What does "TTY" stand for?

Asked 5 years, 5 months ago   Active 1 year, 4 months ago   Viewed 268k times

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On the [Wikipedia's article (Computer terminal)](#) under the [hard copy terminals](#) section of the article it says this "Early user terminals connected to computers were electromechanical teleprinters or teletypewriters (TeleTYpewriter, TTY)..."

So does TTY stand for teletypewriters? But it doesn't make any sense for me because I have never seen it and have no idea what "tele" means.

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`tty`

edited Jun 12 '14 at 8:24   asked Jun 11 '14 at 16:56

user.dz   MathCubes
37.3k 11   106   190   **3,248** 8   35   59

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9   Yes, the origin of TTY in Unix is from teletypewriter. The `tele` in telephone, teletypewriter, etc comes from a Greek root meaning far or distant. TTY's provide a virtual interface similar to what the physical machines provided. This is the origin of the 80 char width and the carriage return and linefeed codes. – chaskes Jun 11 '14 at 17:04 ✎

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6   **Really good** explanation here: unix.stackexchange.com/questions/4126/... – No Time Jun 11 '14 at 20:33

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9   I can't believe this question is here...... – Elder Geek Jun 12 '14 at 2:10

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11 If you don't know what *tele* means, that suggests you might be weak in Greek and Latin prefixed and suffixes. This is an important language skill, because a good chunk of the English Language is built on this, and knowing the pieces lets you guess the meanings of unfamiliar words. Spend a few hours over the next few weeks studying some web resources on Greek and Latin roots, suffixes and prefixes. (Seriously though, never heard of television? telephone? telekinesis? teleportation? telegraph? telegram? telescope? telemarketing? telecommuting?) – Kaz Jun 12 '14 at 3:53 ✎

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5   There is a Wikipedia page on teletypewriters, you know... – Nate Eldredge Jun 12 '14 at 8:48

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Early user terminals connected to computers were electromechanical teleprinters or teletypewriters (TeleTYpewriter, TTY), and since then TTY has continued to be used as the name for the text-only console although now this text-only console is a virtual console not a physical console.

There are 6 virtual consoles in Ubuntu accessed by the keyboard shortcuts `Ctrl` + `Alt` + `F1` to `Ctrl` + `Alt` + `F6` . You can move away from a virtual console (move the console to the background) by using the keyboard shortcut `Ctrl` + `Alt` + `F7` .

In Ubuntu 17.10 the login screen now uses virtual terminal 1. In Ubuntu 17.10 and later press `Ctrl` + `Alt` + `F3` up to `Ctrl` + `Alt` + `F6` for accessing a virtual console and press `Ctrl` + `Alt` + `F2` to go back to the desktop environment.

```
Ubuntu 18.04 ubuntu tty1

ubuntu login: Ubuntu
Password:
Welcome to Ubuntu 18.04 (GNU/Linux 4.15.0-23-generic)

 * Documentation:  https://help.ubuntu.com/

278 packages can be updated.
71 updates are security updates.


The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

Ubuntu@ubuntu:~$
```

Ubuntu 18.04 virtual console

edited Jun 15 '18 at 7:20

answered Jun 11 '14 at 17:18

karel
70.1k   15   158   184

Does anyone know why they chose to have exactly 6 terminals and one GUI? Why not five or seven terminals? Why not two GUI sessions? – Aaron Franke Mar 31 '16 at 4:38

5   Because most Linux distributions are open source, the number of virtual ttys can be changed in some Linux distributions as follows. 1. How can I reduce the number of TTYs? 2. How to increase virtual terminal in Linux. One example of why a user would want to change the number of virtual ttys is if the user had number of devices like Raspberry Pis connected to a single desktop computer, all at the same time. – karel Mar 31 '16 at 5:05

2   @AaronFranke GUI sessions are not *nearly* as flexible as terminals. If you start introducing simultaneous GUI sessions, you get race conditions and inevitable anarchic chaos – forresthopkinsa Feb 1 '17 at 18:50

1   @AaronFranke There is a lock on the X server for the reasons that karel and forrest gave which prevent you from starting more than one instance at a time, or forwarding X11 while on SSH if there is an X instance running elsewhere. – JFA May 22 '17 at 22:29

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This is a teletype writer:

Pressing a key sends a character down the serial link. Incoming characters on the serial link are printed on the printer. So when you type `ls` , you get a *hardcopy* of the file listing.

(from http://www.cl.cam.ac.uk/~djg11/howcomputerswork/)

edited Dec 25 '16 at 11:48   answered Jun 12 '14 at 10:50

David Foerster   pjc50
29.5k   13   70   117   **900**   5   4

8   pjc50 probably meant "Pressing a key (hard) ..." I'm pretty sure this is the device that was responsible for 'hit' in "hit return". – Nate Lockwood Jun 12 '14

Same applies to the IBM model M buckling-spring keyboard :) I suspect they were calibrated for typists used to mechanical typewriters and the force required there. I'm astonished that this answer has been so popular! Maybe I should have included more about serial lines and multiple TTYs. – pjc50 Jun 13 '14 at 12:04

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Yes, the origin of `TTY` in Unix is from teletypewriter. The *tele* in telephone, teletypewriter, etc comes from a Greek root meaning far or distant. `tele` + `phon` (sound) = Speaking at a distance and so on.

Timeshare systems (pre-Unix) developed physical terminals that allowed you to interact with (share) the computer during your scheduled time. These terminals meant you did not have to be physically in front of the computer to use it. You could also send output to a teletypewriter, that would print the output at that location.

This was the existing physical infrastructure when Unix was developed, so it was natural to use it for Unix networking. Emulation in virtual or software terminals of the features in physical terminals prevented older code or network infrastructure from breaking.

It's this origin in physical terminals (and ultimately the machines origins in the telgraph (distant writing) system and their use of control codes that accounts for certain terminal standards today. These include the standard 80 character width and the carriage return and linefeed codes.

edited Jun 11 '14 at 17:46   answered Jun 11 '14 at 17:29

chaskes

13.7k   7   46   62

I was just curious about what "tele" and "phone" really mean and saw your answer. It is really cool to explain that. Thanks +1 – Tarik Nov 18 '16 at 21:26

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The first printing telegraph machine was patented in 1846. Various companies continued developing them, and the word "Teletype" was first trademarked in 1921. One of these companies changed its name to the Teletype Corporation in 1928 and was acquired by AT&T in 1930. (Source: en.wikipedia.org/wiki/Teleprinter)

So these machines had seen almost 100 years of development before the first computers, and were the obvious choice for a human-interface device. There were more expensive terminals, but Teletypes were usually the cheapest and most reliable choices. AT&T/Bell Labs owned Teletype corporation when Unix was first developed, and the Digital Equipment computers it was developed on included Teletype 33ASR terminals as standard equipment. TTY was the device name for terminals on the PDP-7 and PDP-11 that Unix originated on, it probably went back to the PDP-1 and who knows what before that. So when they started working on a terminal device

I was confused when I first learned that MSDOS used COM: as the device name for serial ports. I thought TTY was handed down from the ancients, this is heresy!

answered Jun 12 '14 at 1:32

someoldguy
101   2

In the later days of the teletypes, it was adopted by the deaf community as a form of communications. Officially called TDD (Telephone Device for the Deaf) with the development & refinement of equipment that used the same communication media of Baudot and Ascii, it was widely adopted by the deaf to sign "TTY" because it's easier to sign than than "TDD". Nowdays, it's fast becoming ancient as deaf people use video relays to communicate. TTY/TDD's are mainly found in public settings at airports, government agencies, public venues, etc. that are hardly used due to the proliferation of wireless devices.

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answered Jun 12 '14 at 18:33

Sean Barr
11   1

So, back in the day. Computers where hooked up via serial connection to the Teletype you mention. They were essentially matrix printers. You can look on youtube and see how they work. To maintain legacy code, each terminal or UI window you have gets liked to a tty device under /dev.

Nothing but semantics.

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answered Jun 11 '14 at 17:16

user1048138
198   1   2   10

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1   Matrix? No; not matrix. Like a typewriter, usually a spinning ball head, AFAICR, but definitely not a matrix. – Jonathan Leffler Jun 12 '14 at 20:45

@JonathanLeffler There were ttys based on the IBM Selectric typewriter which used a ball for a print head. It rotated to position the correct letter for the hammer to hit, but it didn't actually "spin". They were nicer than ASR-33s. As you say, no matrix, just metal molds of characters on hammers that would strike an ink ribbon to print the letter on the page or roll of paper. They were an incredible advance over submitting a box of 80 column cards and waiting for an operator to load them. – Joe Jun 18 '14 at 21:01 ✏

protected by rɑːdʒɑ Jun 13 '14 at 3:46

Thank you for your interest in this question. Because it has attracted low-quality or spam answers that had to be removed, posting an answer now requires 10 reputation on this site (the association bonus does not count).

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