Chapter 1

Introducing the SRC CLI

The SRC command-line interface (CLI) is the software interface you use to configure the C-series Controller. You can also use the CLI to configure supported components for SRC software installed on Solaris platforms. This chapter provides an overview of the SRC CLI. Topics include:

- Overview of the SRC CLI on page 3

- Understanding SRC CLI Command Modes on page 4

- Understanding SRC Command and Statement Hierarchies on page 4

- Key Features of the SRC CLI on page 6

- Leveraging Industry-Standard Technologies on page 6

Overview of the SRC CLI

The SRC CLI is a JUNOS-like command shell that runs on top of a Linux-based operating system kernel on a C-series Controller or on top of a Solaris operating system. By leveraging industry-standard tools and utilities, the CLI provides a powerful set of commands you can use to monitor and configure the SRC software and a C-series Controller.

The SRC CLI is a straightforward command interface. You type commands on a single line, and the commands are executed when you press the **Enter** key. The CLI provides command help and command completion, and supports Emacs-style keyboard sequences that allow you to move around on a command line and scroll through recently executed commands.
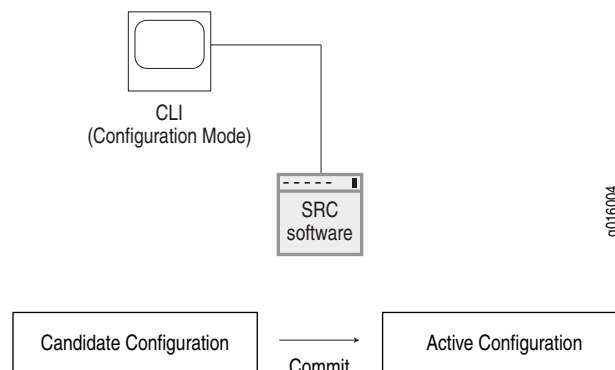
Understanding SRC CLI Command Modes

The SRC CLI has two modes:

■ Operational mode—Provides commands to monitor and troubleshoot system status.

■ Configuration mode—Provides commands and configuration statements to define properties for the SRC software. The statements appear in a hierarchy which groups related properties.

In configuration mode, you view and change a working configuration, called the *candidate configuration*. This configuration allows you to make configuration changes without causing operational changes to the current operating configuration, called the *active configuration*. The software does not implement the changes in a candidate configuration until you commit them, which activates the configuration in the SRC software.

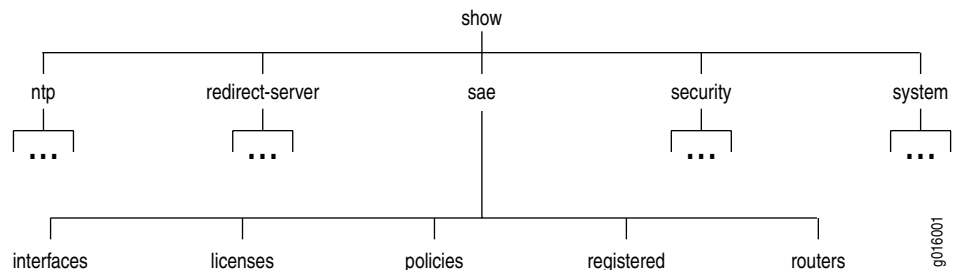**Figure 1: Committing a Configuration**

Understanding SRC Command and Statement Hierarchies

The SRC CLI provides numerous commands and statements and organizes them in a hierarchical fashion.

SRC CLI Command Hierarchy

CLI commands are organized in a hierarchy. Commands that perform a similar function are grouped together under the same level of the hierarchy. For example, all commands that display information about the system and the system software are grouped under the show system command. Figure 2 illustrates a portion of the show command hierarchy.

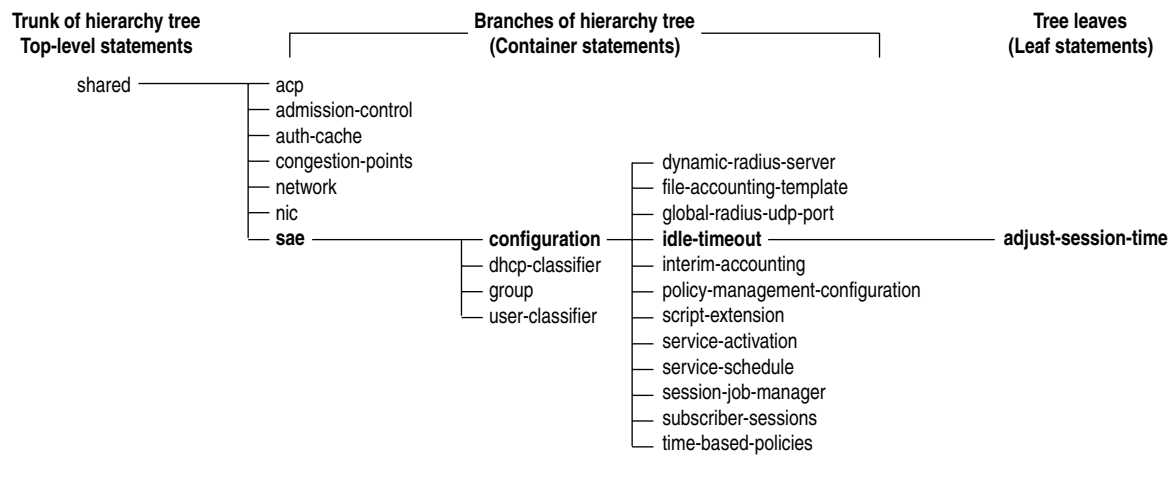**Figure 2: CLI Command Hierarchy Example**

To execute a command, you enter the full command name, starting at the top level of the hierarchy. For example, to display information about SAE licenses, you enter the show sae licenses command.

Configuration Statement Hierarchy

The configuration statement hierarchy has two types of statements: *container statements*, which are statements that contain other statements, and *leaf statements*, which do not contain other statements. All the container and leaf statements together form the *configuration hierarchy*.

Figure 3 illustrates part of the hierarchy tree.

Figure 3: Configuration Statement Hierarchy Example

Key Features of the SRC CLI

The hierarchical organization results in commands that have a regular syntax and provides several features that simplify SRC CLI use:

- Consistent command names—Commands that provide the same type of function have the same name, regardless of the portion of the software on which they are operating. As examples, all **show** commands display software information and statistics, and all **clear** commands erase various types of system information.

- Lists and short descriptions of available commands—Information about available commands is provided at each level of the CLI command hierarchy. If you type a question mark (**?**) at any level, you see a list of the available commands along with a short description of each command. This means that if you already are familiar with the SRC software, JUNOS software, or routing software, you can use many of the CLI commands without referring to the documentation.

- Detailed descriptions of command and configuration statements—Complete information about commands and statements from the **help** command. You can access the reference documentation for each command and statement by typing the **help** command followed by the command or **help configuration** followed by the configuration statement.

- Command completion—Command completion for command names (keywords) and for command options is also available at each level of the hierarchy. To complete a command or option that you have partially typed, press the Spacebar or the tab key. If the partially typed letters begin a string that uniquely identifies a command, the complete command name appears. Otherwise, a caret (^) indicates that you have entered an ambiguous command, and the possible completions are displayed. Completion also applies to other strings, such as filenames, interface names, usernames, and configuration statements.

Leveraging Industry-Standard Technologies

The operating system on a C-series Controller is based on a Linux kernel, with a special shell called the CLI (command-line interface). If you run the SRC software on a Solaris platform, the software leverages the features of a Solaris kernel. A variety of standard utilities are available. For example, you can:

- Use regular expression matching to locate and replace values and identifiers in a configuration, or to filter command output.

- Use Emacs-based key sequences to scroll through command output or edit the command line.

- On a C-series Controller, store and archive system files on a Linux-based file system.

  - You can use standard Linux conventions to specify filenames and paths.

  - You can exit from the CLI environment and create a Linux shell to navigate the file system, manage system processes, and so on.