CHAPTER 1

Overview of the Cisco NCS Command-Line Interface

This chapter provides an overview of how to access the Cisco Prime Network Control System (NCS) command-line interface (CLI), the different command modes, and the commands that are available in each mode.

You can configure and monitor the Cisco NCS through the web interface. You can also use the CLI to perform the configuration and monitoring tasks described in this guide.

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- Command Modes in the Cisco NCS CLI, page 1-4
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Accessing the Cisco NCS Command Environment

You can access the Cisco NCS CLI through a secure shell (SSH) client or the console port using one of the following machines:

- Windows PC running Windows XP/Vista
- Apple Computer running Mac OS X 10.4 or later
- PC running Linux

For detailed information on accessing the CLI, see Chapter 2, “Using the Cisco NCS Command-Line Interface”.

User Accounts and Modes in the Cisco NCS CLI

Two different types of accounts are available on the Cisco NCS CLI:

- Admin (administrator)
- Operator (user)

When you power on the Cisco NCS appliance for the first time, you are prompted to run the **setup** utility to configure the appliances. During this setup process, an administrator user account, also known as an Admin account, is created. After you enter the initial configuration information, the appliance automatically reboots and prompts you to enter the username and the password that you specified for the Admin account. You must use this Admin account to log in to the Cisco NCS CLI for the first time.

An Admin can create and manage Operator (user) accounts (which have limited privileges and access to the Cisco NCS server). An Admin account also provides the functionality that is needed to use the Cisco NCS CLI.

To create more users (with admin and operator privileges) with SSH access to the Cisco NCS CLI, you must enter the **username** command in configuration mode (see Command Modes in the Cisco NCS CLI, page 1-4).

Table 1-1 lists the command privileges for each type of user account: Admin and Operator (user).

Table 1-1 Command Privileges

	User Account	
Command	**Admin**	**Operator (User)**
application commands	*	
backup	*	
backup-logs	*	
cdp run	*	
clock	*	
configure terminal	*	
copy commands	*	
debug	*	
delete	*	
dir	*	
exit	*	*
forceout	*	
halt	*	
mkdir	*	
ncs	*	
nslookup	*	*
patch	*	
patch install	*	
patch remove	*	
ping	*	*
ping6	*	*
reload	*	
repository	*	
restore commands	*	

Table 1-1 Command Privileges (continued)

Command	User Account	
	Admin	Operator (User)
rmdir	*	
root	*	
root_enable	*	
show application	*	
show backup	*	
show cdp	*	*
show clock	*	*
show cpu	*	*
show disks	*	*
show icmp_status	*	*
show interface	*	*
show inventory	*	*
show ip route	*	
show logging	*	*
show logins	*	*
show memory	*	*
show ntp	*	*
show ports	*	*
show process	*	*
show repository	*	
show restore	*	
show running-config	*	
show startup-config	*	
show tech-support	*	
show terminal	*	*
show timezone	*	*
show timezones	*	
show udi	*	*
show uptime	*	*
show users	*	
show version	*	*
ssh	*	*
tech	*	
telnet	*	*

Table 1-1 Command Privileges (continued)

Command	User Account	
	Admin	Operator (User)
terminal	*	*
traceroute	*	*
undebug	*	
write	*	

Logging in to the Cisco NCS server places you in operator (user) mode or admin (EXEC) mode, which always requires a username and password for authentication.

You can tell which mode you are in by looking at the prompt. A right angle bracket (>) appears at the end of operator (user) mode prompt; a pound sign (#) appears at the end of admin mode prompt, regardless of the submode.

Command Modes in the Cisco NCS CLI

The Cisco NCS supports the following command modes:

- EXEC—Use the commands in this mode to perform system-level configuration. See EXEC Commands, page 1-4. In addition, refer to the commands in the EXEC mode that generate operational logs as listed in Table 1-6.
- Configuration—Use the commands in this mode to perform configuration tasks in the Cisco NCS. See Configuration Commands, page 1-7. In addition, refer to the commands in configuration mode that generate operational logs as listed in Table 1-5.

EXEC Commands

EXEC commands primarily include system-level commands such as **show** and **reload** (for example, application installation, application start and stop, copy files and installations, restore backups, and display information).

- Table 1-2 describes the EXEC commands
- Table 1-3 describes the show commands in EXEC mode

For detailed information on EXEC commands, see Understanding Command Modes, page 2-5.

EXEC or System-Level Commands

Table 1-2 describes EXEC mode commands.

Table 1-2 Summary of EXEC Commands

Command	Description
application install	Installs a specific application bundle.
application remove	Removes a specific application.

Table 1-2 Summary of EXEC Commands (continued)

Command	Description
application start	Starts or enables a specific application.
application stop	Stops or disables a specific application.
application upgrade	Upgrades a specific application bundle.
backup	Performs a backup and places the backup in a repository.
backup-logs	Performs a backup of all the logs on the Cisco NCS to a remote location.
clock	Sets the system clock on the Cisco NCS server.
configure	Enters configuration mode.
copy	Copies any file from a source to a destination.
debug	Displays any errors or events for various command situations; for example, backup and restore, configuration, copy, resource locking, file transfer, and user management.
delete	Deletes a file in the Cisco NCS server.
dir	Lists the files in the Cisco NCS server.
exit	Disconnects the encrypted session with a remote system. Exits from the current command mode to the previous command mode.
forceout	Forces the logout of all the sessions of a specific Cisco NCS server system user.
halt	Disables or shuts down the Cisco NCS server.
help	Describes the help utility and how to use it in the Cisco NCS server.
mkdir	Creates a new directory.
ncs	NCS related commands to start, stop and backup server.
nslookup	Queries the IPv4 address or hostname of a remote system.
patch	Installs System or Application patch.
ping	Determines the IPv4 network connectivity to a remote system.
ping6	Determines the IPv6 network connectivity to a remote system.
reload	Reboots the Cisco NCS server.
restore	Restores a previous backup.
rmdir	Removes an existing directory.
root	Executes the root shell.
root_enable	Activates the root command.
show	Provides information about the Cisco NCS server.
ssh	Starts an encrypted session with a remote system.
tech	Provides Cisco Technical Assistance Center (TAC) commands.
telnet	Establishes a Telnet connection to a remote system.
terminal length	Sets terminal line parameters.
terminal session-timeout	Sets the inactivity timeout for all terminal sessions.
terminal session-welcome	Sets the welcome message on the system for all terminal sessions.

Table 1-2 Summary of EXEC Commands (continued)

Command	Description
terminal terminal-type	Specifies the type of terminal connected to the current line of the current session.
traceroute	Traces the route of a remote IP address.
undebug	Disables the output (display of errors or events) of the **debug** command for various command situations; for example, backup and restore, configuration, copy, resource locking, file transfer, and user management.
write	Erases the startup configuration that forces to run the setup utility and prompt the network configuration, copies the running configuration to the startup configuration, and displays the running configuration on the console.

show Commands

The **show** commands are used to display the Cisco NCS settings and are among the most useful commands. See Table 1-3 for a summary of the **show** commands.

The commands in Table 1-3 require the **show** command to be followed by a keyword; for example, **show application status**. Some **show** commands require an argument or variable after the keyword to function; for example, **show application version**.

Table 1-3 Summary of show Commands

Command	Description
application (requires keyword)	Displays information about the installed application; for example, status information or version information.
backup (requires keyword)	Displays information about the backup.
cdp (requires keyword)	Displays information about the enabled Cisco Discovery Protocol interfaces.
clock	Displays the day, date, time, time zone, and year of the system clock.
cpu	Displays CPU information.
disks	Displays file-system information of the disks.
icmp-status	Displays the Internet Control Message Protocol (ICMP) echo response configuration information.
interface	Displays statistics for all the interfaces configured on the Cisco NCS.
inventory	Displays information about the hardware inventory, including the Cisco NCS appliance model and serial number.
logging (requires keyword)	Displays the Cisco NCS server logging information.
logins (requires keyword)	Displays the login history of the Cisco NCS server.
memory	Displays memory usage by all running processes.
ntp	Displays the status of the Network Time Protocol (NTP) servers.
ports	Displays all the processes listening on the active ports.

Table 1-3 Summary of show Commands (continued)

Command	Description
process	Displays information about the active processes of the Cisco NCS server.
repository (requires keyword)	Displays the file contents of a specific repository.
restore (requires keyword)	Displays the restore history in the Cisco NCS.
running-config	Displays the contents of the configuration file that currently runs in the Cisco NCS.
startup-config	Displays the contents of the startup configuration in the Cisco NCS.
tech-support	Displays system and configuration information that you can provide to the TAC when you report a problem.
terminal	Displays information about the terminal configuration parameter settings for the current terminal line.
timezone	Displays the current time zone in the Cisco NCS.
timezones	Displays all the time zones available for use in the Cisco NCS.
udi	Displays information about the unique device identifier (UDI) of the Cisco NCS.
uptime	Displays how long the system you are logged in to has been up and running.
users	Displays information about the system users.
version	Displays information about the currently loaded software version, along with hardware and device information.

Configuration Commands

Configuration commands include **interface** and **repository**. To access configuration mode, run the **configure** command in EXEC mode.

Some of the configuration commands require that you enter the configuration submode to complete the configuration.

Table 1-4 describes the configuration commands.

Table 1-4 Summary of Configuration Commands

Command	Description
backup-staging-url	Specifies a Network File System (NFS) temporary space or staging area for the remote directory for backup and restore operations.
cdp holdtime	Specifies the amount of time the receiving device should hold a Cisco Discovery Protocol packet from the Cisco NCS server before discarding it.
cdp run	Enables Cisco Discovery Protocol.
cdp timer	Specifies how often the Cisco NCS server sends Cisco Discovery Protocol updates.
clock timezone	Sets the time zone for display purposes.

Table 1-4 Summary of Configuration Commands (continued)

Command	Description
do	Executes an EXEC-level command from configuration mode or any configuration submode. **Note** To initiate, the **do** command precedes the EXEC command.
end	Returns to EXEC mode.
exit	Exits configuration mode.
hostname	Sets the hostname of the system.
icmp echo	Configures the ICMP echo requests.
interface	Configures an interface type and enters interface configuration mode.
ipv6 address autoconfig	Enables IPv6 stateless autoconfiguration in interface configuration mode.
ipv6 address dhcp	Enables IPv6 address DHCP in interface configuration mode.
ip address	Sets the IP address and netmask for the Ethernet interface. **Note** This is an interface configuration command.
ip default-gateway	Defines or sets a default gateway with an IP address.
ip domain-name	Defines a default domain name that a Cisco NCS server uses to complete hostnames.
ip name-server	Sets the Domain Name System (DNS) servers for use during a DNS query.
kron occurrence	Schedule one or more Command Scheduler commands to run at a specific date and time or a recurring level.
kron policy-list	Specifies a name for a Command Scheduler policy.
logging	Enables the system to forward logs to a remote system.
logging loglevel	Configures the log level for the **logging** command.
no	Disables or removes the function associated with the command.
ntp	Synchronizes the software clock through the NTP server for the system.
password-policy	Enables and configures the password policy.
repository	Enters repository submode.
service	Specifies the type of service to manage.
snmp-server community	Sets up the community access string to permit access to the Simple Network Management Protocol (SNMP).
snmp-server contact	Configures the SNMP contact the Management Information Base (MIB) value on the system.
snmp-server host	Sends SNMP traps to a remote system.
snmp-server location	Configures the SNMP location MIB value on the system.
username	Adds a user to the system with a password and a privilege level.

For detailed information on configuration mode and submode commands, see Understanding Command Modes, page 2-5.

CLI Audit

You must have administrator access to execute the Cisco NCS configuration commands. Whenever an administrator logs in to configuration mode and executes a command that causes configurational changes in the Cisco NCS server, the information related to those changes is logged in the Cisco NCS operational logs.

Table 1-5 describes configuration mode commands that generate operational logs.

Table 1-5 Configuration Mode Commands for the Operation Log

Command	Description
clock	Sets the system clock on the Cisco NCS server.
ip name-server	Sets the DNS servers for use during a DNS query.
hostname	Sets the hostname of the system.
ip address	Sets the IP address and netmask for the Ethernet interface.
ntp server	Allows synchronization of the software clock by the NTP server for the system.

In addition to configuration mode commands, some commands in EXEC mode generate operational logs.

Table 1-6 describes EXEC mode commands that generate operational logs.

Table 1-6 EXEC Mode Commands for the Operation Log

Command	Description
backup	Performs a backup (NCS and ADE OS) and places the backup in a repository.
restore	Restores from backup the file contents of a specific repository.
backup-logs	Backs up system logs.