

Chapter 3

More About Managing Sessions

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Chapter Overview

This chapter continues the discussion of multiple sessions and describes more advanced aspects of the NCSA Telnet working environment. The chapter explains how to reset the VT100 screen, how to abort NCSA Telnet, the DOS shell feature, and the Parameters menu options.

Keyboard Commands

Using the Skip Command (ALT-S)

The skip command causes the screen to "skip ahead" over scrolling text. The text is placed into the scrollback region, but the screen update advances to the end of the local network buffer instead of printing every line on the screen. This feature is useful for quickly bypassing seemingly endless lines of output from certain commands. To use the command, press ALT-S and the screen will pause, then redraw at the end of the local buffer. ALT-S won't solve all of the network buffering problems for interactive use, but it should help. Capture to disk and scrollback commands are not affected by the skip command.

Resetting the VT100 Screen (ALT-R)

ALT-R clears and resets all modes associated with the current virtual VT100 screen. Some host programs can accidentally set graphics mode on or fail to leave graphics mode. By pressing ALT-R, NCSA Telnet will override all VT100 mode settings including the following: turning off wrap mode, resetting graphics mode, setting the keypad mode back to the default, and resetting tabs to every eight spaces. After using ALT-R, you may wish to set your terminal type again to allow the host to reset whatever VT100 modes it needs.

Aborting the Program (CTRL-SHIFT-F3)

If for some reason none of the current connections respond, SCROLL LOCK is not on, and ALT-R and ALT-X do not appear to have any effect, CTRL-SHIFT-F3 is a general abort command that exits NCSA Telnet and returns you to DOS. If you do abort NCSA Telnet with CTRL-SHIFT-F3, NCSA Telnet cannot notify the host(s) that your session(s) are terminated. Your sessions are left in an undetermined state. This situation can cause a variety of problems for the host, because it cannot immediately determine that the session has ended. For example, the programs may continue to run on the host, even though you exited NCSA Telnet with CTRL-SHIFT-F3.

Escaping to DOS Shell (ALT-E)

Pressing ALT-E to escape to DOS preserves your connections while you use the DOS command shell. You may use most DOS commands and programs, including those which look at directories, edit source files, or even compile programs. To return to NCSA Telnet, you must enter the command `exit` at the DOS prompt.

During the escape to DOS, NCSA Telnet monitors the Ethernet for incoming packets every one-half second. If you run other programs which affect the Ethernet or the timer which NCSA Telnet uses, your connections may be lost—or worse—your computer may crash. The following programs are examples of those which terminate the network handling of NCSA Telnet, causing connections to be lost or DOS to crash:

- SideKick (it turns off timer processes, so it can cause lost connections)
- All network programs (they reset the Ethernet board)
- NCSA Telnet (it is a network program)
- User FTP (it, too, is a network program)
- `format`, the DOS format utility for floppy disks
- FileCommand II

NOTE: Watch memory usage to prevent crashing. Also, remember to exit DOS when you have finished your DOS activities.

Parameter Menu

Press ALT-P to display the Parameter menu options, which appear on the screen as shown in Figure 3.1. These options control the settings for text color, echo mode, backspace key, session name, terminal type, capture file name, screen mode and file transfer mode. You can change the fields that are shown in bold to different values.

Figure 3.1 Parameter Menu

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ALT-P                               Parameter menu
<      Select parameters, F1 to accept, F10 to leave unchanged      >

----- Color setup and session parameters -----
Text:      normal      reverse      underline
  Normal Foreground (nfcolor) -      green
  Normal Background (nbcolor) -      black
  Reverse Foreground (rfcolor) -      black
  Reverse Background (rbcolor) -      white
  Underline Foreground (ufcolor) -      blue
  Underline Background (ubcolor) -      black
  Use remote echo or local echo -      Remote echo
      Backspace key sends -      Delete
          Session name *>      ahostname
          Terminal type -      VT102 and Tek4014
          Line Wrapping -      Wrapping On
          Output Mapping -      Mapping Off
----- Parameters which apply to all sessions -----
      Capture file name *>      capfile
Screen mode (for BIOS compatibility) Direct to screen
      File transfer is -      Enabled
      Remote Copying is -      Enabled
          Clock is      Enabled

Use arrow keys to select, Enter clears changeable field (*>)

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The up arrow, down arrow, HOME, and END keys allow you to move the cursor from option to option. The left and right arrow keys rotate through the allowed settings for each option. For each field that you wish to change, move the cursor to that field and press the left or right arrow until the desired value appears. After changing all of the fields that you wish to change, press the F1 key to return to your session with the changes in effect. If you make a mistake, or decide that no changes are necessary, press ESC to return to your session without any changes taking place.

There are two special fields, marked with the symbol *>, to indicate that the present value may be changed by typing another. To change one of these, place the cursor on top of the changeable field and then press RETURN. The program blanks the field and allows you to enter a new value. Press RETURN when you are finished entering the new value. After you enter a new value, but before you press F1, the old value still remains in memory and you may use the left or right arrow keys to regain the old value.

Following are descriptions of the parameters you can set.

Using Screen Text Colors

Host programs expect to be able to control the attributes of characters on the VT100 screen. Command codes are sent to your PC to display characters in normal, reverse, underlined, blinking, and bold attributes, or combinations of these. When normal, reverse, and underline text are required, you have control over which colors are used. When blink or bold attributes are required, NCSA Telnet adds them to your selected colors.

For normal, reverse, and underlined characters, NCSA Telnet gives you your choice of foreground and background colors, a total of six settings. The color choices for a PC color video display are black, blue, green, cyan, red, magenta, yellow, and white. The foreground color command allows bright versions of these colors, while the background color command allows users to set blinking as an attribute. For each of the text modes, normal, reverse, and underlined, use the Parameter menu to select the foreground and background colors. As you change the selections, the sample text on the fourth line of the screen provides an example of how the text will appear in the VT100 emulation.

On monochrome screens, when you display a character in the color blue, the PC produces a visible underline on the screen instead of blue coloring.

Color screens do not have the visible underline capability and use a visible blue color instead of underlining.

Bold and blinking attributes from the VT100 screen appear as bold and blinking characters on the PC screen.

Using Remote Echo and Local Echo

When the response time of the network is long (such as with satellite transmission), you may want to buffer your keyboard input locally, only sending characters to the host when you press RETURN. This action is often referred to as a *line mode* or *local echo mode*. The alternative to line mode is called *character mode* or *remote echo mode*, where the local program immediately sends, and remote host echoes, every character over the network.

In local echo mode, NCSA Telnet buffers most characters typed at the keyboard until you press RETURN, which sends the characters to the host all in one packet. There are some exceptions to this rule.

- CTRL-U erases the local buffer.
- Backspace (CTRL-H) erases the most recent character added to the local buffer.
- Tab (CTRL-I) forces NCSA Telnet to send the local buffer (with the tab).
- All other control characters echo with a caret (e.g., ^A) and force NCSA Telnet to send the local buffer with the control character included.

- Arrow keys and all other unprintable ASCII characters, the escape character for example, force NCSA Telnet to send the local buffer, with the character included.
- You cannot send a CTRL-U or Backspace to the host in line mode.
- ALT keys and other local command keys are not affected by local echo mode.

NOTE: For full screen editing, character mode (remote echo) is necessary, so most hosts use this mode. When full screen editing is not required, line mode may be more efficient.

Using the Backspace Key

NCSA Telnet automatically translates BACKSPACE keypresses into DELETE codes, for compatibility with systems that prefer the use of DELETE to BACKSPACE. If you find that your backspaces are not being accepted, the host you are connected to may prefer the reverse setting. To test this possibility, use the Parameter menu to change the default translation so the BACKSPACE key functions as backspace. If the result is that your backspaces are accepted, then the host does prefer the BACKSPACE to DELETE. If you require the reverse setting frequently, you or your system administrator may want to permanently reset the backspace function using the configuration file, as described in Chapter 7, "Installation and Configuration."

Changing the Session Name

The status line shows a 13-character session name for each active session in the lower right-hand corner. For each session, the machine name that you typed to initiate the first session displays as the default name for successive sessions. The Parameter menu allows you to change the status line name for the current session. Press RETURN to clear the current entry and type in a new name. Only the first 13 characters are used.

Changing the Terminal Type

Generally, the default terminal type of VT100 with Tektronix 4014 is acceptable. Because specific cases may exist where you need to force some restrictions on the way the terminal acts, you may want to limit the amount of emulation that NCSA Telnet does. The three choices of terminal types are:

- VT100 terminal with Tektronix 4014 graphics
- VT100 only—graphics commands ignored, but VT100 commands accepted
- Dumb terminal—no VT100 codes or Tektronix codes interpreted

Using Line Wrapping

If you enable the line wrapping feature, the text wraps when it reaches the end of a line. Otherwise, the text piles up at the end of the line.

Using Output Mapping

The output mapping function allows you to translate characters from the host machine as the screen displays them. This function is similar to keyboard mapping, except that keyboard mapping works in reverse.

Changing the Capture Filename

You can change the name of the current capture file in the Parameter menu. Press RETURN to clear the current entry and then enter your new filename. After changing the name of the capture file, all subsequent ALT-C commands use the new capture file. You can also change the name of the capture file "permanently" in the configuration file (see Chapter 7, "Installation and Configuration."). See Chapter 2, "Introduction to Managing Sessions," for a description of capture file operations.

Using Screen Mode (BIOS Compatibility for Windowing Packages)

In the normal fast mode, writes are made directly to the screen for increased speed; however, this mode is incompatible with windowing packages like Topview or Microsoft Windows and may cause snow on some screens. To avoid small problems, developers have created a compatibility mode within NCSA Telnet where IBM's BIOS calls are used for all access to the screen.

Usually, the windowing compatibility mode is set up in the configuration file with the `bios` option. However, if a change is needed once you are in the program, the Parameter menu option is available.

Using File Transfer Mode

NCSA Telnet separates the file transfer mode into an option for File Transfer Protocol (FTP) and an option for `rcp`. The Parameter menu allows you to disable or enable file transfers. When you select `Disabled`, neither FTP nor `rcp` is allowed. When you select `Enabled`, the FTP and `rcp` servers are restarted. Chapter 5, "File Transfer," contains more information on the file transfer methods for NCSA Telnet. You or your system administrator can set the default file transfer modes for FTP and `rcp` in the configuration file (see Chapter 7, "Installation and Configuration.").

Using Clock Mode

When you enable the clock mode option, NCSA Telnet displays a digital clock in the corner of the screen.