

8 Glossary

Linux terms can be confusing and offputting at first, so this Glossary provides a list of the ones used in this Manual to get you started.

- **applet:** A program designed to be executed from within another application. Unlike an application, applets can not be executed directly from the operating system.
- **backend:** Also /back-end./ The backend includes the various components of a program that process the user input entered through the frontend. See also frontend.
- **backport:** Backports are new packages that have been recompiled to run on a released distribution in order to keep it up-to-date.
- **BASH:** The default shell (command-line interpreter) on most Linux systems as well as on Mac OS X, BASH is an acronym for Bourne-again shell.
- **BitTorrent:** Also/bit torrent/ or /torrent./ A method invented by Bram Cohen to distribute large files without the need for a single individual to provide the hardware, hosting and bandwidth resources required.
- **boot block:** An area of a disk outside the MBR having information for loading the operating system that is needed to start a computer.
- **bootloader:** Program that initially chooses an operating system to load after the BIOS has finished initializing the hardware. Extremely small in size. the bootloader's only job is to hand control of the computer over to the Operating System's kernel. Advanced bootloaders offer a menu to choose between several installed operating systems.
- **chainloading:** Also /chain loading./ Instead of directly loading an operating system, a boot manager like GRUB can use chain loading to pass control from itself to a boot sector on a hard disk partition. The target boot sector is loaded in from disk (replacing the boot sector from which the boot manager itself was loaded) and the new boot program is executed. In addition to when it is necessary, as in booting Windows from GRUB, the advantage to chainloading is that each operating system on the hard disk drive —and there could be dozens— can be responsible for having the correct data in it's own boot sector. So GRUB residing in the MBR need not be rewritten every time there are any changes. GRUB can simply chainload the relevant information from the boot sector of a given partition whether it has changed or remained the same since the last boot time.
- **cheat code:** Codes can be entered when booting a LiveMedium to change the booting behavior. They are used to pass options to the MX Linux operating system to set parameters for particular environments.
- **command line interface (CLI):** Also known as console, terminal, command prompt, shell, or bash. This is a UNIX-style text interface, which MS-DOS was also designed to resemble. A root console is one where administrative privileges have been acquired after entering the root password.
- **desktop environment:** The software which provides a graphical desktop (windows, icons, desktop, task bar, etc) for an operating system user.
- **disk image:** A file containing the complete contents and structure of a data storage medium or device such as a hard drive or DVD. See also ISO.

- **Distribution:** A Linux Distribution, or **distro**, is a particular packaging of the Linux kernel with various GNU software packages, and different desktops or window managers. Since—unlike the proprietary code used in the Microsoft and Apple OS’s—GNU/Linux is Free, Open-Source Software, literally anyone in the world who has the ability can freely build on what has been done and innovate a new vision of a GNU/Linux operating system. MX Linux is a distro based on the Debian Linux family.
- **file system:** Also file system. This refers to the way that files and folders are logically arranged on a computer’s storage devices so they may be found by the operating system. It can also refer to the type of formatting on a storage device, such as the common Windows formats NTFS and FAT32, or the Linux formats ext3, ext4 or ReiserFS, and in this sense refers to the method actually used to encode binary data on the Hard Disk Drive, floppy, flash drive, etc.
- **firmware.** The small programs and data structures that internally control the electronic components
- **free-as-in-speech:** The English word “free” has two possible meanings: 1) without cost, and 2) without restrictions. In part of the open-source software community, an analogy used to explain the difference is 1) “free” as in beer vs. 2) “free” as in speech. The word /freeware/ is used universally to refer to software that is simply without cost, whereas the phrase /free software/ loosely refers to software that is more properly called open-source software, licensed under some type of open source license.
- **frontend:** Also front-end. The frontend is the part of a software system that interacts directly with the user. See also backend.
- **GPL:** The GNU General Public License. This is a license under which many open-source applications are released. It specifies that you may view, modify, and redistribute the source code of applications released under it, within certain limits; but that you may not distribute the executable code unless you also distribute the source code to anyone who asks for it.
- **Graphical User Interface (GUI):** This refers to a program or operating system interface that uses pictures (icons, windows, etc), as opposed to text (command-line) interfaces.
- **home directory:** One of the 17 top-level directories branching from the root directory in MX Linux, /home contains a subdirectory for every registered user of the system. Within each Users home directory s/he has full read-write privileges. Further, most of the user-specific configuration files for various installed programs are stored in hidden subdirectories within the /home/username/ directory—as is downloaded email. Other downloaded files usually go by default into the home/username/Documents or /home/username/Desktop subdirectories.
- **IMAP:** The Internet Message Access Protocol is a protocol that allows an e-mail client to access a remote mail server. It supports both on-line and off-line modes of operation.
- **interface:** A point of interaction between computer components, often referring to the link between a computer and a network. Examples of interface names in MX Linux include **WLAN** (wireless) and **eth0** (basic wired).
- **IRC:** Internet Relay Chat, an older protocol to render the exchange of text messages easier.
- **ISO:** A disc image following an international standard that contains data files and file system metadata, including boot code, structures, and attributes. This is the normal method for delivering Linux versions such as MX Linux over the Internet. See also **disk image**.

- **kernel:** The layer of software in an operating system that interacts directly with the hardware.
- **LiveCD/DVD:** A bootable compact disc from which one can run an operating system, usually with a complete desktop environment, applications, and essential hardware functionality.
- **LiveMedium:** a general term that includes both LiveCD/DVD and LiveUSB.
- **LiveUSB:** A USB flash drive on which an operating system has been loaded in such a way that it can be booted and run. See LiveDVD.
- **mac address:** a hardware address that uniquely identifies each node (connection point) of a network. It is formed of a string of usually six sets of two-digits or characters, separated by colons.
- **man page:** Short for **manual**, man pages typically contain detailed information about switches, arguments, and sometimes the inner workings of a command. Even GUI programs often have man pages, detailing available command line options. Available in Start menu by typing a # before the name of the man page you want into the Search box, for example: *#pulseaudio*.
- **MBR:** Master Boot Record: the first 512-byte sector of a bootable hard disk drive. Special data written to the MBR enables the computer's BIOS to pass the boot process off to a partition with an installed operating system.
- **md5sum:** A program that calculates and verifies a file's data integrity. The MD5 hash (or checksum) functions as a compact digital fingerprint of a file. It is extremely unlikely that any two non-identical files will have the same MD5 hash. Because almost any change to a file will cause its MD5 hash to also change, the MD5 hash is commonly used to verify the integrity of files.
- **mirror:** Also mirror site. An exact copy of another Internet site, commonly used to provide multiple sources of the same information to supply reliable access to large downloads.
- **module:** Modules are pieces of code that can be loaded and unloaded into the kernel upon demand. They extend the functionality of the kernel without the need to reboot the system.
- **mountpoint:** The place on the root file system where a fixed or removable device is attached (mounted) and accessible as a subdirectory. All computer hardware needs to have a mountpoint in the file system to be usable. Most standard devices such as keyboard, monitor and your primary hard disk drive are mounted automatically at boot.
- **mtp:** MTP stands for Media Transfer Protocol and operates at the file level so that your device doesn't expose its entire storage device. Older Android devices used USB mass storage for transferring files back and forth with a computer.
- **NTFS®:** Microsoft's New Technology File System debuted in 1993 on the Windows NT Operating System, geared to business networks, and with revisions entered the mainstream Windows user's desktop computers in later versions of Windows 2000. It has been the standard file system since Windows XP was introduced in late 2001. Unix/Linux-oriented folk say it stands for "Nice Try File System"!
- **open-source:** Software whose source code has been made available to the public under a license that allows individuals to modify and redistribute the source code. In some cases, open-source licenses restrict the distribution of binary executable code.

- **package:** A package is a discrete, non-executable bundle of data that includes instructions for your package manager about installation. A package doesn't always contain a single application; it might contain only part of a large application, several small utilities, font data, graphics, or help files.
- **package manager:** A package manager such as (Synaptic or Gdebi) is a collection of tools to automate the process of installing, upgrading, configuring, and removing software packages.
- **Panel:** The highly configurable panel in Xfce4 appears by default at the left side of the screen and contains navigation icons, open programs and system notifications.
- **Partition Table:** A partition table is a hard disk architecture that expands on the older Master Boot Record (MBR) partitioning scheme using globally unique identifiers (GUID) to enable the existence of more than the original four partitions.
- **persistence:** the ability when running a LiveUSB to retain changes made during a live session.
- **port:** A virtual data connection that can be used by programs to exchange data directly, instead of going through a file or other temporary storage location. Ports have numbers assigned for specific protocols and applications, such as 80 for HTTP, 5190 for AIM, etc.
- **purge:** A command that removes not only the package named, but also any configuration and data files associated with it (though not those in a user's home directory).
- **repo:** A shortened form of repository.
- **repository:** A software repository is an internet storage location from which software packages may be retrieved and installed via a package manager.
- **root:** Root has two common meanings in a UNIX/Linux OS; they are intimately connected, but the distinction is important to understand.
 - The **root file system** is the basic logical structure of all the files the operating system can access, whether programs, processes, pipes or data. It should follow the Unix Filesystem Hierarchy Standard, which specifies where in the hierarchy to locate all types of files.
 - The **root user** who owns the root file system —and so has all permissions necessary to do anything to any file. While it is sometimes necessary to temporarily assume the powers of the **/root user/** to install or configure programs, it is dangerous and violates the basic security structure of Unix/Linux to log in and operate as **/root/** unless absolutely necessary. In a command line interface, a regular user can temporarily become root by issuing the command **su** then entering the root password.
- **runlevel:** A runlevel is a preset operating state on a Unix-like operating system. A system can be booted into any of several runlevels, each of which is represented by a single digit integer. Each runlevel designates a different system configuration and allows access to a different combination of processes (i.e., instances of executing programs). See Section 7.5.
- **script:** An executable text file, containing commands in an interpreted language. Usually refers to BASH scripts which are used extensively “under the hood” of the Linux operating system, but other languages may be used as well.

- **session:** A login session is the period of activity between a user logging in and logging out of a system. In MX Linux, this typically indicates the lifetime of a particular user “process” (the program code and its current activity) that Xfce invokes.
- **SSD:** A solid-state drive (SSD) is a nonvolatile storage device that stores persistent data on solid-state flash memory.
- **source code:** The human-readable code in which software is written prior to being assembled or compiled into machine-language code.
- **switch:** A switch (also /flag/, /option/ or /parameter/) is a modifier appended to a command to change its behavior. A common example is **-R** (recursive), which tells the computer to carry out the command through all subdirectories.
- **symlink:** Also symbolic link and soft link. A special type of file that points to another file or directory and not to data. It allows the same file to have different names and/or locations.
- **tarball:** An archiving format, like zip, popular on the Linux platform. Unlike zip files, though, tarballs may use one of a number of different compression formats, such as gzip or bzip2. They usually end in file extensions like .tgz, .tar.gz, or .tar.bz2.
- Many archive formats are supported in MX with a graphical application called Archive Manager. Usually an archive can be extracted simply by right-clicking on it in Thunar.
- **Unix:** Also UNIX. The operating system which Linux is modeled after, developed in the late 1960’s at Bell Labs and used primarily for servers and mainframes. Like Linux, Unix has many variations.
- **UUID (Universally Unique Identifier).** A universally unique identifier (UUID) is a 128-bit number that identifies unique Internet objects or data.
- **window manager:** A component of a desktop environment that provides the basic maximize/minimize/close/move functions for windows in the GUI environment. Sometimes it can be used as an alternative to a full desktop environment. In MX Linux, the default window manager is Xfce4.
- **X:** Also X11, xorg. The X Window System is a networking and display protocol which provides windowing on bitmap displays. It provides the standard toolkit and protocol to build graphical user interfaces (GUIs) on Unix-like operating systems and OpenVMS, and is supported by almost all other modern operating systems.