

Derivative Distributions



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Many Linux distributions are derivatives of Debian and reuse Debian's package management tools. They all have their own interesting properties, and it is possible one of them will fulfill your needs better than Debian itself.

Census and Cooperation

derivative distribution

distribution

derivative

The Debian project fully acknowledges the importance of derivative distributions and actively supports collaboration between all involved parties. This usually involves merging back the improvements initially developed by derivative distributions so that everyone can benefit and long-

term maintenance work is reduced.

This explains why derivative distributions are invited to become involved in discussions on the `debian-derivatives@lists.debian.org` mailing-list, and to participate in the derivative census. This census aims at collecting information on work happening in a derivative so that official Debian maintainers can better track the state of their package in Debian variants.

mailing lists

debian-derivatives@lists.debian.org

Let us now briefly describe the most interesting and popular derivative distributions.

Ubuntu

Ubuntu

Ubuntu made quite a splash when it came on the free software scene, and for good reason: Canonical Ltd., the company that created this distribution, started by hiring thirty-odd Debian developers and publicly stating the far-reaching objective of providing a distribution for the general public with a new release twice a year. They also committed to maintaining each version for a year and a half.

These objectives necessarily involve a reduction in scope; Ubuntu focuses on a smaller number of packages than Debian, and relies primarily on the GNOME desktop (although there are Ubuntu derivatives that come with other desktop environments). Everything is internationalized and made available in a great many languages.

Kubuntu

So far, Ubuntu has managed to keep this release rhythm. They also publish *Long Term Support* (LTS) releases, with a 5-year maintenance promise. As of April 2024, the current LTS version is version 24.04, nicknamed Noble Numbat. The last non-LTS version is version 23.10, nicknamed Mantic Minotaur. Version numbers describe the release date: 24.04, for example, was released in April 2024.

LTS

IN PRACTICE Ubuntu's support and maintenance promise

main

, component

restricted

, component

universe

, component

multiverse

, component

component

main

component

restricted

component

universe

component

multiverse

Canonical has adjusted multiple times the rules governing the length of the period during which a given release is maintained. Canonical, as a company, promises to provide security updates to all the software available in the `main` and `restricted` sections of the Ubuntu archive, for 5 years for LTS releases and for 9 months for non-LTS releases. Everything else (available in the `universe` and `multiverse`) is maintained on a best-effort basis by volunteers of the MOTU team (*Masters Of The Universe*). Be prepared to handle security support yourself if you rely on packages of the latter sections.

Ubuntu has reached a wide audience in the general public. Millions of users were impressed by its ease of installation, and the work that went into making the desktop simpler to use.

Ubuntu and Debian used to have a tense relationship; Debian developers who had placed great hopes in Ubuntu contributing directly to Debian were disappointed by the difference between the Canonical marketing, which implied Ubuntu were good citizens in the Free Software world, and the actual practice where they simply made public the changes they applied to Debian packages. Things have been getting better over the years, and Ubuntu has now made it general practice to forward patches to the most appropriate place (although this only applies to external software they package and not to the Ubuntu-specific software such as Mir or Unity).

Linux Mint

Linux Mint

Linux Mint is a (partly) community-maintained distribution, supported by donations and advertisements. Their flagship product is based on Ubuntu, but they also provide a “Linux Mint Debian Edition” (LMDE), which is based on Debian Stable with a few backports. LMDE is available for both 32 and 64-bit.

In both cases, the initial installation involves booting a live DVD or a live USB storage device.

The distribution aims at simplifying access to advanced technologies, and provides specific graphical user interfaces on top of the usual software. For instance, Linux Mint relies on Cinnamon instead of GNOME by default (but it also includes MATE as well as Xfce); similarly, the package management interface, although based on APT, provides a specific interface with an evaluation of the risk from each package update.

Linux Mint includes a large amount of proprietary software to improve the experience of users who might need those. For example: Adobe Flash and multimedia codecs.

Knoppix

live CD

Knoppix

bootable CD-ROM

CD-ROM

bootable

The *Knoppix* distribution barely needs an introduction. It was the first popular distribution to provide a *live CD*; in other words, a bootable CD-ROM that runs a turn-key Linux system with no requirement for a hard-disk — any system already installed on the machine will be left untouched. Automatic detection of available devices allows this distribution to work in most hardware configurations. The CD-ROM includes almost 1 GB of (compressed) software, and the DVD-ROM version has around 4.5 GB.

Combining this CD-ROM to a USB stick allows carrying your files with you, and to work on any computer without leaving a trace — remember that the distribution doesn't use the hard-disk at all.

Knoppix uses LXDE (a lightweight graphical desktop) by default, but the DVD version also includes GNOME and Plasma. Many other distributions provide other combinations of desktops and software. This is, in part, made possible thanks to the *live-build* Debian package that makes it relatively easy to create a live CD.

live-build

Note that Knoppix also provides an installer: you can first try the distribution as a live CD, then install it on a hard-disk to get better performance.

Aptosid and Siduction

Sidux

Aptosid

Siduction

These community-based distributions track the changes in Debian *Sid (Unstable)* — hence their name. The modifications are limited in scope: the goal is to provide the most recent software and to update drivers for the most recent hardware, while still allowing users to switch back to the official Debian distribution at any time. *Aptosid* was previously known as *Sidux*, and *Siduction* is a more recent fork of Aptosid.

Grml

Grml

Grml is a live CD with many tools for system administrators, dealing with installation, deployment, and system rescue. The live CD is provided in two flavors, `full` and `small`, both available for 32-bit and 64-bit PCs. Obviously, the two flavors differ by the amount of software included and by the resulting size. The Debian package *grml-rescueboot* allows users of Debian to download and boot a GRML ISO image via Grub.

Tails

Tails OS

Tails OS (The Amnesic Incognito Live System) aims at providing a live system that preserves anonymity and privacy. It takes great care in not leaving any trace on the computer it runs on, and uses the Tor network to connect to the Internet in the most anonymous way possible.

Kali Linux

Kali

penetration testing

forensics

Kali Linux is a Debian-based distribution specializing in penetration testing (“pentesting” for short). It provides software that helps auditing the security of an existing network or computer while it is live, and analyze it after an attack (which is known as “computer forensics”).

Devuan

Devuan

System V init

systemd

Devuan is a fork of Debian started in 2014 as a reaction to the decision made by Debian to switch to `systemd` as the default init system. A group of users attached to `sysv` and opposing drawbacks to `systemd` started Devuan with the objective of maintaining a `systemd`-less system.

DoudouLinux

DoudouLinux

DoudouLinux targets young children (starting from 2 years old). To achieve this goal, it provides a heavily customized graphical interface (based on LXDE) and comes with many games and educative applications. Internet access is filtered to prevent children from visiting problematic websites. Advertisements are blocked. The goal is that parents should be free to let their children use their computer once booted into DoudouLinux. And children should love using DoudouLinux, just like they enjoy their gaming console. Unfortunately this distribution hasn't seen any active

development in the recent years.

Raspbian

Raspbian

Raspberry Pi

Raspbian is a rebuild of Debian optimized for the popular (and inexpensive) Raspberry Pi family of single-board computers. The recent release of Raspbian for the *arm64* architecture is no longer a rebuild, though. Instead it runs a pristine Debian Bookworm. The project just adds some extra packages, especially a custom kernel, to fully support the hardware.

Debian also provides its own images for several Raspberry Pi devices.

PureOS

PureOS

Purism

PureOS is a Debian-based distribution focused on privacy, convenience and security. It follows the [GNU Free System Distribution Guidelines](#), used by the Free Software Foundation to qualify a distribution as free. The social purpose company Purism guides its development.

SteamOS

SteamOS

Valve Corporation

SteamOS is a gaming-oriented Debian-based distribution developed by Valve Corporation. It is used in the Steam Machine, a line of gaming computers. The release 3.0 and newer, however, use Arch Linux as platform.

And Many More

Distrowatch

The Distrowatch website references a huge number of Linux distributions, many of which are based on Debian. Browsing this site is a great way to get a sense of the diversity in the free software world.

The search form can help track down a distribution based on its ancestry. In April 2024, selecting Debian led to 127 active distributions!

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