CHAPTER 1

Using the CLI

This chapter provides a general overview of the Cisco VFrame Data Center command-line interface (CLI). It describes how to start a CLI session, how to enter commands, and how to view CLI online help. Details about individual commands appear later in this guide.

This chapter includes the following sections:

Setting Up the Director

This guide assumes that your Director has already been set up. If this is not the case, then set up your Director by connecting to the management port and running the VFrame Data Center **setup** command from the command line. See the *Cisco VFrame Data Center Installation and Configuration Guide* for complete information about how to set up a Director.

Starting a CLI Session

To start a CLI session, perform the following steps:

Step 1 Start an SSH client.

Step 2 Create a connection to the Director.

Step 3 Log in to the Director using **admin** as your username.

Note admin and macrouser are two types of accounts that you use on a Director. The admin account provides all of the CLI commands. The macrouser account provides a document named LOM_INVENTORY_REFERENCE.TXT. This document is a LOM inventory reference used for building LOM inventory files. See the *Cisco VFrame Data Center Administration Guide* for complete information about the admin and macrouser accounts.

When you are connected, you will see the command line. Example 1-1 shows an example of what you see when you log in:

Example 1-1 VFrame Data Center Director Command Line

```
SSH Secure Shell 3.2.0 (Build 267)
Copyright (c) 2000-2002 SSH Communications Security Corp - http://www.ssh.com/

This copy of SSH Secure Shell is a commercial version
licensed to CD-ROM customer, N/A.

Last login: Tue Nov 13 16:34:06 2007
VFrame Data Center 1.1.4
Copyright 2007, Cisco Systems,Inc.

test-100#
```

Command Modes

Table 1-1 lists the command modes and command prompts.

Table 1-1 Command Modes

Mode	Command Prompt
User EXEC	`Exec#`
Global configuration	`config#`
Ethernet interface configuration	`config-eth#`

You enter a question mark (?) at the CLI prompt to list the commands available in the current mode.

Using User Exec Mode

All CLI sessions begin in user EXEC mode. This mode provides system commands and commands for viewing the system configuration. In user EXEC mode, you can perform the following tasks:

- Ethernet interface configuration
- File management
- Database management
- Debugging
- Installations and upgrades
- System configuration

- System information management
- Remote connection configuration

Following is a list of the commands available in user EXEC mode:

```
test-100# ?
User Exec commands:
    clear       Clear commands
    config      Enter configuration mode
    copy        Copy commands
    db          Manage Database Server
    debug       Debug commands
    del         Delete file(s)
    exit        Exit from the EXEC
    install     Install and upgrade commands
    no          Disable debugging functions
    ping        Ping a remote ip address
    reboot      Reboot the system
    setup       Configure the system
    show        Show running system information
    shutdown    Shutdown the system
    ssh         Ssh to a remote ip address
    tech        Tech commands
    telnet      Telnet to a remote ip address
    traceroute  Trace the route to a remote ip address
test-100#
```

In user EXEC mode, you access global configuration mode.

Using Global Configuration Mode

When you enter the **config** command in user EXEC mode, you enter global configuration mode. In global configuration mode, you can perform the following tasks:

- Clock management
- GIR management
- IP configuration
- License configuration
- NTP configuration
- HA configuration
- Password management
- VHA configuration

Following is a list of the commands available in global configuration mode:

```
test-100# config
Enter configuration commands, one per line. End with CNTL/Z.
test-100(config)# ?
Configure commands:
    clock       Hardware clock Configuration
    do          EXEC command
    end         Exit from configure mode
    exit        Exit from configure mode
    gir         Golden Image Repository configuration
    interface   Configure interface
    ip          Configure IP features
    license     License configuration
```

```
    no          Negate a command or set its defaults
    ntp         NTP Configuration
    redundancy  Redundancy Configuration
    user        Configure user details
    vha         VFrame Host Agent configuration
test-100(config)#
```

From the global configuration mode, you access the Ethernet interface configuration mode.

Using Ethernet Interface Configuration Mode

When you enter the **interface eth <0-2>** command in global configuration mode, you enter ethernet interface configuration mode. In ethernet interface configuration mode, you enable or disable Ethernet interfaces 0, 1 and 2. Following is a list of the commands in ethernet interface configuration mode:

```
test-100# config
Enter configuration commands, one per line.  End with CNTL/Z.
test-100(config)# interface eth 0
test-100(config-eth)# ?
Configure ethernet interface:
    do        EXEC command
    exit      Exit from this submode
    no        Negate a command or set its defaults
    shutdown  Shutdown the interface
test-100(config-eth)#
```

Entering and Exiting Modes

Most commands are mode-dependent. For example, you can configure clock settings in global configuration mode only. To use the various commands, you must enter and exit CLI modes. Use the **exit** and **end** commands to exit modes.

The following example shows you how to enter and exit the global configuration mode:

```
test-100# config
Enter configuration commands, one per line.  End with CNTL/Z.
test-100(config)# exit
test-100#
```

The following example shows you how to enter and exit ethernet interface configuration mode:

```
test-100# config
Enter configuration commands, one per line.  End with CNTL/Z.
test-100(config)# interface eth 0
test-100(config-eth)# exit
test-100(config)# exit
test-100#
```

The following example shows you how to exit ethernet interface configuration mode to the user EXEC mode using the **end** command:

```
test-100(config-eth)# end
test-100#
```

The following example shows you how to exit global configuration mode to the user EXEC mode using the **end** command:

```
test-100(config)# end
```

```
test-100#
```

Note If you enter the **exit** command in user EXEC mode, your SSH session ends.

Command Help

Enter part of a command string, and end it with a question mark (?) to display options that you can use to complete the string:

```
test-100# c?
clear   config  copy
```

To facilitate command entry, you do not need to enter CLI commands in their entirety. You can enter just enough of each command or argument to make it uniquely identifiable.

```
test-100# cop ?
  backup  Make a local backup
  file    Copy a file to a remote URL.
  logs    Dump logs to a remote URL.
  setup   Copy the setup config to a remote site
  url     URL keywork
```

When enough characters have been entered to uniquely identify a command or keyword in a command string, you can leave the partially-typed command or keyword, enter a space, and then add additional keywords or arguments, or you can press the **Tab** key to complete the commands or keywords to improve readability.

Correcting Commands

The CLI responds to invalid command input by identifying the first letter of the input with an carat immediately below the error, followed by text describing the error. The first example shows a misspelled command.

```
test-100# pong
          ^
% invalid command detected at '^' marker.
test-100#
```

In the next example, part of the command is incorrect. The carat indicates that the **file** keyword cannot immediately follow the **backup** keyword in this command.

```
test-100# copy backup file
                     ^
% invalid command detected at '^' marker.
test-100#
```

The system response to command-line errors is different when you use the question mark (?) to obtain help for a command. In this case, the system repeats your input following the subsequent prompt, as shown in the following example.

```
test-100# show interfce ?
% invalid command
test-100# show interfce
```

Editing the CLI

Command-line editing lets you modify a command-line command that you have just entered or a command line that you entered previously in the CLI session. The CLI supports a variety of ways to edit the currently displayed command line. Table 1-2 lists and describes these options.

Table 1-2 Key Stroke Shortcuts

Key Strokes	Description
Ctrl-A	Moves the cursor to the beginning of the line.
Ctrl-B	Moves the cursor left (back) one character.
Ctrl-D	Deletes the current character.
Ctrl-E	Moves the cursor to the end of the line.
Ctrl-F	Moves the cursor to the right (forward) one character.
Ctrl-K	Deletes text from cursor to the end of the line.
Ctrl-L	Refreshes the input line.
Ctrl-N	Displays the next command in the history queue.
Ctrl-P	Displays the previous command in the history queue.
Ctrl-Q	Returns to user EXEC mode. **Note** If a command is entered on the command line, execute the command before returning to user EXEC mode.
Ctrl-T	Transposes the current and previous characters.
Ctrl-U	Deletes all text to the left of the cursor.
Ctrl-W	Deletes the text of a word up to cursor.
Ctrl-Z	Returns you to privileged EXEC mode.
Esc-B	Moves the cursor left (back) one word.
Esc-C	Converts characters, from the cursor to the end of the word, to upper case.
Esc-D	Deletes characters from the cursor through remainder of the word.
Esc-F	Moves the cursor right (forward) one word.
Esc-L	Converts characters, from the cursor to the end of the word, to lower case.
down-arrow	Displays the next command in the history queue.
up-arrow	Displays the previous command in the history queue.
left-arrow	Moves the cursor left (back) one character.
right-arrow	Moves the cursor right (forward) one character.

Exiting the CLI Session

To exit a CLI session, return to user EXEC mode and enter the **exit** command.

```
test-100# exit
```

The CLI session ends.

Using the Documentation

The command pages in this guide provide information about each command. Each command page is divided into subsections, providing easy access to information. Each command page begins with a brief, high-level description of the command, followed by the command syntax.

Text Conventions

The following text conventions indicate how the command is entered on the command line:

- Text in **bold** font represents text that you enter exactly as it appears.
- Text in *italicized* font represents variables that you replace with actual values when you enter a command at the command line.
- Square brackets [ ] enclose optional syntax. Do not enter square brackets in the CLI.
- Braces { } enclose required syntax. Do not enter braces in the CLI.
- The pipe character | delineates between selections in syntax. If command X requires argument Y or argument Z, but not both at the same time, the syntax will appears as follows:

  X {**Y** | **Z**}

The following sections describe the subsections in the command descriptions.

Command Description

The Command Description subsection provides a brief, high-level description of the command.

Syntax Description

The Syntax Description subsection provides a table that describes all syntax arguments.

Defaults

The Defaults subsection provides any defaults that are built into the command.

Command Modes

The Command Modes subsection indicates the command mode that you must be in to execute the command.

Usage Guidelines

The Usage Guidelines subsection provides additional information and details to help you use a command to its full potential.

Command History

The Command History subsection lists when the command was added to the CLI and any changes that were made to the command.

Examples

The Examples subsection provides command examples and output.

Related Commands

The Related Commands subsection provides related CLI commands.