End-of-transmission character

From Wikipedia, the free encyclopedia

In telecommunication, an **end-of-transmission character** (EOT or EOT) is a transmission control character. Its intended use is to indicate the conclusion of a transmission that may have included one or more texts and any associated message headings.[1]

An EOT is often used to initiate other functions, such as releasing circuits, disconnecting terminals, or placing receive terminals in a standby condition.[1] Its most common use today is to cause a Unix tty driver to signal end of file and thus exit programs that are awaiting input.

In ASCII and Unicode, the character with the value 4 is EOT. It can be referred to as control-D, `^D` in caret notation.[*citation needed*]

Meaning in Unix

The EOT character in Unix is different from the Control-Z in DOS. The DOS Control-Z byte is actually sent and/or placed in files to indicate where the text ends. In contrast the Control-D causes the Unix terminal driver to signal the EOF condition, which is not a character, while the byte has no special meaning if actually read or written from a file or terminal.

In Unix the end-of-file character (by default EOT) causes the terminal driver to make available all characters its input buffer immediately; normally the driver would collect characters until it sees an end-of-line character. If the input buffer is empty (because no characters have been typed since the last end-of-line or end-of-file), a program reading from the terminal reads a count of zero bytes. In Unix, such a condition is understood as having reached the end of the file.

This can be demonstrated with the cat program on Unix-based operating systems such as Linux: Run the `cat` command with no arguments, so that it accepts its input from the keyboard and prints output to the screen. Type a few characters without pressing ↵ Enter, then type Ctrl + D. The characters you have typed to that point are sent to cat, which then writes them to the screen. If you type Ctrl + D without typing any characters first, you terminate the input stream and the program ends. You may be able to get an actual EOT by typing Ctrl + V and then Ctrl + D.

If the terminal driver is in **raw** mode it no longer interprets control characters, and the EOT character is sent unchanged to the program, which is free to interpret it any way it likes. A program may then decide to handle the EOT byte as an indication that it should end the text, this would then be similar to how Control-Z is handled by DOS programs.

See also

- C0 and C1 control codes
- ASCII