PICK A DISTRO

If you're diving into the world of Linux, make sure you pick the right package for you: different distros make a difference.

Your favourite Linux distribution isn't an individual unit in itself. On the inside, it is made up of various apps, libraries, modules and toolkits. On the outside, it's part of a much larger and very vibrant ecosystem that sustains several other distros.

Also part of this larger Linux ecosystem are very active user communities and various support infrastructures that help nourish the distros and other projects. Over the course of their lifetime, the different elements of the Linux ecosystem interact with each other as well as with their environment. They collaborate, exchange ideas and features, and sometimes swap resources for their mutual benefit as well as for the enhancement of the ecosystem.

The Linux ecosystem fosters the development of innovative projects and products. However, since the environment can only sustain so many elements, the distros go through an evolutionary process of their own to weed out the weaklings and ensure the survival of the fittest. Through this process, the uninteresting, dull and unsustainable projects begin to perish. However, the strong ones survive, thrive and pass on their code to the next generation of derivative distros.

In this feature we'll classify the popular distros as per their origins. We'll analyse how they've evolved since their inception, and look at the unique traits they have passed on to derivatives that help distinguish them from their peers. We'll also look at the best distro from each distro genus and then pit them against each other to help you pick the distro that is just right for you.

Genus Debian

Made of free software and evolving.

The Debian project has played a significant role in the evolution of Linux and, in many ways, is the first real distribution created for the regular computer user. It was announced in August 1993 and had its first public release later that year, although its first stable release wasn't available until 1996. The project was even sponsored by the Free Software Foundation from November 1994 to November 1995.

A key motivating factor that led Ian Murdock to create a new distro was the perceived poor maintenance and prevalence of bugs in the Softlanding Linux System (SLS) distro. Besides the software itself, Murdock's release included the Debian Linux Manifesto, which outlined his view for the new project, which prophesied that "distributions are essential to the future of Linux". In the Manifesto, he called for the distro to be maintained openly, in the spirit of Linux and GNU. One of the most significant goals for the distro was to "eliminate the need for the user to locate, download, compile, install and integrate a fairly large number of essential tools to assemble a working Linux system". In order to meet this goal, Debian developers made a significant contribution to the Linux world – the *dpkg* package manager.

This was originally written as a Perl program by Matt Welsh, Carl Streeter and Ian Murdock, and the main part of the tool was rewritten by Ian Jackson who became Debian Project Leader in 1998. It really is no surprise then that Debian is one of the most popular choices for derivative projects with over 130 active distros based on Debian (Source: **http://distrowatch.com**), including the likes of Ubuntu and a version of Linux Mint.

Even the most popular distribution for the Raspberry Pi called Raspbian, is based on the Debian Project.

The project also provides guidelines to help the derivative distros merge their work back into Debian. In addition to the derivatives there are several 'Pure Blends'; these are subsets of Debian configured to support a particular niche, such as Debian Edu, Debian Junior and Debian Med. Debian also supports a variety of platforms, including Intel i386 and above, Alpha, ARM, Intel IA-64, Motorola 68k, MIPS, PA-RISC, PowerPC, Sparc and more.

RULES OF ENGAGEMENT

Another distinguishing aspect of Debian is that the distro is made entirely of free software. The project uses the Debian Free Software Guidelines (DFSG) to help determine whether a piece of software can be included. The DFSG is part of the Debian Social Contract which defines the moral agenda of the project.

The project produces three distros: Stable, Testing and Unstable. A Stable release is available every two years and is made by freezing the Testing release for a few months. Testing is designed to be the preview distro with newer packages and during the freeze any bugs are fixed and extremely buggy packages are removed. All releases are named after characters from the *Toy Story* films (the current Stable release is codenamed Jessie). All new packages are introduced in the Unstable release (codenamed Sid). This distro is for developers who require the latest packages and libraries. It's not intended to be used on a production machine and those interested must upgrade Debian Testing to get the latest Unstable.

Linux Mint Debian Edition

The Linux Mint Debian Edition (LMDE) is meant for users who wish to experience the best of Debian (directly rather than via Ubuntu) in an easy to use package. It's based on Debian Testing and is a semi-rolling release, which means it receives periodic updates via Update Packs. These are tested snapshots of Debian Testing to ensure stability and LMDE is binary compatible with Debian, which means you can switch to Debian Testing or Unstable for more frequent and bleeding-edge updates. However, LMDE isn't compatible with Linux Mint, so you can't use Ubuntu PPAs.

LMDE is designed to offer the same look and functionality of Linux Mint and is available as 32-bit and 64-bit Live DVD images with either the Mate or Cinnamon desktops. The distro ships with Firefox, Thunderbird, VLC media player and a plethora of other commonly used apps. Adobe Flash plugin and most other multimedia codecs are installed by default. The software repos and the underlying Deb package system makes software installation easy, thanks to tools like the Synaptic Package Manager.

Genus Ubuntu

Derivatives, they're coming outta the walls.

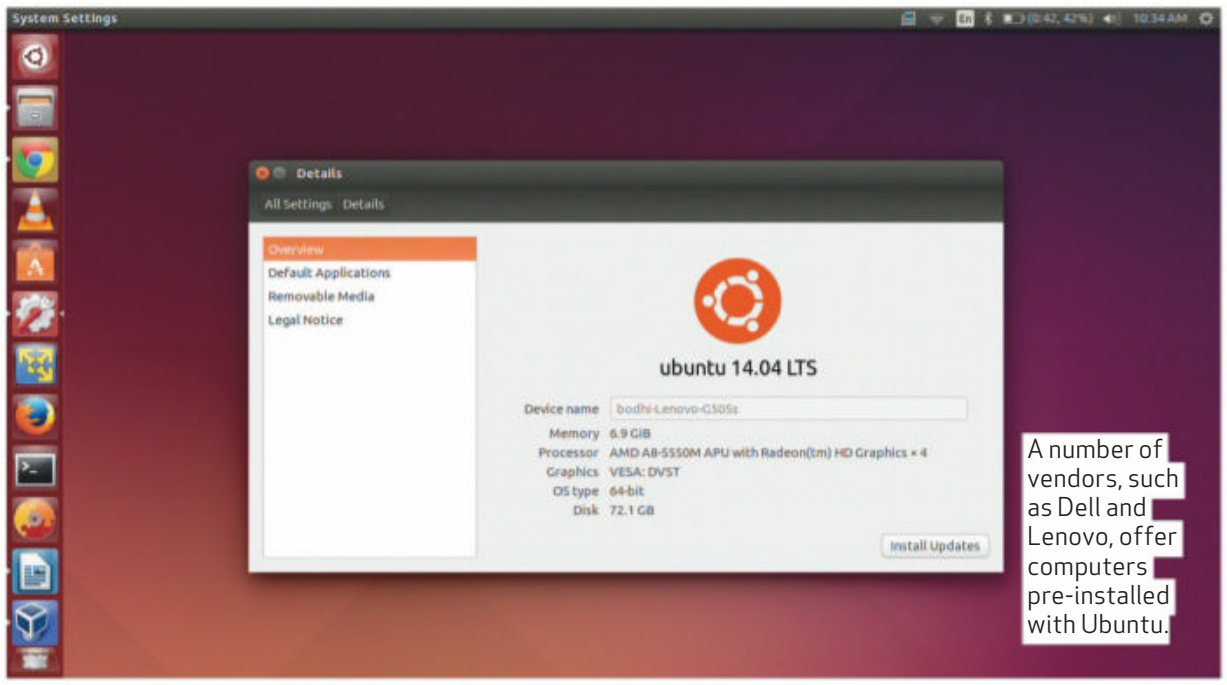
Ubuntu is, in many respects, the first distro to make a serious effort to bring in new users. The distro brought Linux into the mainstream, played a significant part in changing the notion and misconceptions about Linux and was able to successfully pitch itself as a viable OS alternative to Windows and macOS.

Ubuntu was started by Mark Shuttleworth. He formed Canonical after selling his security firm, Thawte, to VeriSign. Shuttleworth was a huge fan of the Debian project. However, there were many things about Debian that didn't fit in with Shuttleworth's vision of an ideal OS. He therefore invited a dozen or so Debian developers he knew and respected to his flat in London in April 2004 and hashed out the groundwork for the Ubuntu project.

The group decided on a bunch of characteristics for the distro. For one, Ubuntu's packages would be based on those from Debian's unstable branch. However, unlike Debian, Ubuntu was to have a predictable cycle with frequent releases. To put the plan into action, it was decided that Ubuntu would release updated versions every six months and each release would receive free support for nine months. The plan was refined in later years and now every fourth release receives long-term support (LTS) for five years.

The group also decided to give emphasis to localisation and accessibility in order to appeal to users across the world. There was also a consensus on concentrating development efforts on ease of use and user-friendliness of the distro on the desktop. The first release of Ubuntu was in October 2004.

Ubuntu's development is funded by Shuttleworth's Canonical, which is a privately held computer software company. The company also supports development of other Ubuntu-related projects, for instance, Ubuntu's Ubiquity installer is one of the best tools for the job, and one of its distinguishing features is that it gives users the option to install closed source or patented third-party software, such as Fluendo's MP3 codec. Other useful user-centric projects that have tried to change the status quo are the Ubuntu Software Center and the recently discontinued Ubuntu One cloud hosting service.



A number of vendors, such as Dell and Lenovo, offer computers pre-installed with Ubuntu.

TEST BY FIRE

But perhaps no other piece of technology has polarised the Linux community like Ubuntu's Unity desktop interface. The distro first introduced Unity with the Ubuntu Netbook Edition version 10.10. By the time 11.04 rolled off the press, the Netbook Edition had merged into the desktop edition and Unity became the default graphical interface for the Ubuntu distro. However, Shuttleworth has insisted that the Unity desktop plays a crucial role in Ubuntu's multi-device strategy. Unity will help standardise the display on smartphones, tablets, TV and other devices beyond the computer.

Thanks to its malleable nature, the distro has always been very popular with developers who want to create a custom distro for their particular niche. Ubuntu has perhaps seeded more distros than any other, and Ubuntu itself has several officially-supported spins: Kubuntu, Xubuntu, Ubuntu Gnome, Edubuntu and Ubuntu Studio. In addition to the main desktop edition, there's also a server edition that doesn't ship with a graphical desktop.

BEST OF BREED

Trisquel GNU/Linux

Trisquel GNU/Linux goes to great lengths to do justice to its free software tag. Not only does the distro not include any proprietary software, it also strips out all non-free code from the components it inherits from Ubuntu, such as the kernel. Instead of the stock Ubuntu kernel, Trisquel uses the Linux-libre kernel that doesn't include any binary blobs. Thanks to its efforts, the distro has been endorsed by the Free Software Foundation.

There are several variants of the distro, the most common ones are the standard Trisquel release, which is available as a 700MB image with the Gnome desktop, and Trisquel mini, which is designed for older hardware and low-power systems, and uses LXDE, the lightweight desktop.

While the distro doesn't ship with any proprietary codecs, you can watch YouTube videos as it provides HTML5 support as well as Gnash, which is the free alternative to Adobe Flash. Trisquel includes all the usual desktop productivity apps, such as LibreOffice, Evolution, Gwibber, Pidgin and more. These are complemented by an impressive software repository.

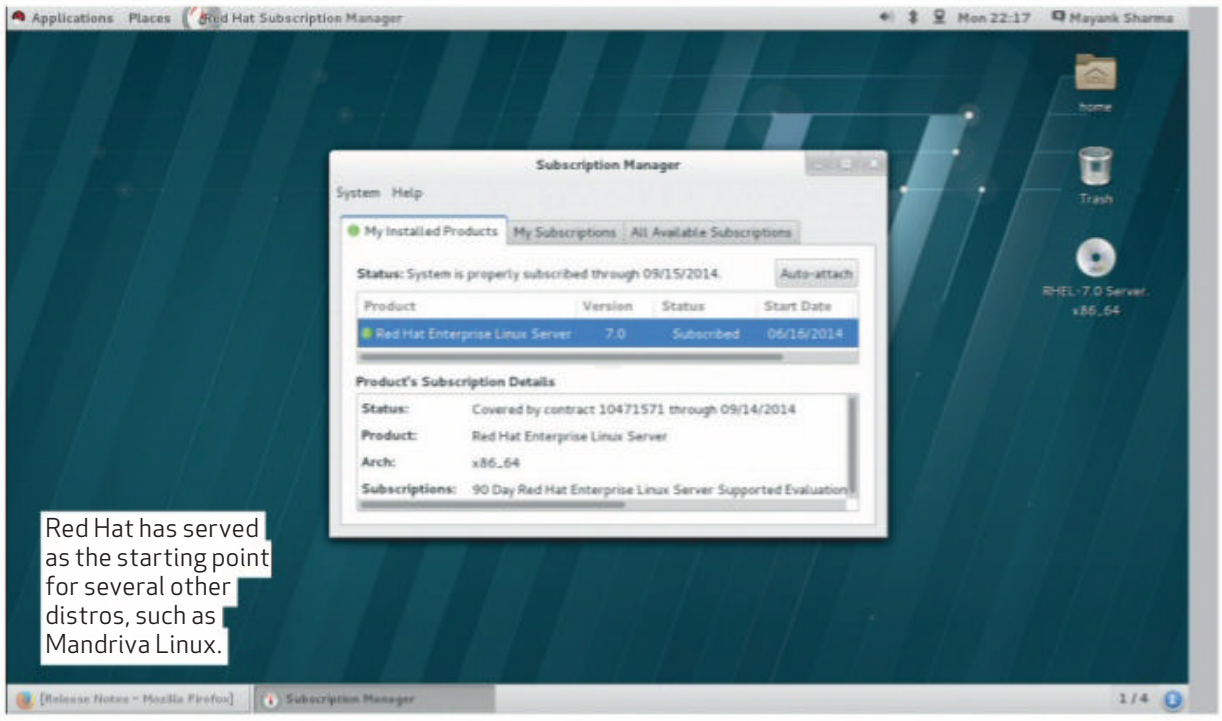
Genus Red Hat

Millinery on a massive scale.

Another distribution that has played a crucial role in shaping Linux's DNA is Red Hat Linux, which was created in 1994 by Marc Ewing. Bob Young and his ACC Corporation bought Ewing's business and created Red Hat Software. The company went public in 1999 and achieved the eighth-biggest first-day gain in the history of Wall Street. It rode on the success of Red Hat Linux to became the first open source billion dollar company.

Over the years, some of the biggest and brightest Linux developers have worked with Red Hat. Soon after it went public, it acquired Michael Tiemann's Cygnus Solutions which had authored the GNU C++ Compiler and worked on the GNU C Compiler and the GNU Debugger.

One of Red Hat's most influential pieces of technology is its RPM packaging format. The file format is now the baseline package format of the Linux Standard Base (LSB), which aims to standardise the software system structure, including the filesystem hierarchy used in the Linux operating system. The LSB is a joint project by several Linux distros managed by the Linux Foundation. Red Hat was also one of the first Linux distros to support Executable and Linkable Format (ELF) instead of the older a.out format. ELF is the standard file format for executables, shared libraries and other files. Red Hat was also the first distro to attempt to unify the look of its Gnome and KDE desktop with the Bluecurve theme, which caused tension with the KDE developers. The distro has won laurels for its easily navigable graphical Anaconda installer.



Red Hat has served as the starting point for several other distros, such as Mandriva Linux.

LIFE AFTER DEATH

Initially, the Red Hat distro was offered as a free download and the company sustained itself by selling support packages. In 2003, however, Red Hat discontinued the Red Hat Linux distro and it now focuses solely on the Red Hat Enterprise Linux (RHEL) distro for enterprise environments. RHEL supports popular server architectures including x86, x86-64, Itanium, PowerPC and IBM System z. The lifecycle of newer RHEL releases spans 13 years, during which time the users get technical support, software updates, security updates and drivers for new hardware. Red Hat also has a very popular training and certification program called RHCP that's centred around RHEL.

When Red Hat Linux was discontinued, the company handed over development of the free distro to the community. The new project was called Fedora (see following page). The company steers the direction of the Fedora project and does so in order to use Fedora to incubate technologies that will eventually show up in RHEL.

Since the GPL prohibits it from restricting redistribution of RHEL, the company uses strict trademark rules to govern the redistribution. This has led to popular third-party derivatives that are built and redistributed after stripping away non-free components like Red Hat's trademarks. Distros such as CentOS, Scientific Linux and Oracle Linux offer 100% binary compatibility with RHEL.

Red Hat has pioneered the professional open source business model, successfully mixing open source code and community development together with professional quality assurance, and a subscription-based support structure.

CentOS

The CentOS distro has been the premier community-supported enterprise distro based on Red Hat Enterprise Linux (RHEL). The distro is built using the open source SRPMS from the RHEL distro. CentOS is one of the most popular server distros, suitable for all kinds of use cases, from web servers to enterprise desktops, and has been able to pitch itself as an ideal choice for anyone who wants to put together their own server but can't afford the RHEL subscription fees.

CentOS ships with RHEL's Anaconda installer and can run unattended installations across multiple machines thanks to Kickstarter. The installer provides various installation targets such as a web server, database server, and so on.

In January 2014, Red Hat announced that it would start to sponsor a bunch of core CentOS developers to work on the distro full time. However, the developers and Red Hat have both insisted that the project remain independent of RHEL. The sponsorship ensures that all updates will be provided within 24 to 48 hours of upstream releases in RHEL.

Genus Fedora

You've been hit by a smooth distro.

Fedora has been around, in one form or another, since the early 1990s. The distro had its first release in 1995 and the early releases were named Red Hat Commercial Linux. During these early years, the distro was developed exclusively by Red Hat and the community was limited to contributing bug reports and contributing packages included in the distro. This changed in 2003 when the company shuttered Red Hat Linux in support of the Fedora Project and opened it up to contributions from the community.

The aim of Fedora is to provide the latest packages while maintaining a completely free software system. The distro was initially called Fedora Core and was named after one of the two main software repositories — Core and Extras. The Fedora Core repo contained all the basic packages required by the distro as well as other packages distributed with the installation discs, and was maintained exclusively by Red Hat developers. The Fedora Extras repo was introduced with Fedora Core 3. It contained packages maintained by the community and was not distributed with the installation discs. This arrangement continued until version 7 in 2007 when the two repos were merged and the distro was renamed as Fedora.

Fedora's objective is to create a free software distribution with the help of the community. The development of the project is overseen and coordinated by the Fedora Project. It's made up of four Red Hat appointed members and five community elected members. The chairman of the board is appointed by Red Hat. Fedora strives to maintain a roughly six-month release cycle, with two releases each year. Every release is supported until the launch of the next two releases. The cycles are deliberately kept short so that developers can focus on innovation and introducing the latest technologies into the distro.

Fedora was one of the first distros to embrace the Security Enhanced Linux (SELinux) kernel module.

FEATHER IN THE CAP

One way the community contributes is by hosting third-party repositories. In addition to its official software repos, there are several popular third-party software repos that usually contain software not included in the official repos — either because of the current laws of the country (such as multimedia codecs) or because the software doesn't meet Fedora's definition of free software. The Fedora project also produces the Extra Packages for Enterprise Linux (EPEL) repo, which contains packages for RHEL that are created by the community instead of Red Hat.

Apart from the main Fedora release, the project also ships various spins which are special-purpose distros aimed at specific interests, such as gaming, security, design, scientific computing , and so on. These are similar to Debian's Pure Blends and maintained by various Special Interest Groups (SIGs). The OLPC also runs a Fedora-based operating system. Fedora supports the x86 and ARM architectures and has also added support for PowerPC and IBM s390, starting with Fedora 20. Pidora is a Fedora Remix distro optimised for the Raspberry Pi.

Fedora's biggest contribution to the Linux ecosystem is its old command line package manager, YUM (Yellowdog Updater, Modified), which is based on RPM (Red Hat Package Manager). YUM enables automatic updates and dependency resolution, and works with the software repositories to manage the installation, upgrading and removal of packages.

BEST OF BREED

Korora

The Korora distribution started out as a way to ease the installation process of the Gentoo distro, but switched to using the Fedora distro as the base in 2010. The main aim of the distro is to make sure it works right out-of-the box for users.

Korora ships a live DVD, which includes a huge selection of apps that make it suitable for a large number of users and the distro offers five desktop choices – Gnome, KDE, Cinnamon, Xfce and Mate.

While Fedora only ships with open source software, Korora also includes some proprietary software, such as Adobe Flash, which are essential for catering to a wide user base. Korora also allow other software to be easily installed, such as Google Chrome and the proprietary graphics driver for Nvidia cards.

The distro has also eased a gripe for some Fedora users: graphical package management. Korora includes both Apper and Yum Extender, which are two of the most popular front-ends for YUM. Since it's based on Fedora, a new version of Korora is usually a few weeks behind a Fedora release.

Genus Mandrake

A distro which has a lot to scream about!

Until the release of Mandrake, Linux was generally thought of as a geek's OS. Mandrake was the first distribution that focused on the convenience of the user. The goal was to provide a distro that could be operated by regular computer users. It had features such as the ability to auto-mount CDs without messing around with configuration files, which brought greater convenience to the Linux desktop.

The Mandrake project has perhaps the most convoluted existence for a free software project. Over the years, the project has undergone various name changes, mergers and forks. However, it has spawned many distros and there are several major ones that are still active and can trace their lineage to Mandrake.

The distro has developed a bunch of custom tools, collectively known as drakxtools, to aid its users, who are called Drakes or Draks. One of the most distinguishing components created by the project is its Mandrake Control Center (MCC), which is now a centrepiece of all the derivatives. The MCC provides a single interface to access many different configuration tools. Using the Control Center in text mode is very useful in case of display problems or other serious issues, such as when the graphical server refuses to start. It's also interesting to note that all modules can be run as autonomous apps, without necessarily having to go through the MCC.

ON LIFE SUPPORT

Mandrake Linux was first released in July 1998. It was based on Red Hat Linux 5.1 and featured the inaugural KDE desktop release. After the positive response, lead developer Gaël Duval, along with a bunch of others, created the company MandrakeSoft and, in 2001, the company decided to go public. It faced its first major cash issue in late 2002 and asked its users to bail it out by subscribing to a paid service offering extra benefits, such as early access to releases and special editions. That wasn't enough and the company filed for bankruptcy protection in 2003. However, later that year MandrakeSoft announced its first quarterly profit and, in March 2004, a French court approved its plan to emerge from bankruptcy and return to normal operations.

The company also had to rename its product to Mandrakelinux, after losing a legal battle with the American Hearst Corporation over the Mandrake name and changed its name to Mandriva S.A. after acquiring the Brazilian company Conectiva in 2005. The distro became Mandriva Linux, but in 2006 Mandriva laid off several employees, including co-founder Duval. Amidst the booing, the company continued putting out releases and created a niche for itself in the BRIC region (Brazil, Russia, India and China) as well as France and Italy.

Despite all their efforts, the company struggled to keep its balance sheet in the black. In 2010, Mandriva abandoned development of the community Linux distro to avoid bankruptcy. Immediately afterwards, former Mandriva employees announced Mageia, which has gone on to be one of the most popular Mandrake-derivatives. Mandriva S.A. transferred development to the community-driven Open Mandriva Association. The association's second release called OpenMandriva 2014.0 got a positive review from Duval.

Rosa Linux is a Mageia fork that features some dramatic user interface mods such as this Simple Welcome app launcher.

Salix Mageia

Mageia is one of the best-assembled community distros and does a wonderful job of carrying forward the Mandrake legacy. It has an expansive support infrastructure and very good documentation. The distro follows a nine-month release cycle and each is supported for 18 months. Mageia has installable live media as well as install-only DVD images.

Mageia boasts intuitive custom tools for managing various aspects of the distro. One of the best tools is the Mageia Control Center, which has modules for managing software, hardware peripherals and system services. Advanced users can employ it to share internet, set up a VPN and configure network shares. The distro uses the URPMI package management system and ships with three official repos. The Core repo contains open source packages, the Non-free hosts proprietary apps and drivers, and the Tainted repo includes patent-encumbered apps. The distro ships with several desktop environments, and the developers have made sure the user experience is consistent across all of them.

BEST OF BREED

Genus SUSE

Nuga, nuga, nuga, gnu, nui*...

In 1992, Roland Dyroff, Burchard Steinbild, Hubert Mantel and Thomas Fehr founded Software und System Entwicklung (Software and Systems Development). The company started out as a service provider but the founders later decided to have a distro of their own that would cater to the enterprise user. The distro was named SUSE, after the acronym of their company, and it was a stock Slackware release that was translated into German and developed in close collaboration with Slackware's Patrick Volkerding.

For building its very own distribution of Linux, SUSE used the now defunct Jurix distribution. Jurix was created by Florian La Roche, who subsequently joined the SUSE team and began to develop YaST, which is the distro's unique installer and configuration tool. The first SUSE distro that included YaST was released in May 1996 (YaST was rewritten in 1999, and was included for the first time in SUSE Linux 6.3 as an installer only).

Over time, SUSE Linux has incorporated many aspects of Red Hat Linux, such as its well-respected RPM Package Manager. In 1996, the first distribution under the name SUSE Linux was published as SUSE Linux 4.2.

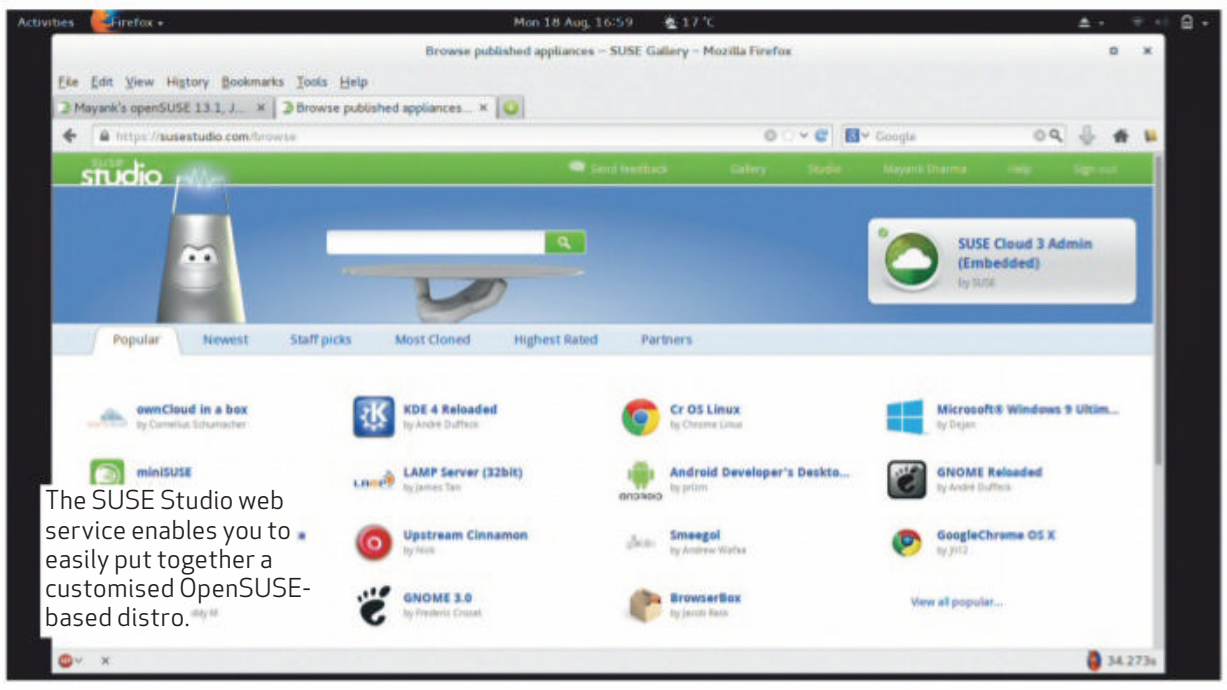
SUSE's focus has always been on bringing open source to enterprise users. It introduced the SUSE Linux Enterprise Server in 2001, and changed the company name to SUSE Linux. After software and services company Novell acquired SUSE Linux in January 2004, the SUSE Linux Professional product was released as a 100% open source project and the OpenSUSE Project was launched, much like Red Hat did with Fedora. The software was always open source and now so was the process which enabled developers and users to test and evolve it.

The initial stable release from the OpenSUSE Project was SUSE Linux 10.0. It included both open source and proprietary applications, as well as retail boxed-set editions. This was also the first release which treated the Gnome desktop environment on a par with SUSE's default KDE desktop. As of version 10.2, the SUSE Linux distribution was officially rechristened as OpenSUSE.

In November 2006, Novell signed an agreement with Microsoft covering improvement of SUSE's inter-operability with Windows, cross-promotion and marketing of both products, and patent cross-licensing. This agreement is considered controversial by some of the FOSS community.

Novell was later acquired by The Attachmate Group in 2011, which then divided Novell and SUSE into two separate subsidiary companies. SUSE offers products and services around SUSE Linux Enterprise – a commercial offering based on OpenSUSE Linux.

SUSE develops multiple products for its enterprise business line. These products target corporate environments and have a longer lifecycle (seven years, extendable to 10), a longer development cycle (two to three years), technical support and certification by independent hardware and software vendors. SUSE Linux Enterprise products are only available for sale. There's also the SUSE Linux Enterprise Desktop (SLED) which is a desktop-oriented operating system designed for corporate environments. In contrast, OpenSUSE does not have separate distributions for servers, desktops and tablets, instead using various installation patterns for different types of installation.



The SUSE Studio web service enables you to easily put together a customised OpenSUSE-based distro.

BEST OF BREED

OpenSUSE

OpenSUSE is one of the best RPM-based distros. It comes in several editions for 32-bit and 64-bit architectures and also has ports for ARM v6, ARM v7, and the 64-bit ARM v8. Once known for its KDE desktop, OpenSUSE now looks good across all the major desktops. Besides KDE and Gnome, the distro also features Mate, Xfce, Enlightenment, and LXDE. You can download the distro either as a smaller live installable image or a install-only DVD image.

One of OpenSUSE's hallmarks is the distro's YaST, which is a setup and configuration utility that enables you to tweak many different aspects of the system. Another popular tool is Snapper, which enables you to revert to a previously created system snapshot.

The distro serves as the base for the SUSE Linux Enterprise products – much as Fedora does for RHEL – and is suitable for all types of users regardless of their skill set. The distro's installer is versatile and offers several customisation options. It can be navigated by new users and includes options to plug the installed system into a corporate directory server.

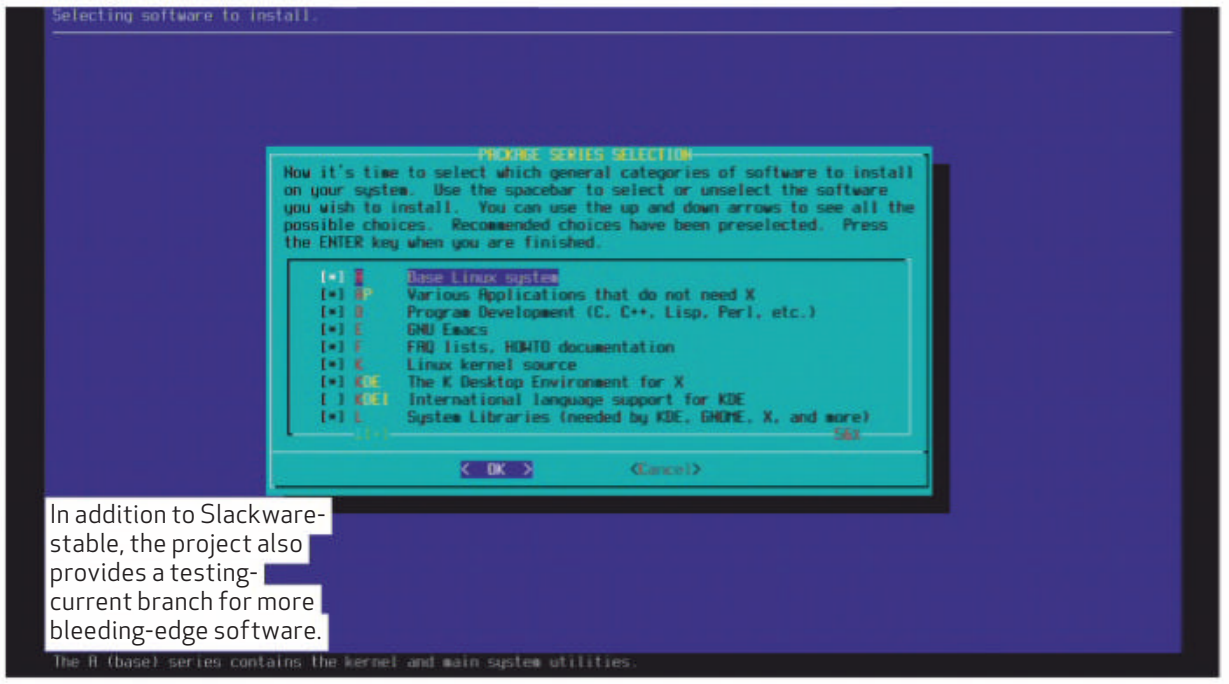
Genus Slackware

The tortoise distro that's outlasted many hares.

Slackware has the honour of being the oldest distro that's still actively maintained. It was created by Patrick Volkerding and had its first beta release in 1993. The project aims to create the most Unix-like Linux distribution. Slackware was originally derived from Softlanding Linux System (SLS), which was the first distro to provide TCP/IP and X Windows System in addition to the Linux kernel and basic utilities. SLS, however, was very buggy and the growing frustration of SLS users prompted Volkerding to release an SLS-like distro in July 1993.

Back then, in addition to being hosted on an anonymous FTP server at Minnesota State University Moorhead, the distro was offered as 24 3.5-inch floppy disks. By the time version 2.1 was released in October 1994, the distro had swelled to 73 disks and Version 3 was released on CD-ROM.

The USP of the distro is that it makes very few changes to upstream packages. Unlike other distros that aim for a particular userbase or a wide variety of users, Slackware doesn't preclude user decisions and doesn't anticipate use cases. The user, therefore, has far greater control on the installed system with Slackware than most other distros.



In addition to Slackware-stable, the project also provides a testing-current branch for more bleeding-edge software.

CUT SOME SLACK

Unlike other distros, Slackware doesn't provide a graphical installation. It continues to use plain text files and only a small set of shell scripts for configuration and administration. The distro also doesn't provide an advanced graphical package management tool, relying instead on command line tools such as pkgtool, installpkg, upgradepkg, and removepkg. However, these native tools can't resolve dependency issues.

Slackware packages are just plain compressed TAR archives. The package contains the files that form part of the software being installed, as well as additional metadata files for the benefit of the Slackware package manager. As of Slackware 12.2, slackpkg has become the official tool for installing or upgrading packages automatically through a network or over the internet, complementing the traditional package tools suite that only operates locally. Slackpkg also doesn't resolve dependencies between packages. Traditionally, Slackware only offered a 32-bit release, and users had to rely on unofficial ports, such as slamd64 for 64-bit releases. Since Slackware 13, a 64-bit variant is also available and officially supported. In 2002, Stuart Winter started the ARMedslack project, a port of Slackware for ARM. In 2009, Volkerding knighted ARMedslack as an official port of Slackware. With the release of Slackware 14.0, the project has been completely renamed to Slackware ARM.

It might sound surprising, but Slackware is a popular base for many distros. The derivatives include expansive desktop projects, live distros, security distros, and so on.

The Slackware project is also missing some of the common developer-friendly tools. For example, there's no official bug tracking system. Also, there is no official mechanism to become a contributor for Slackware. The final decision on what goes into the distribution is made by Volkerding, Slackware's 'Benevolent Dictator For Life'. In another departure from the norm, Slackware doesn't follow a fixed release schedule, but still aims for one major release a year.

Salix OS

Salix OS is one of the best Slackware-based distros: it's light, nimble and backwards compatible with Slackware. One of its salient features is that it minimises bloat by having only one application per task. The distro supports both 32-bit and 64-bit architectures and is available in five variants for the KDE, Mate, Xfce, Openbox, and Ratpoison desktops.

Salix offers three modes of installation — Full, Basic and Core. The Full option installs everything on the installation image; Basic provides a barebones system with just the graphical desktop, a few essential apps and the Slapt package manager; the Core option will only install a console-based system and is designed for users to custom-build their install.

The Full distro includes all the apps you'd expect on a desktop distro, and is often touted as Slackware with a graphical package manager. Its package manager, Gslapt, resembles the Synaptic package manager and also provides all the same functionality. Multimedia codecs aren't supplied out of the box, but that can be fixed with the distro's custom Codecs Installer.

BEST OF BREED

The marsupials

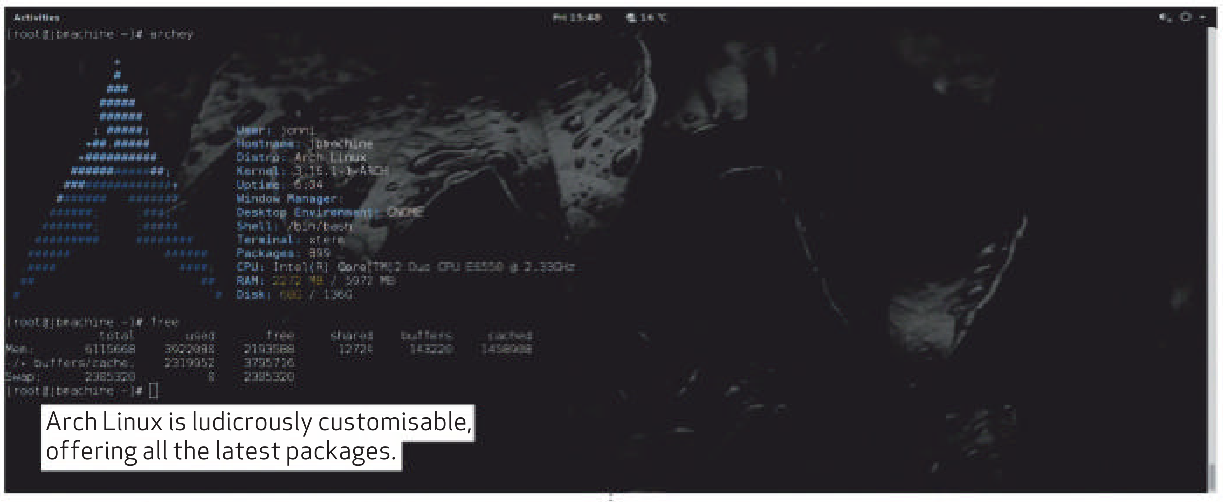
Evolutionary masterpieces and mavericks.

GENTOO LINUX

The goal of the Gentoo project was to create a distro without pre-compiled binaries that was tuned to the hardware on which it was installed. Unlike a binary software distribution, the source code is compiled locally according to the user's preferences and is often optimised. It was initially called Enoch but Gentoo 1.0 was released in 2002.

Gentoo has the distinction of being one of the most configurable distros and appeals to Linux users who want full control of the software that's installed and running on their computer. Gentoo users get to create their system from the ground up: the distro encourages the user to build a Linux kernel tailored to their particular hardware. It allows very fine control of which services are installed and running. Memory usage can be reduced, compared to other distributions, by omitting unnecessary kernel features and services.

This distro is a rolling release and one of its notable features is its package management system called Portage. If you've never used it before, there's a steep learning curve to using Gentoo. Derivatives such as Funtoo can be a good starting point if you're not ready to dive straight in.



Arch Linux is ludicrously customisable, offering all the latest packages.

ARCH LINUX

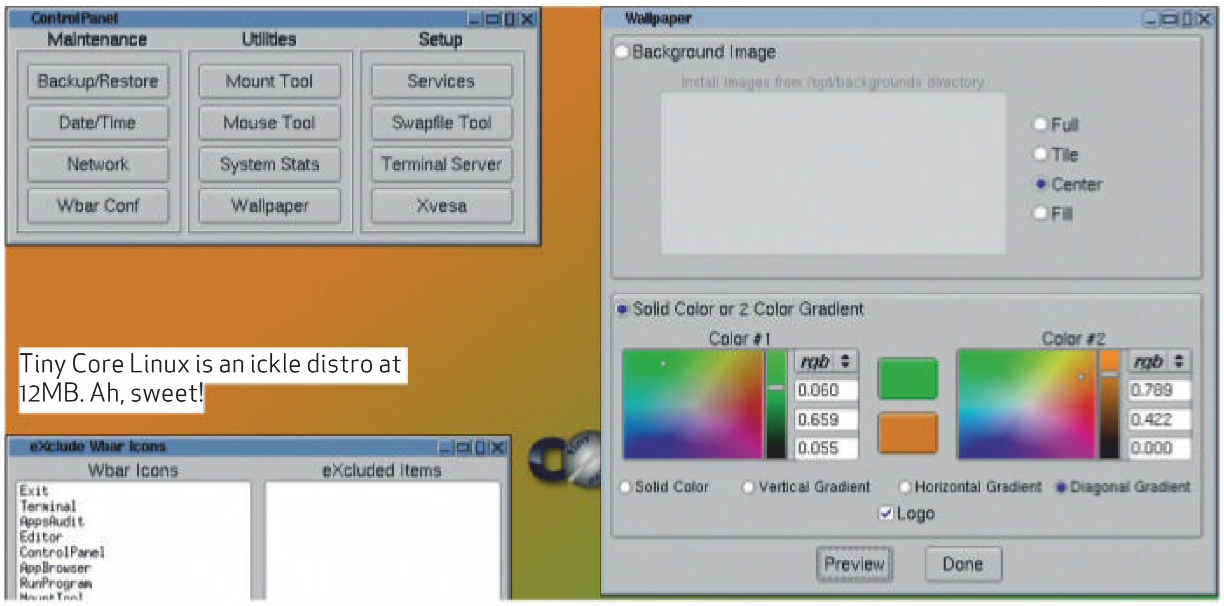
Judd Vinet wanted to create a distro that was inspired by the simplicity of Crux, Slackware and BSD, and thus created Arch Linux in 2002. Arch aims to provide a lightweight foundation on which the user can build according to their needs. In Vinet's words: "Arch is what you make it". A bit like life, really.

The most impressive feature of the Arch distro is the Pacman package management tool. Arch is a rolling release that can be brought up to date with a single command. Installing Arch Linux is an involved process and, although it is well-documented, it's still better suited for experienced Linux campaigners. However, Manjaro Linux is an Arch derivative that's more user-friendly and has a graphical installer.

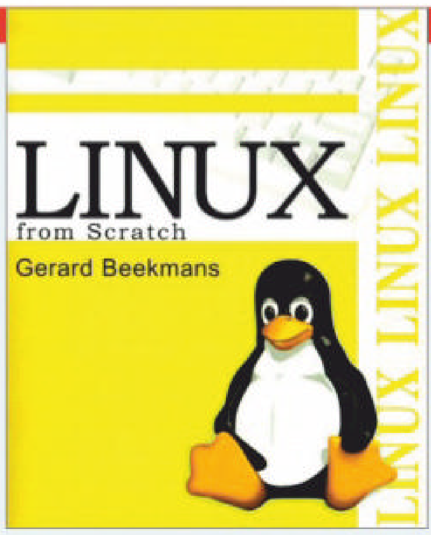
TINY CORE LINUX

If you can't invest time creating an Arch or Gentoo installation, try Tiny Core Linux. The distro installs the bare minimum software you need to boot into a very minimal X desktop. From here on, you've complete control and can install apps from online repos or compile them manually.

The distro is a mere 12MB and bundles only a terminal, a text editor and an app launcher on top of the lightweight FLWM window manager. It has a control panel to manage bootup services and configure the launcher, but everything else needs to be pulled in from its manager, including the installer if you want Tiny Core on your hard disk. The distro also has a CorePlus variant, which has additional drivers for wireless cards, a remastering tool and internationalisation support.



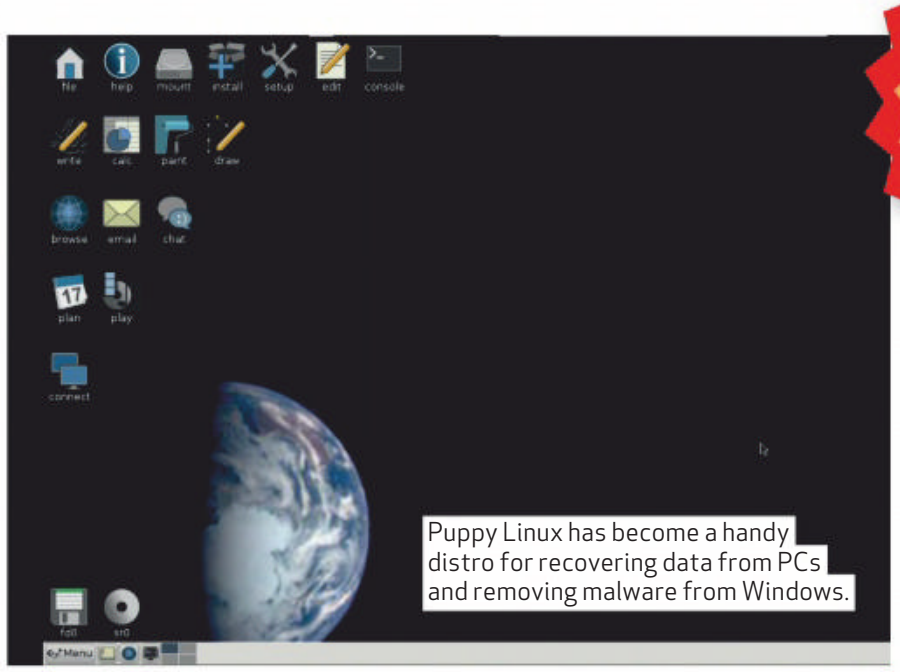
Tiny Core Linux is an ickle distro at 12MB. Ah, sweet!



Linux From Scratch

Rather than being a distribution itself, Linux From Scratch – popularly called LFS – is a freely available set of instructions to create your own custom distro from the ground up, entirely from source. The project was started in 1999 when its author, Gerard Beekmans, wanted to learn how a Linux distro works behind the scenes. While building his system from scratch, Beekmans wrote down the steps and released it as a HOWTO (pictured, left) thinking that there would probably be other people who would be interested.

LFS has grown quite a bit from its humble start, transforming from a single HOWTO to a multi-volume book. It has also spawned various sub-projects over time, such as BLFS or Beyond LFS which fleshes out the basic LFS system, and ALFS or Automated LFS, which is designed to help automate the process of creating an LFS system.



Puppy Linux has become a handy distro for recovering data from PCs and removing malware from Windows.

PUPPY LINUX

One of our all-time favourites, Puppy Linux had its initial release in 2003 and the first stable one in 2005. The distro is built from the ground up and its initial goal was to support older hardware that had been rendered useless due to lack of support in other distros.

The real power of the distro lies in its plethora of custom apps. There are custom apps to block website ads and add internet telephony, a podcast grabber, a secure downloader, an audio player, a DVD burning app and more. First-time users might be intimidated by Puppy's installer as it has no automatic partitioner, and fires up Gparted for you to format the disk. But each step in the installer is well-documented within the installer itself.

Packages for Puppy Linux are called pets, and have a .pet extension. You can install packages using its custom Puppy Package Manager tool, and you can configure it to download packages from other Puppy repos. The distro includes tools which can be used to easily churn out variants. Puppy Linux variants are called puplets. Popular puplets are WaryPuppy for supporting older hardware, RacyPuppy for newer hardware, the Slackware-based SlackoPuppy, and PrecisePuppy which is based on the Ubuntu LTS release.

SLITAZ GNU/LINUX

SliTaz stands for Simple Light Incredible Temporary Autonomous Zone and had its first stable release in 2008. The distro is built with home-brewed tools known as cookutils and uses BusyBox for many of its core functions. The distro includes a mixture of the LXDE and OpenBox window manager and is designed to perform on hardware with only 192MB of RAM. The distro weighs under 30MB and uses a mere 80MB of hard disk space.

The distro also has a bunch of custom tools such as the Tazpkg package manager and SliTazPanel for administering all aspects of the distro. SliTaz repos include over 3,000 packages for every popular open source app and it's a common option for powering low-powered machines.

PCLINUXOS

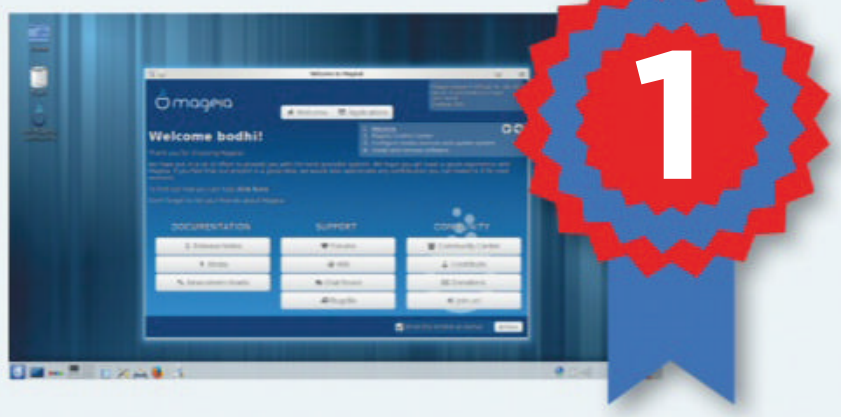
PCLinuxOS began life as a repository of RPM packages for the Mandrake distro in 2000 and became a distro in late 2003 as a branch of Mandrake Linux 9.2.

Although it retains a similar look and feel to Mandriva Linux, and its configuration tool and installer give away its Mandriva lineage, PCLinuxOS has diverged significantly.

The distro has replaced Mandrake's URPMI package management system, opting instead for APT-RPM. This is based on Debian's APT but uses RPM packages, together with the Synaptic package manager. PCLinuxOS is a KDE distro, but also has community spins around the LXDE and Mate desktops.

TOP DESKTOP DISTRO

We're going to tread on that hallowed patch of earth where angels fear to tread (and not because a bushy-bearded Russell Crowe is eyeballing them) and attempt to pick an overall distro winner. This means we had to pick a criteria that allowed for ease of use alongside the ability to build in complexity for specific use cases and, we admit, the result is purely subjective.



Mageia

The community supported distro has everything you want from a modern Linux distribution – an active and vibrant user and developer community, a well-defined support structure, support for multiple desktops and install mechanisms.

OpenSUSE

Coming in at second place, the OpenSUSE distribution loses out because of recent activities of its corporate parent. Also, the distro still focuses on introducing changes that make it fit more snugly on the corporate desktop, rather than home user.

Korora

This is your best bet if you want a RPM-based distribution that works out of the box. However, Korora is still essentially a one-man show and inherits some of the less flattering features of its parent distro, Fedora.