Chapter 7
Filtering Command Output in the SRC CLI

For commands that display output, such as the **show** commands, you can filter the output. Topics include:

■ Using Keyboard Sequences at the MORE Prompt in the SRC CLI on page 69

■ Using the Pipe (|) Symbol When Entering Commands on page 70

Using Keyboard Sequences at the MORE Prompt in the SRC CLI

If the output from a command is longer than the screen length, it appears one screen at a time by means of a UNIX **more**-type interface. The prompt --(**more**)-- indicates that more output is available. This format is helpful when you want to scroll and search through lengthy output.

The SRC software uses the Less program to provide navigation and search capability at the **MORE** prompt. The SRC software does not permit the Less program access to files or the shell.

Table 11 lists the keyboard sequences for the commands most frequently used at the **MORE** prompt.

Table 11: MORE Prompt Keyboard Sequences

Category	Action	Keyboard Sequence
Get Help	Display information about the keyboard sequences you can display at the **MORE** prompt.	h, H
	Commands listed that access files or the shell are not supported.	
Scroll Down	Scroll down one line.	e, Ctrl+e, j, Ctrl+n, Enter, down arrow
	Scroll down one-half screen.	d, Ctrl+d
	Scroll down one whole screen.	f, Ctrl+f, Ctrl+v, z, Space
	Scroll down to the bottom of the output.	F
	Jump to the last line in the output and exit to the CLI prompt.	G

Table 11: MORE Prompt Keyboard Sequences (continued)

Category	Action	Keyboard Sequence
Scroll Up	Display the previous line of output.	y, Ctrl+y, k, Ctrl+k, Ctrl+p, up arrow
	Scroll up one-half screen.	u, Ctrl+u
	Scroll up one whole screen.	b, Ctrl+b, Esc+v, w
	Jump to the first line of the output.	g
Move left and right	Move right one-half screen width.	Esc +), right arrow
	Move left one-half screen width.	ESC + (, left arrow
Search	Search forward for a string. You can also search for a string by specifying the | match filter when entering a command using the pipe symbol. See *Displaying Output That Matches a Regular Expression* on page 74.	/ *string*
	Search backward for a string.	? *string*
	Repeat a previous search for a string.	Up arrow while in search mode
	Repeat the previous search for a string in the opposite direction.	Down arrow while in search mode
Interrupt or End Output, Redraw the Output, and Save the Output to a File	Interrupt the display of output.	q, :q, Q, :Q, ZZ
	Redraw the output on the screen.	r, Ctrl+r, Ctrl+l
	Redraw the output on the screen and discard buffered input.	R

Using the Pipe (|) Symbol When Entering Commands

You can filter output by adding the | (*pipe*) symbol when you enter a command. For example, you can use the pipe symbol after show configuration:

```
user@host> show configuration ?
Possible completions:
  <[Enter]>           Execute this command
> interfaces          Interfaces on the SDX platform
> policies            Policy configuration
> redirect-server     Redirect server properties
> routing-options     Protocol-independent routing option configuration
> services            Service configuration
> shared              Shared configuration
> slot                Component configuration
> snmp                SNMP agent
> subscribers         Subscriber and subscription configuration
> system              System parameters
|                   Pipe through a command
```

The following example lists the filters that can be used with the pipe symbol:

```
user@host> show configuration | ?
Possible completions:
  count                Count occurrences
  display              Show additional kinds of information
  except               Show only text that does not match a pattern
  find                 Search for first occurrence of the pattern
  last                 Display end of output only
  match                Show only text that does match a pattern
  no-more              Do not paginate output
  save                 Save output text to file
```

You can enter any of the pipe filters in conjunction. For example:

user@host> command | **match** regular-expression | **save** *filename*

See *Pipe Filter Functions* on page 72 for a description of each type of filter.

Using Regular Expressions with the Pipe Symbol

The except, find, and match filters used with the pipe symbol employ regular expressions to filter output. Juniper Networks uses the regular expressions as defined in POSIX 1003.2. (See Table 12.) If the regular expression contains spaces, operators, or wildcard characters, enclose the expression in quotation marks.

Table 12: Common Regular Expression Operators in Operational Mode Commands

Operator	Function
|	Indicates that a match can be one of the two terms on either side of the pipe.
^	Used at the beginning of an expression, denotes where a match should begin.
$	Used at the end of an expression, denotes that a term must be matched exactly up to the point of the $ character.
[ ]	Specifies a range of letters or digits to match. To separate the start and end of a range, use a hyphen (-).
( )	Specifies a group of terms to match.

For example, if a command produces the following output:

```
1 2
2 2
3 2 1
4
```

A pipe filter of | match 2 displays the following output:

```
1 2
2 2
3 2 1
```

A pipe filter of | except 1 displays the following output:

```
2 2
4
```

Related Topics

- *Disregarding Output That Does Not Match a Regular Expression* on page 73

- *Displaying Output from the First Match of a Regular Expression* on page 73

- *Displaying Output That Matches a Regular Expression* on page 74

Pipe Filter Functions

You can perform the following tasks by using the pipe filter:

- Counting the Number of Lines of Output on page 72

- Displaying Output in XML Tag Format on page 72

- Disregarding Output That Does Not Match a Regular Expression on page 73

- Displaying Output from the First Match of a Regular Expression on page 73

- Displaying the End of the Output for a Command on page 74

- Displaying Output That Matches a Regular Expression on page 74

- Preventing Output from Being Paginated on page 75

- Saving Output to a File on page 75

Counting the Number of Lines of Output

To count the number of lines in the output from a command:

- Enter count after the pipe symbol.

    For example:

    ```
    user@host> show configuration | count
    Count: 369 lines
    ```

Displaying Output in XML Tag Format

To display command output in XML tag format:

- Enter display xml after the pipe symbol.

The following example displays the show cli directory command output as XML tags:

```
user@host> show cli directory | display xml
<?xml version="1.0"?>
<output>
Current directory: /root
</output>
```

Disregarding Output That Does Not Match a Regular Expression

If the regular expression contains any spaces, operators, or wildcard characters, enclose it in quotation marks.

For information about common regular expression operators, see Table 12 on page 71.

To disregard text that matches a regular expression:

■ Specify the **except** command after the pipe symbol.

The following example displays information about configuration interfaces with the exception of the family information for each interface:

```
user@host> show configuration interfaces |except family
lo {
  unit 0 {
      inet {
        address 192.0.0.1;
      }
    }
  }
}
eth0 {
  unit 0 {
      inet {
        address 10.27.7.45/24;
      }
    }
  }
}
```

Displaying Output from the First Match of a Regular Expression

When you use regular expressions, enclose any spaces, operators, or wildcard characters in quotation marks.

For information about common regular expression operators, see Table 12 on page 71.

To display output starting with the first occurrence of text matching a regular expression:

■ Enter **find** after the pipe symbol.

The following example starts displaying information for the show system information command starting with the Current time section of the output:

```
user@host> show system information |find time
Current time            2006-10-31 09:34:17 EST
Uptime                  11 days, 17:26
Number of active users  2
Load Averages (1m/5m/15m) 0.09/0.08/0.09

Memory
```

```
Total 15G
Free  14G

CPU Info
Number of CPU 4
CPU Model    Dual Core AMD Opteron(tm) Processor 265
Clock Speed  1804.137 MHz

Disk Information
 Mountpoint        Total Used  Use%
 /                 2015M 1018M  50%
 /altroot          2015M 1015M  50%
 /boot               98M   14M  14%
 /var              5039M  497M   9%


. . .
```

Displaying the End of the Output for a Command

To display the end of the output for a command:

- Enter last after the pipe symbol.

The following example shows the end of the output for the show system information command.

```
user@host> show system information |last
Temperature
System +26 C
CPU-1  +39 C
CPU-2  +39 C

Fan Speed
Fan-1 9375 RPM
Fan-2 9375 RPM
```

Displaying Output That Matches a Regular Expression

If the regular expression contains any spaces, operators, or wildcard characters, enclose it in quotation marks.

For information about common regular expression operators, see Table 12 on page 71.

To display output that matches a regular expression:

- Enter match *regular-expression* after the pipe symbol.

The following example matches all Ethernet interfaces in the interface configuration:

```
user@host> show configuration interfaces | match eth
eth0 {
```

Preventing Output from Being Paginated

By default, if output is longer than the length of the terminal screen, a MORE message lets you display the remaining output when you press the Spacebar. You can use the | no-more filter to display all output at once. This feature is useful when you want access to the entire output, such as to copy the entire output and paste it into an e-mail message.

To prevent the output from being paginated:

■ Enter no-more after the pipe symbol.

For example, to display all output from the show configuration command at once:

user@host> **show configuration | no-more**

Saving Output to a File

When command output is lengthy, when you need to store or analyze the output, or when you need to send the output in an e-mail or by FTP, you can save the output to a file.

NOTE: When you run a show command, your SRC privileges determine the information that you view. Therefore, when you save this information, you are saving only the configuration information that you have privileges to view.

By default, the file is placed in the current working directory of the CLI.

To save command output to a file:

■ Enter save *filename* after the pipe symbol.

The following example saves the output from the show command to a file named my-config-info.txt:

```
[edit system]
user@host> show | save my-config-info.txt
Wrote 78 lines of output to 'my-config-info.txt'
user@host>
```