** command. To manually end a CLI management session, enter the **bye** or **exit** command.



### Note

The **bye** and **exit** commands end the CLI session. They do not terminate the terminal session. For instructions on terminating the terminal session, refer to the manuals for your terminal or terminal emulation program.

To restart the session after entering the **bye** or **exit** command, just press **Return**, and the switch will prompt you for a username and password.

## Entering Commands at the Switch Prompt

The commands in the switch operating system are associated with the cards that are installed in the switch. Before you execute a command, you must select a card that supports the command. The switch displays the currently selected card in the switch prompt. For example, the following switch prompt shows that the PXM45 card in slot 7 is selected:

```
mgx8850a.7.PXM.a >
```

To select another card in the switch, enter the following command:

```
mgx8850a.7.PXM.a > cc <slotnumber>
```

Replace *slotnumber* with the number of the slot in which the card you want to manage is installed. [Table 2-2](#) lists the valid slot numbers for each card type.

**Table 2-2 Valid Slot Numbers for Each Card Type**

Card Type	Valid Slot Numbers
PXM45	7 and 8
AXSM	1-6 and 9-14

After you use the **cc** command to change cards, verify that you are managing the correct card by viewing the slot number shown in the switch prompt. The following example shows the prompt for an AXSM card in slot 9:

```
mgx8850a.9.AXSM.a >
```

If you have trouble executing a command, look at the switch prompt to see if you have selected the correct card and type for the command. The following example shows the response to an unrecognized command:

```
mgx8850a.9.AXSM.a > dspdate
ERR: unknown command: "dspdate"
```

The **dspdate** command must be run on a PXM45 card and is not recognized by an AXSM card.


**Tips**

The command examples in this book include the switch prompt so that you can verify which card type supports a command.

Because the **help** command is the only command that begins with **he**, you can use the abbreviated **he** command to display help. The following example demonstrates that the switch recognizes partial commands and displays long reports one page at a time.

```
pop20one.7.PXM.a > he
```

```
Available commands
-----
?
abortofflinediag
abortrev
actaudit
addaddr
addcontroller
addfltset
addpnni-node
addpnni-summary-addr
addpnport
addprfx
addred
addserialif
addtrapmgr
adduser
aes_ping
arpAdd
arpDelete
arpFlush
```

Type <CR> to continue, Q<CR> to stop:

Because the help report is too long to appear on one screen, it is displayed in pages. Press **Return** to display the next page, or type **q** and press **Return** to cancel the report display.

The following example demonstrates what can appear when a command is entered at the wrong card prompt.

```
mgx8850a.9.AXSM.a > dspcds
ERR: incorrect number of parameters: (not enough)
Syntax: dspcdsct <bw|gen|cosb|vcThr|cosThr>
```

```
bw|gen|cosb|vcThr|cosThr -- bw: Bandwidth parameters
                        gen: policing and CAC parameters
                        cosb: cosb parameters
                        vcThr: vc threshold parameters
                        cosThr: cosb threshold parameters
```



In the example above, the **dspecs** command is entered at the AXSM card prompt, but this command is not supported on the AXSM card (although the **dspec** command is). Because the command isn't recognized, the switch matches it up to a command that is supported, which is the **dspecdset** command. Because the command was entered without parameters, the switch displays an error message and the correct format for entering the **dspecdset** command.

Whenever the switch displays an error message, be sure to check the spelling of the command, the parameters entered with the command, and the prompt at which the command was entered.

## Getting Command Help

The following sections describe how to display the following types of command help:

- Available commands
- Available commands with additional information on access levels and logging
- Command syntax and parameters

## Displaying Command Lists

To display a list of all the commands available, enter the **help** command as follows:

```
mgx8850a.7.PXM.a > help
```

To display a list of commands that include a common set of characters, enter a question mark and the common set of characters as shown in the following example:

```
pop20one.7.PXM.a > ? ip
```

```
Available commands
-----
cliPlugin
cliPlugout
cnfifip
cnfilmiproto
cnftrapip
delifip
dspifip
dspipconntask
dspipif
dspipifcache
dsptrapip
ipifconfig
pntracevsipkt
setipconndebug
```

## Displaying Detailed Command Lists

Detailed command lists display the following additional information for each command:

- The access level required to execute the command
- The card state in which the command can be executed
- Whether command execution is logged

**Note**

To display detailed command lists, you must establish a session using a username with `SERVICE_GP` privileges or higher (Access privileges are described later in this chapter in “[Configuring User Access](#)”).

To enable detailed command lists, enter the `clidbplevel` command as shown in the following example:

```
pop20two.7.PXM.a > clidbplevel 1
Value of cliDbxLevel is now 1
```

After you enter this command, you can display detailed command lists by entering the `help` command as shown in the following example:

```
pop20one.7.PXM.a > help
```

Command	Access	Card	Log
?	ANYUSER	ANY_STATE	-
abortofflinediag	SERVICE_GP	ANY_STATE	-
abortrev	SERVICE_GP	ANY_STATE	+
actaudit	SUPER_GP	ACTIVE_ONLY	+
addaddr	GROUP1	ACTIVE_ONLY	+
addcontroller	SUPER_GP	ACTIVE_ONLY	+
addfltset	GROUP1	ACTIVE_ONLY	+
addpnni-node	SUPER_GP	ACTIVE_ONLY	+
addpnni-summary-addr	SUPER_GP	ACTIVE_ONLY	+
addpnport	GROUP1	ACTIVE_ONLY	+
addprfx	GROUP1	ACTIVE_ONLY	+
addred	SUPER_GP	ACTIVE_ONLY	-
addserialif	SUPER_GP	ACTIVE_ONLY	-
addtrapmgr	SUPER_GP	ACTIVE_ONLY	+
adduser	GROUP1	ACTIVE_ONLY	+
aesa_ping	SUPER_GP	ACTIVE_ONLY	+
arpAdd	SUPER_GP	ANY_STATE	+
arpDelete	SUPER_GP	ANY_STATE	+
arpFlush	SUPER_GP	ANY_STATE	+

Type <CR> to continue, Q<CR> to stop: (command aborted)

**Note**

After you enter the `clidbplevel` command, the `help` command displays detailed reports for that session only. You can disable detailed reports by entering the `clidbplevel 0` command. Every time you start a new session, detailed command lists are disabled.

The Access column shows the access level required to execute the command. Access levels are described in “[Configuring User Access](#),” which appears later in this chapter.

The Card column identifies the card states during which the command can be executed. Valid card states are active, standby, and initialized. Cards are labeled as *initialized* during switch startup. The options that appear in the Card column are described in [Table 2-3](#).

If a plus symbol appears in the Log column, each execution of the command is logged. If a minus symbol appears in the column, the command is not logged.

**Table 2-3 Card State Descriptions**

Card State	Description
ACTIVE_ONLY	Command is supported when card state is active.
ANY_STATE	Command is supported when the card state is active or standby.
ALLSTATES	Command is supported in active, standby, and initialized states.
CLIINIT	Command is supported while card is in the initialized state.
IN_NO_STATE	Command is disabled.

## Displaying Command Syntax and Parameters

To display the syntax of a command, enter the command without any parameters. The following example shows the syntax report provided by the switch using the **addport** command.

```
pop20two.1.AXSM.a > addport
ERR: incorrect number of parameters: (not enough)
Syntax: addport "<ifNum> <bay.line> <guaranteedRate> <maxRate> <sctID> <ifType>
        [vpi]"
        If Number -- number between 1 and 60
        Line Number -- format bay.line
        Guaranteed virtual int. Rate -- rates in cells/sec:
        Max virtual int. Rate -- for OC48:between 50 and 5651320
                               for OC12:between 50 and 1412830
                               for OC3:between 50 and 353207
                               for T3:between 50 and 96000 (PLCP), 104268 (ADM)
                               for E3:between 50 and 80000
        SctID -- Port SCT Id between 0 and 255, for default file use 0
        IfType -- 1: uni 2: nni 3: vnni
        vpiNum -- vpi between 1 and 4095:
                used for configuring interface as virtual trunk
```

When a parameter is shown between less-than (<) and greater-than (>) symbols, the parameter represents a variable that must be replaced by a value. The values are described below the command syntax.

When the parameter is shown between brackets ([ ]), it is an optional parameter. If you omit an optional parameter, most commands will use the last value defined for the option. If no value has been assigned to an option, the default value is used.



### Note

Some commands, such as **dspcd** and **saveallcnf**, do not require parameters, so entering the command without parameters executes the command. When you enter the **saveallcnf** command, which saves the current switch configuration to a file, the switch prompts you to confirm the save before execution begins. Whenever the switch prompts you to confirm a command, the command you are confirming is likely to change the switch configuration or reduce switch performance.

# Configuring User Access

The usernames and passwords supplied with your switch provide access to all switch features, and they allow you to add and delete users and change user passwords.

When configuring user access for the switch, consider the following recommendations:

- Change the default passwords provided with your switch. These passwords are published on the Cisco web site and enable anyone with local or remote network access to configure and manage your switch.
- Share the usernames and passwords with only one or two people.
- If usernames and passwords become common knowledge during the switch installation and configuration, change the passwords.
- If additional users need access to the switch, create usernames and passwords below the top levels so that these users cannot access or modify the top level user information.

The following sections describe how to add users, change passwords for existing users, delete users, and recover the user *cisco* password.

## Adding Users

The switch supports up to 50 users. When you add users, you must specify the following for each user:

- user name
- password
- access level

The user name and password identify the user and determine the user's access level for switch management.

An access level must be assigned to a user when the user is added to the switch. The access levels listed in [Table 2-4](#) are used throughout this guide to indicate the level of access required to execute a command or complete a procedure. These access levels are also called access privileges. If a user has access privileges at a lower level than a command requires, the user cannot execute the command. If the user has access privileges at the level required or at a higher level, the user can execute the command.

**Table 2-4 User Access Levels**

Access Level	Descriptions
CISCO_GP	<p>This is the highest user access level. Users with this access level have complete access to all commands.</p> <p>There is only one user at the CISCO_GP level, and that username is <i>cisco</i>. The default password for user <i>cisco</i> is <i>cisco</i>.</p> <p>Users at the CISCO_GP access level can add users, delete users, change passwords, and change access levels for users at the following levels: SERVICE_GP, SUPERUSER_GP, GROUP1 to GROUP5, and ANYUSER.</p>
SERVICE_GP	<p>This access level allows access to commands that update switch firmware, save and restore the switch configuration, and enable debugging. This access level also provides access to all commands in all lower access levels: SUPERUSER_GP, GROUP1, and ANYUSER.</p> <p>The default username is <i>service</i>. The default password is <i>serviceuser</i>.</p> <p>Users at the service access level can add users, delete users, change passwords, and change access levels for users at the following levels: SUPERUSER_GP, GROUP1 to GROUP5, and ANYUSER.</p>
SUPER_GP	<p>This access level allows users to configure switch level parameters such as the node name, date, and interface IP addresses. Users at this level can also enable traces. This access level also provides access to all commands in all lower access levels: GROUP1 to GROUP5 and ANYUSER.</p> <p>The default username is <i>superuser</i>, and the default password is <i>superuser</i>.</p> <p>Users at the superuser access level can add users, delete users, change passwords, and change access levels for users at the following levels: GROUP1 to GROUP5 and ANYUSER.</p>
GROUP1	<p>This access level allows users to configure line and port level parameters. This access level also provides access to all commands at the GROUP2 to GROUP5 and ANYUSER access levels.</p> <p>No default username and password is provided for this access level.</p> <p>Users at the GROUP1 access level can add users, delete users, and change passwords for users at the GROUP2 to GROUP5 and ANYUSER access levels.</p>
GROUP2 through GROUP5	<p>In this release, the GROUP2, GROUP3, GROUP4, and GROUP5 access levels provide the same level of control as the ANYUSER access level. No CLI commands are assigned to any of these access levels.</p> <p>No default username and password is provided for these access levels.</p>
ANYUSER	<p>This access level allows users to run display and status commands that display the switch configuration and operational status.</p> <p>No default username and password is provided for this access level.</p>

To add a user to the switch, use the following procedure.

**Step 1** Establish a CLI management session with GROUP1 privileges or higher. To add a user at a specific access level, you must log in as a user with a higher access level.

**Step 2** Enter the following command after the switch prompt:

```
mgx8850a.7.PXM.a >adduser <username> <accessLevel>
```

Enter the *username* using 1–12 alphanumeric characters. Specify the access level by entering one of the levels defined in [Table 2-4](#).



**Note**

The access levels are case-sensitive and must be entered as shown in [Table 2-4](#). Also, you cannot add users at access levels that are equal to or above your own access level.



**Tips**

To determine which commands are available at a particular access level, log into the switch as a user at that access level, then enter the **help** command.

If you enter the command correctly, the switch prompts you for a password.

**Step 3** Enter a password using 5 to 15 characters.

**Step 4** When prompted, enter the password a second time to validate the previous entry.

This completes the addition of the new user.

**Step 5** To display the new user in a list of all users, enter the command **dsusers**.

**Step 6** To test the username, enter the **bye** command, then log in as the new user.



**Tips**

If you forget which username you used to log in, enter the **whoami** command. This command displays the username, access level, and access method (for example, Telnet) for the current session.

## Changing Your Own User Password

Use the **cnfpasswd** command to change your own password.



**Note**

The **cnfuser** command allows you to change another user's password if you have the correct access privileges. The next section describes how to use the **cnfuser** command.

To change your own password with the **cnfpasswd** command, use the following procedure.

**Step 1** Establish a CLI management session using the username for which you want to change the password.

**Step 2** Enter the following command after the switch prompt:

```
mgx8850a.7.PXM.a >cnfpasswd
```

**Step 3** When prompted, enter your current password.

- Step 4** When prompted, enter a new password using 5 to 15 characters.
- Step 5** When prompted, enter the new password a second time to validate the correct entry.  
This completes the change of password.
- Step 6** To test the new password, enter the **bye** command, then log in using the new password.

## Changing User Access Levels and Passwords with **cnfuser**

After you create a user, you can change that user's access level or password using the **cnfuser** command.



**Note** You can also change the user password with the **cnfpasswd** command as described in the preceding section.

To change the user level or password of a switch user, use the following procedure.

- Step 1** Establish a CLI management session using the username for which you want to change the password or a username with privileges at least one level higher than those of the user whose password you want to change.

- Step 2** Enter the following command after the switch prompt:

```
mgx8850a.7.PXM.a >cnfuser -u <username> [-p <password>] [-l <accessLevel>]
```

Replace *username* with the name of the user for whom you are making the change.

If you are changing the password, specify the **-p** option and enter a password containing 5-15 characters. If you are changing the user access level, specify the **-l** (lowercase L) option and enter the appropriate access level as shown in [Table 2-4](#).



**Note** You can change passwords and access levels only for users who have privileges lower than the username you used to log in.

- Step 3** To test a new password, enter the **bye** command, then log in using the new password.

- Step 4** To verify a user access level change, enter the **dspusers** command.

The **dspusers** command displays all the usernames and the access level for each user as shown in the following example:

```
pop20two.7.PXM.a > dspusers

  UserId          AccessLevel
  -----
  cisco           CISCO_GP
  service         SERVICE_GP
  superuser       SUPER_GP
  jbowman         GROUP1
```

## Deleting Users

To delete a user, use the following procedure.

- 
- Step 1** Establish a CLI management session using a username with privileges at least one level higher than that of the user you want to delete.
- Step 2** Enter the following command after the switch prompt:
- ```
mgx8850a.7.PXM.a >deluser <username>
```
- Enter the *username* using 1 to 12 alphanumeric characters.
- This completes the deletion of a user.
- Step 3** To verify the user has been deleted, enter the command **dspusers**.
- 

## Resetting the User *cisco* Password

If you lose or forget your password for switch access, you should ask a user with a higher access level to reset your password using the **cnfuser** command. If you don't have any passwords for any access levels, you can use the following password recovery procedure to reset the password for user *cisco*. This procedure resets the user *cisco* password to *cisco* and leaves all other passwords unchanged (You can change the other passwords with the **cnfuser** command after logging in as user *cisco*).

- 
- Step 1** Establish a physical connection to the switch through the Console Port (CP) connector on the PXM UI-S3 card.



**Caution** Anyone with physical access to the switch Console Port can reset the password, deny access to other users, and reconfigure the switch. To prevent unauthorized switch access and configuration, the switch should be installed in a secure area.

---

- Step 2** When the login prompt appears, press **ESC**, **CTRL-Y** to reset the password.
- Step 3** Log in using username *cisco* and password *cisco*.
- Step 4** To maintain switch security after resetting the *cisco* user password, change the password using the **cnfpasswd** command.
- Step 5** To synchronize the new password on the standby PXM45, enter the **switchcc** command to make the standby card active, and then enter the **swtichcc** command a second time to return both cards to their state at the time of the password reset. The passwords on the active and standby cards are not synchronized until the **switchcc** command has been entered twice.
-



## Setting and Viewing the Switch Name

The switch name identifies the switch you are working on, which is important when you are managing multiple switches. The current switch name appears in the CLI prompt when you are managing a PXM45 cards and service modules. To change the switch name, use the following procedure.

---

**Step 1** Establish a configuration session using a user name with SUPER\_GP privileges or higher.

**Step 2** Enter the following command after the switch prompt:

```
unknown.7.PXM.a > cnfname <node name>
```

Enter up to 32 characters for the new node name, and since the node name is case-sensitive, be sure to use the correct case. For example:

```
unknown.7.PXM.a > cnfname pop20two
This node name will be changed to pop20two. Please Confirm
cnfname: Do you want to proceed (Yes/No)? y
cnfname: Configured this node name to pop20two Successfully.
```

```
pop20two.7.PXM.a >
```

The new name appears immediately in the next CLI prompt.

---

## Viewing and Setting the Switch Date and Time

The switch date and time is appended to event messages and logs. To assure that events are properly time stamped, use the following procedure to view and change the date and time.

---

**Step 1** Establish a configuration session using a user name with SUPER\_GP privileges or higher.

**Step 2** To view the current switch date and time, enter the following command after the switch prompt:

```
mgx8850a.7.PXM.a > dspdate
```

**Step 3** To change the switch date, enter the following command:

```
mgx8850a.7.PXM.a > cnfdate <mm/dd/yyyy>
```

**Step 4** To change the time zone, enter the following command:

```
mgx8850a.7.PXM.a > cnftmzn <timezone>
```

Replace *timezone* with **GMT** for Greenwich Mean Time, **EST** for Eastern Standard Time, **CST** for Central Standard Time, **MST** for Mountain Standard Time, **PST** for Pacific Standard Time. Options 2 through 5 are for switches located in the Western Hemisphere. If your switch is located outside the Western Hemisphere, select **GMT** and use the next step to specify an offset from GMT.

**Step 5** To configure an offset from GMT, enter the following command:

```
mgx8850a.7.PXM.a > cnftmzngmt <timeoffsetGMT>
```

Replace *timeoffsetGMT* with the offset in hours from GMT. Enter a number in the range of -12 to +12.

**Step 6** To change the switch time, enter the following command:

```
mgx8850a.7.PXM.a > cnftime <hh:mm:ss>
```

Replace *hh* with the hour of the day (0–23), *mm* with the minute of the hour (0–59), and *ss* with the number of seconds in the minute (0–60).

**Step 7** To verify the new date and time settings, enter the **dsptime** command.

## Configuring the PNNI Controller

The PNNI controller simplifies switch configuration by using the PNNI protocol to discover call routes in an ATM network. Without the PNNI controller, each route through the network would have to be defined manually. [Chapter 5, “Managing PNNI Routes,”](#) provides more information on PNNI. This section describes how to enable and configure the PNNI controller for the switch.



**Note** Before entering the following command, you must log in as a user with SUPER\_GP privileges or higher.

To enable and configure the PNNI controller, enter the following command:

```
mgx8850a.7.PXM.a > addcontroller <cntrlrId> i <cntrlrType> <lslot> [cntrlrName]
```

[Table 2-5](#) describes the parameters for the **addcontroller** command.



**Tips** Remember to include the *i* option, which identifies the controller as an internal controller.

**Table 2-5** Parameter Descriptions for the **addcontroller** Command

| Parameter         | Values | Descriptions                                                                                                                                                                                                                     |
|-------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>cntrlrId</i>   | 2      | Controller ID. Enter 2 to specify a PNNI controller.                                                                                                                                                                             |
|                   | i      | Enter the value i. This parameter will support additional values in future releases.                                                                                                                                             |
| <i>cntrlrType</i> | 2 or 3 | Controller type. Enter 2 to specify a PNNI controller.                                                                                                                                                                           |
| <i>lslot</i>      | 7      | Logical slot. Enter 7 to specify the PXM45 as the PNNI controller host.                                                                                                                                                          |
| <i>cntrlrName</i> | text   | Controller name. This parameter is optional. You can enter a text name to identify the PNNI or MPLS controller. If the name you want to use includes one or more space characters, enclose the entire name with quotation marks. |

To display the PNNI controller configuration, enter the **dspspcontrollers** command:

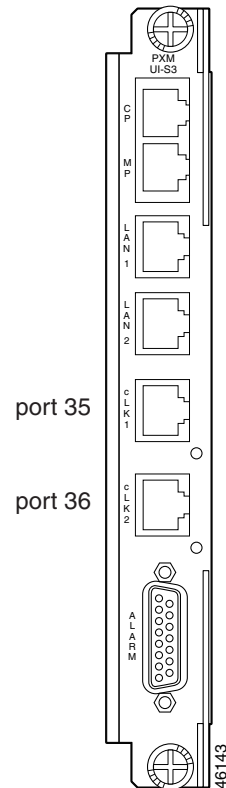
```
mgx8850a.7.PXM.a > dspspcontrollers
```

# Configuring BITS Clock Sources

The “[Network Clock Source Plan](#)” section in [Chapter 1, “Preparing for Configuration,”](#) introduces Building Integrated Timing System (BITS) clock sources and provides guidelines for developing a network clock source plan. When the network clock source plan requires BITS clock sources on the switch, you can use the procedure in this section to configure the BITS clock connections.

[Figure 2-2](#) shows how BITS clock sources connect to the PXM45 UI-S3 back card.

**Figure 2-2 BITS Clock Source Ports on PXM UI-S3 Back Card**



The PXM45-UI-S3 clock source ports can be used to receive clock signals from either T1 or E1 lines; the card does not support both line types simultaneously. These clock ports support stratum levels 1–3.

The PXM45 provides a *revertive* function that you can enable when the primary clock source is received on a BITS clock port. A clock source failure occurs when the signal is lost or the clock source has drifted out of the range specified for its stratum. When the revertive function is enabled, the switch automatically reverts to the primary BITS clock after the primary source operates within specification for 12 seconds.

The following procedure describes how to configure the switch to use clock sources on the BITS clock ports.

**Step 1** Establish a configuration session using a user name with GROUP1 privileges or higher.

**Step 2** To configure a primary or secondary BITS clock source, enter the **cnfclksrc** command:

```
mgx8850a.7.PXM.a > cnfclksrc <priority> [shelf.]slot.port -bits {e1|t1} [-revertive
{enable|disable}]
```

Table 2-6 describes the parameters for this command.

**Table 2-6 Parameter Descriptions for `cnfclksrc` Command when Used for PMX 45**

| Parameter       | Values               | Descriptions                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>priority</i> | primary or secondary | Replace <i>priority</i> with the type of clock source, which is either primary or secondary. The default is primary.                                                                                                                                                                                                                                                                                                                                                               |
| <i>shelf</i>    | 1                    | The <i>shelf</i> value is always 1 and is optional.                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <i>slot</i>     | 7                    | The <i>slot</i> number is 7 for the BITS clocks (regardless of whether the active PXM45 is in slot 7 or 8).                                                                                                                                                                                                                                                                                                                                                                        |
| <i>port</i>     | 35 through 38        | The <i>port</i> number identifies the port on the PXM45-UI-S3 to which the BITS clock is connected and the type of line connected. Select the appropriate port number from the following: <ul style="list-style-type: none"> <li>• Port 35 = T1 clock connected to upper clock port</li> <li>• Port 36 = E1 clock connected to upper clock port</li> <li>• Port 37 = T1 clock connected to lower clock port</li> <li>• Port 38 = E1 clock connected to lower clock port</li> </ul> |
| -bits           | e1 or t1             | The <b>-bits</b> option specifies whether the clock source line is an E1 or T1.                                                                                                                                                                                                                                                                                                                                                                                                    |
| -revertive      | enable or disable    | The <b>-revertive</b> option enables or disables the revertive feature for the BITS clock sources.                                                                                                                                                                                                                                                                                                                                                                                 |

**Step 3** To configure an additional BITS clock source, repeat [Step 2](#) using the correct parameters for the additional source.

**Step 4** To display the clock source configuration, enter the `dspclksrcs` command, which is described in [“Viewing the Configured Clock Sources,”](#) in [Chapter 6, “Switch Operating Procedures.”](#)

The following command example shows how to configure a primary E1 external clock source at the upper connector of the PXM45-UI-S3. Note the command punctuation.

```
mgx8850a.7.PXM.a > cnfclksrc primary 7.35 -bits e1
```

The next example configures a primary network clock source and enables the revertive option.

```
mgx8850a.7.PXM.a > cnfclksrc primary 7.36 -bits e1 -revertive enable
```

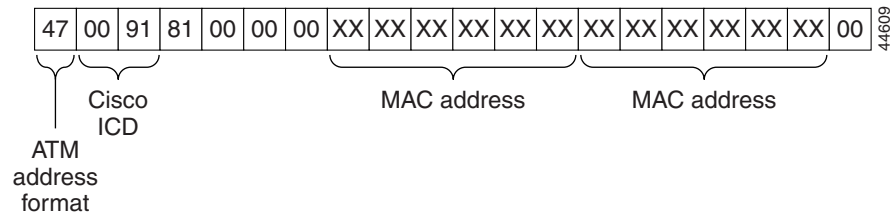
The last example disables the revertive function for an E1 BITS clock.

```
mgx8850a.7.PXM.a > cnfclksrc primary 7.36 -bits e1 -revertive disable
```

## Setting the PNNI Node Address

The PNNI node address is the switch ATM address that is advertised throughout the PNNI network. The default PNNI node address is shown in [Figure 2-3](#).

**Figure 2-3 Default PNNI Node Address**



The first byte (47) of the default address identifies the address as an International Code Designator (ICD) ATM End Station Address (AESAs). The second and third bytes (0091) are the globally unique ICD assigned to Cisco, and the next four bytes (81000000) are identical for all MGX 8850 switches. The unique portion of the default node address is the 6-byte MAC address, which is used in bytes 8 through 13 and again in bytes 14 through 19. Byte 20, which is the selector byte, is set to 00 by default.

Cisco assigns a unique MAC address to each PXM45 when it ships from the factory, and this is used to create a unique PNNI node address. For evaluation purposes, the Cisco unique ATM addresses are acceptable. For production networks, however, Cisco recommends that you change the PNNI node address to an address that conforms to the address plan for your business. For more information on creating an address plan, see “[Guidelines for Creating an ATM Address Plan](#),” in [Chapter 1, “Preparing for Configuration](#).”



### Caution

When installing new switches, you can assume that each default node address will be unique. When PXM45 cards are repaired or moved between switches, however, it is possible that two switches will start using the same node address. To prevent duplicate node addresses, use your own address plan, and check the node address whenever a PXM45 card is replaced or moved from one switch to another.

The following procedure describes how to set the PNNI node address for the switch.

**Step 1** Establish a configuration session using a user name with SUPER\_GP privileges or higher.

**Step 2** Disable PNNI node operation by entering the following command:

```
pop20one.7.PXM.a > cnfpnni-node node-index -enable false
```

The *node-index* uniquely defines a single PNNI node within the switch. The switch allows you to define multiple PNNI nodes within the switch. Initially, there is just one PNNI node, and its index number is 1. To disable the default PNNI node, replace *node-index* with 1.

**Step 3** Change the PNNI address with the **cnfpnni-node** command as follows:

```
pop20one.7.PXM.a > cnfpnni-node node-index [-atmAddr atm-address] [-level level]
[-nodeId nodeId]
```

[Table 2-7](#) describes the parameters for this command.



### Note

The **cnfpnni-node** command supports additional parameters that are not shown in [Table 2-7](#). For more information, refer to the *Cisco MGX 8850 Command Reference, Release 2*.

**Table 2-7 Parameter Descriptions for the `cnfpnni-node` Command**

| Parameter                | Values             | Descriptions                                                                                                                                                                                                                                                                                                     |
|--------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>node-index</code>  | 1 to 4,294,967,299 | This number uniquely defines a single PNNI node within the switch. The switch allows you to define multiple PNNI nodes within the switch. Initially, there is just one PNNI node, and its index number is 1. To change the PNNI node address for the default PNNI node, enter 1.                                 |
| <code>atm-address</code> |                    | Enter a 20-byte ATM address for the PNNI node. This address should conform to your ATM address plan. For more information, see “Guidelines for Creating an ATM Address Plan,” in Chapter 1, “Preparing for Configuration.”                                                                                       |
| <code>level</code>       | 1 to 104           | Enter the PNNI level for the peer group in which the switch operates. The default value is 56, and this value remains unchanged if you do not enter a new value. For more information on selecting a PNNI level, see “Guidelines for Creating an ATM Address Plan,” in Chapter 1, “Preparing for Configuration.” |
| <code>nodeId</code>      |                    | Enter a 22-byte node ID as shown in Figure 2-4. The level should match the level set with the <code>-level</code> option and the ATM address should match the address set with the <code>-atmAddr</code> option.                                                                                                 |

**Figure 2-4 Node ID**

|       |     |                     |       |
|-------|-----|---------------------|-------|
| Level | 160 | 20 byte ATM address | 44608 |
|-------|-----|---------------------|-------|

**Step 4** Enable PNNI node operation by entering the following command:

```
pop20one.7.PXM.a > cnfpnni-node node-index -enable true
```

Replace `node-index` with the value you used when disabling and reconfiguring the PNNI node.

**Step 5** To display the PNNI node configuration, enter the command:

```
pop20one.7.PXM.a > dspnni-node node-index
```

Replace `node-index` with the value you used when reconfiguring the PNNI node. The switch displays a report similar to the following:

```
pop20two.7.PXM.a > dspnni-node 1

node index: 1                               node name: pop20two
Level..... 56                               Lowest..... true
Restricted transit.. off                     Complex node..... off
Branching restricted on
Admin status..... up                         Operational status.. up
Non-transit for PGL election.. off
Node id.....56:160:47.00918100000000001a531c2a.00001a531c2a.01
ATM address.....47.00918100000000001a531c2a.00001a531c2a.01
Peer group id.....56:47.00.9181.0000.0000.0000.0000.00
```

# Setting the Switch IP Addresses

The switch uses two type of IP addresses for Ethernet LAN access:

- Boot IP addresses
- Node or disk IP addresses

The following sections describe how to set these addresses. For information on how the switch uses these addresses and how to choose the addresses to set, refer to [Chapter 1, “Guidelines for Creating an IP Address Plan.”](#)

**Note**

The switch also supports IP addresses for dial-in and ATM in-band access. For more information on these access options, refer to [Appendix C, “Supporting and Using Additional CLI Access Options.”](#)

## Setting the Boot IP Address

The boot IP address is the address a PXM45 card uses when it first starts up. If the switch cannot fully start, this IP address can be used to access the switch in boot mode. When the switch is properly configured (with different addresses set for the boot IP and disk IP addresses), the boot IP address can also be used to directly access the standby PXM45 card, while the disk IP address can be used to access the active PXM45.

**Note**

Because the node IP address doesn't work until after the runtime software loads, Cisco recommends that the boot IP address be set in every switch. This enables switch management when the boot software has loaded.

To set the boot IP address, use the **bootchange** command, which allows you to also define a remote boot location, a default gateway IP address, and a username and password for the remote boot location.

**Step 1** Establish a configuration session using a user name with SUPER\_GP privileges or higher.

**Step 2** Enter the **bootchange** command as shown in the following example.

```
pop20two.7.PXM.a > bootchange
```

```
'.' = clear field; '-' = go to previous field; ^D = quit
```

```
boot device          : lnPci
```

In the previous example, the switch is waiting for you to take action on the boot device option. You can press period (.) to clear the current value (lnPci), press minus (-) to go back to the previous field (although this is the first of 14 fields), or press **Return** to accept the current value and display the next option. The following example shows all options:

```
pop20two.7.PXM.a > bootchange

'.' = clear field; '-' = go to previous field; ^D = quit

boot device      : lnPci
processor number  : 0
host name        : bootserver
file name        : /users/jbowman/mgx8850/2.1/pxm45_002.001.000.000_mgx.fw
inet on ethernet (e) : 172.29.52.88
inet on backplane (b):
host inet (h)    : 171.71.153.27
gateway inet (g) : 172.29.52.1
user (u)         : rli
ftp password (pw) (blank = use rsh):
flags (f)        : 0x0
target name (tn) : pxm45-h10
startup script (s) :
other (o)        :
```



**Note** The only two options that must be set to support the boot IP address are *inet on ethernet (e)* and *gateway inet*.

**Step 3** Accept, clear, or change option values as necessary until the *inet on ethernet* option appears. [Table 2-8](#) defines the options that you can change.

**Table 2-8** *bootchange* Command Option Descriptions

| Option            | Description                                                                                                                          |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| boot device       | The lnPci value selects an external server as the boot source when the boot or runtime software is not found on the PXM45 hard disk. |
| processor number  | Do not change this option.                                                                                                           |
| host name         | The host name identifies an external server that has switch boot and runtime software.                                               |
| file name         | This option defines the path and filename of the runtime software on a remote server.                                                |
| inet on ethernet  | This option selects the boot IP address for the PXM45 you are configuring. (This PXM45 is identified in the switch prompt.)          |
| inet on backplane | Do not change this option.                                                                                                           |
| host inet         | The host inet option defines the IP address for the external server that has boot and runtime software for the switch.               |
| gateway inet      | The gateway inet option identifies the IP address for the default gateway on the subnet that hosts the switch.                       |



**Table 2-8** *bootchange Command Option Descriptions (continued)*

| Option         | Description                                                                                                                  |
|----------------|------------------------------------------------------------------------------------------------------------------------------|
| user           | This option defines a username that can be used for FTP access to the boot and runtime software files on a remote server.    |
| ftp password   | This option identifies a password that can be used for FTP access to the boot and runtime software files on a remote server. |
| flags          | Do not change this option.                                                                                                   |
| target name    | Do not change this option.                                                                                                   |
| startup script | Do not change this option.                                                                                                   |
| other          | Do not change this option.                                                                                                   |

**Step 4** Set the *inet on ethernet (e)* option to the boot IP address value you want to use. The following example shows how the command appears when a new value has been entered:

```
inet on ethernet (e) : 172.29.52.88 172.29.52.108
```

The 172.29.52.88 address appeared as part of the prompt. If no address had been previously defined, no text would appear after the colon. In this example, 172.29.52.108 is the new boot IP address.

**Step 5** Set the *gateway inet* option to the IP address for the default gateway on the subnet that hosts the switch.

**Step 6** Accept, clear, or change values as necessary until the switch prompt reappears.

**Step 7** To verify the new values you have set, enter the **bootchange** command and press return for each of the 14 values.

**Note**

MGX 8850 software releases prior to Release 2.0(12) supported unique addresses for the boot IP addresses on the PXM45 cards in slots 7 and 8. This approach required three unique addresses per switch. Beginning with Release 2.0(12), the **bootchange** command automatically sets the boot IP addresses for both slots 7 and 8 to the same IP address.

## Setting the Node or Disk IP Address

The node or disk IP address is the address an active PXM45 card uses during normal switch operation. This address serves as the node IP address, but it is also called the disk IP address in the CLI. The node IP address can be set to match the boot IP address when only one IP address is available, or it can be set to a unique address to support access to the standby PXM45 during regular operation. For more information on how the boot and node IP addresses are used, refer to [Chapter 1, “Guidelines for Creating an IP Address Plan.”](#)

To set the node IP address, use the **ipifconfig** command as described in the following procedure.

**Step 1** Establish a CLI management session using a username with SUPER\_GP privileges. The default user name and password for this level are *superuser, superuser*.

**Step 2** Verify that the IP address is not already configured by entering the **dspipif** command:

```
mgx8850a.7.PXM.a> dspipif lnPci0
```

**Note**

If you omit the **lnPci0** option, the switch displays the configuration for all switch IP interfaces: the ATM interface (atm0), the PXM45 LAN port interface (lnPci0), and the PXM45 maintenance port interface (sl0).

In the IP Interface Configuration Table, look for an Internet address entry under the lnPci entry. If an IP address is configured, you can use that address and skip the rest of this procedure. However, if the address has not been entered or is incompatible with your network, you must configure a valid IP address as described in the next step.

**Step 3** To set the IP address for the LAN port, enter the **ipifconfig** command using the following format:

```
mgx8850a.7.PXM.a> ipifconfig lnPci0 <IP_Addr> <netmask Mask>
```

Replace *IP\_Addr* with the IP address you want this port to use, and replace *Mask* with the network mask used on this network.

**Tips**

Cisco recommends that you use the same subnet for all IP addresses defined on all MGX 8850 switches. This simplifies router configuration.

**Note**

There are other options for the **ipifconfig** command, and you can set one or more options simultaneously. Any options you do not define in a command remain unchanged. For more information on this command, refer to *Cisco MGX 8850 Command Reference, Release 2*.

## Setting and Viewing the SPVC Prefix

The SPVC node prefix is the ATM prefix that PNNI advertises for all SPVCs and SPVPs on this node. The ATM address for each SPVC and SPVP is the combination of the SPVC prefix and a port identification number.

You can configure one SPVC node prefix per node. The default SPVC prefix is set to match the first 13 bytes of the default ATM address, which is shown in [Figure 2-3](#). In most cases, if you change the PNNI node address, you should change the SPVC prefix to match the new ATM address.

**Note**

Although the SPVC prefix is set to match the first 13 bytes of the PNNI node address by default, changing either the PNNI node address or the SPVC prefix has no effect on the other setting. If the PNNI node ATM address and the SPVC prefix do not match, the switch advertises both prefixes instead of just one, and this advertising consumes additional bandwidth.

To set the SPVC prefix, use the following procedure.

**Note**

You can change the SPVC prefix only when no SPVCs or SPVPs have been defined. Once an SPVC has been defined, you must delete all SPVCs before you can change the SPVC prefix. For information on deleting SPVCs, see “[Defining a Feeder Port](#)” in [Chapter 4](#), “[Provisioning AXSM Communication Links](#).”

**Step 1** Establish a configuration session using a user name with SUPER\_GP privileges or higher.

**Step 2** Use the following command to display the current SPVC prefix:

```
pop20two.7.PXM.a > dspspvcprfx
```

The switch response is similar to the following:

```
pop20two.7.PXM.a > dspspvcprfx
SPVC Node Prefix: 47.0091810000000001a531c2a
```

**Tips**

If the SPVC prefix begins with 47.009181000000, the SPVC prefix is probably set to the default value. To display the current PNNI node address, enter the **dsppnni-node** command.

**Step 3** To change the SPVC prefix, enter the following command:

```
pop20two.7.PXM.a > cnfspvcprfx <prefix>
```

Replace *prefix* with the 13-byte prefix you want to use.

**Note**

The SPVC node prefix for each node must be unique within the network.

**Step 4** Verify the correct entry of the prefix by entering the **dspspvcprfx** command.

## Configuring for Network Management

The MGX 8850 switch includes a Simple Network Management Protocol (SNMP) agent that you can configure for communications with a network management station such as Cisco WAN Manager (CWM) or a third-party SNMP manager. When configured for SNMP management, the switch accepts configuration commands from management stations and sends status and error messages to the management station.

Typically, CWM operates on a workstation connected to an IP network and uses IP over ATM connections to connect to the MGX 8850 switches. For information on establishing this type of access, refer to “[Setting Up ATM WAN Connections](#)” in [Appendix C](#), “[Supporting and Using Additional CLI Access Options](#).”

To support the auto-discovery feature of CWM, ILMI should be brought up on all links between the CWM workstation and the switches it will manage. For information on bringing up ILMI, refer to “[Configuring ILMI on a Port](#)” in [Chapter 4](#), “[Provisioning AXSM Communication Links](#).”

To configure information about a switch in the local SNMP agent, use the following procedure.

---

**Step 1** Establish a configuration session using a user name with SUPER\_GP privileges or higher.

**Step 2** To define the SNMP password for network management, enter the following command:

```
mgx8850a.7.PXM.a > cnfsnmp community [password]
```

If the *password* parameter is not specified, the password becomes “private.”

**Step 3** To define a text string that identifies the location of the switch to the management station, enter the following command:

```
mgx8850a.7.PXM.a > cnfsnmp location [location]
```

If the *location* parameter is not specified, the location is set to null (no text). The location value is sent to SNMP managers when information is requested about the sysLocation MIB object.

**Step 4** To define a text string that identifies a person to contact regarding issues with this switch, enter the following command:

```
mgx8850a.7.PXM.a > cnfsnmp contact [contact]
```

If the *contact* parameter is not specified, the location is set to null (no text). The contact value is sent to SNMP managers when information is requested about the sysContact MIB object.

**Step 5** To display the SNMP agent configuration, enter the **dspsnmp** command. The command display appears similar to the following:

```
pop20one.7.PXM.a > dspsnmp
pop20one                System Rev: 02.00   Jan. 14, 2001 17:47:50 GMT
MGX8850                 Node Alarm: MAJOR

Community:              private
System Location:        Tech Docs Lab
System Contact           jbowman
```

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