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Best Linux distro for privacy and security of 2025

Best By Mayank Sharma | Contributions from Brian Turner last updated November 18, 2024

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(Image credit: Passwork)

We list the best Linux distros for privacy and security, to make it simple and easy to lock down the security on your PC against cybersecurity threats.

Although Linux is generally regarded as reasonably secure and a lesser security risk than Windows computers, Linux distros still needs regularly security updates to keep it secure, Additionally, privacy and security have become increasing concerns for internet users, not least with increased government monitoring and corporate collection of user data, and a long string of well-publicized hack attacked in which this user data has been stolen and mis-used.

While Windows and macOS computers have some protections in place, and there are additional options such as using one of the best VPNs or Tor browser, a number of Linux distros are now available that put privacy and security at their core.

For some of these Linux distros it's a case of building in privacy protection by default using a variety of tools. For others, it's a matter of including security software as standard for those who need to do penetration testing.

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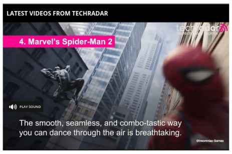
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Each of these distros has a different focus on privacy and/or security according to user interests and needs. We've assessed them on various factors, like the encryption tools they come with, how they manage their connections while ensuring privacy, the learning curve, documentation, and whether there's an active online community or forum for discussions.

The distros in this guide have all been crafted specifically to equip you with the means to defend your privacy and ensure you stay secure while browsing the internet.

Below we list what we think are the best Linux distros for privacy and security currently available.

We've also featured the best forensic and pentesting Linux distros.

Linux Administration Bootcamp: Go from Beginner to Advanced, $12.99/£11.99 at Udemy
Learn the ropes of two of the most popular Linux distributions in the world, Red Hat Linux & CentOS, and use the in-demand skills to start a career as a Linux Server Admin or Linux Administrator. The course is presented by Jason Cannon, the author of *Linux for beginners*, and includes around 500 minutes of in-demand video and four downloadable resources.

VIEW DEAL

The best Linux distros for privacy and security of 2025 in full:

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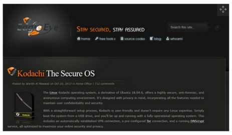

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Kodachi The Secure OS

Posted by Warith Al Maawali on Oct 20, 2013 in Home Office | 712 comments

The Linux Kodachi operating system, a derivative of Ubuntu 18.04.6, offers a highly secure, anti-forensic, and anonymous computing environment. It's designed with privacy in mind, incorporating all the features needed to maintain user confidentiality and security.

With a straightforward setup process, Kodachi is user-friendly and doesn't require any Linux expertise. Simply boot the system from a USB drive, and you'll be up and running with a fully-operational operating system. This includes an automatically established VPN connection, a pre-configured Tor connection, and a running DNScrypt service, all optimized to maximize your online security and privacy.

(Image credit: Kodachi)

1. Kodachi

Best Linux distro for privacy and security overall

TODAY'S BEST DEALS	VISIT WEBSITE
REASONS TO BUY	+ Routes connections through VPN and Tor + Large collection of tools + Can be used as a daily driver
REASONS TO AVOID	- Not an easy out-of-box experience

Kodachi uses a customized Xfce desktop and aims to give users access to a wide variety of security and privacy tools while still being intuitive. The distro is loaded to the brim with apps that cater to all kinds of users. Kodachi includes all the apps you'll find on a regular desktop distribution and then some.

To ensure privacy, Kodachi very uniquely routes all your connections to the Internet through a VPN before passing them to the Tor network. Advanced users can also connect via their own VPN.

Kodachi also takes many steps to bolster security. The distro uses AppArmor for application isolation. It also includes an entire suite of privacy-protection tools including VeraCrypt, zuluCrypt, KeePassXC, Metadata Anonymization Toolkit (MAT) for zapping metadata information from files, and more.

The distro also bundles a collection of tools to easily change identifying information such as the Tor exit country. Additionally, the distro encrypts the connection to the DNS resolver and includes well-known cryptographic and privacy tools to encrypt offline files, emails and instant messaging.

The Panic Room entry includes various privacy tools including a tool to wipe RAM, and an option to create a password that when entered will securely erase all contents of your encrypted Kodachi installation.

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2. Qubes OS

Best Linux distro for extreme security

TODAY'S BEST DEALS	VISIT WEBSITE
REASONS TO BUY	+ Security by isolation + Radically different yet usable + Well documented
REASONS TO AVOID	- Doesn't work with some hardware

Qubes has established itself as arguably the most popular security-centric distro. It works on the principle of *Security by Isolation* and makes intelligent use of virtualization to ensure that malicious software doesn't infect other parts of the installation.

Qubes uniquely isolates several essential elements of the operating system inside different virtual machines, called qubes. An individual instance of an app is restricted within its own qube. Thanks to this arrangement you can run Firefox in one qube to visit untrusted websites and another instance of the browser in a different qube to transact online. A malware ridden website in the untrusted qube will not affect the banking session.

Thanks to its radically different approach, Qubes does have a learning curve. However it isn't abrupt enough to prevent you from using the distro like a normal Linux installation. Qubes is based on Fedora and uses the Xfce desktop environment. But instead of a list of apps, its application menu lists several qubes such as work, personal, untrusted, each of which rolls the individual apps inside them.

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BEST LINUX DISTRO FOR PRIVACY AND SECURITY FOR BEGINNERS

Tails
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Tails is a portable operating system that protects against surveillance and censorship.

(Image credit: Tails)

3. Tails

Best Linux distro for privacy and security for beginners

TODAY'S BEST DEALS	VISIT SITE
REASONS TO BUY	+ Anonymizes connections using Tor + Can be used from an encrypted USB + Firefox equipped with privacy plugins
REASONS TO AVOID	- No encryption for documents created during the session by default

Tails (which stands for 'The Amnesiac Incognito Live System') is probably the most well-known privacy-focused distro. It can be run from a DVD in Live mode whereby it loads entirely into your system RAM and will leave no trace of its activity. The OS can also be used in 'persistent' mode where your settings can be stored on an encrypted USB stick.

All connections are routed through the anonymity network Tor, which conceals your location. The applications in Tails have also been carefully selected to enhance your privacy – for example, there's KeePassX - which, while not the best password manager, is still pretty good - and Paperkey, a command line tool used to export OpenPGP secret keys to print on paper. There are also a small number of productivity apps such as Mozilla Thunderbird and the powerful LibreOffice suite.

The distro ships with a number of desktop applications such as LibreOffice, GIMP, Pidgin, Inkscape, Audacity and Thunderbird. You can also utilize the Synaptic Package Manager to flesh out the Gnome-powered distro. Any packages you choose to install aren't made available at subsequent reboots, unless you configure persistent storage.

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4. Whonix

Best Linux distro for privacy and security that uses virtualization

TODAY'S BEST DEALS	VISIT SITE
REASONS TO BUY	+ Connections routed via the anonymous Tor network + Many privacy-specific apps preinstalled
REASONS TO AVOID	- VM performance isn't as fast as local installation

Booting a Live operating system is a nuisance as you have to restart your machine, while installing it to a hard drive means there's a risk of it being compromised. Whonix offers an elegant compromise by being designed to work as a virtual machine inside the free program Virtualbox.

Whonix is split into two parts. The first 'Gateway' routes all connections to the Tor network for the second 'Workstation' part. This hugely reduces the chance of DNS leaks which can be used to monitor what websites you visit.

The OS has a number of privacy-conscious features. These include bundled apps such as the Tor Browser and Tox instant messenger.

As it runs in a virtual machine, Whonix is compatible with all operating systems that can run Virtualbox. Virtual machines can only use a portion of your real system's resources, so Whonix will not necessarily perform as fast as an OS that has been installed to a local hard drive.

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BEST LINUX DISTRO FOR PRIVACY AND SECURITY FOR TOOLS

SEPTOR
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(Image credit: Septor)

5. Septor

Great Linux distro that comes with privacy tools

TODAY'S BEST DEALS	VISIT WEBSITE
REASONS TO BUY	+ Routes all traffic through Tor + Several privacy tools
REASONS TO AVOID	- Relatively new support infrastructure

Septor is produced by the Serbian Linux project, which also produces a general purpose Linux distro for Serbian language speakers. Based on Debian's Testing branch, Septor uses the KDE desktop environment and is one of the newest distros in this guide that's only had a handful of releases.

To earn its privacy credentials the distro routes all Internet-bound traffic through the Tor anonymous network. Earlier, the distro used a launcher script to fetch the latest Tor release from the Internet, but now bundles it by default.

In addition to the Tor browser, the distro also includes a couple of tools that are designed for use over the Tor network. There's the anonymous file-sharing program called OnionShare and the Ricochet instant messaging client.

Besides the Tor tools, the distro also has a few other privacy and security enhancing programs such as the Sweeper utility to clear the cache and temporary files, VeraCrypt encryption software and the Metadata Anonymisation Toolkit (MAT).

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BEST LINUX DISTRO FOR PRIVACY AND SECURITY FAQS

How to choose the best Linux distros for privacy and security for you?

When selecting the best Linux distros for privacy and security for yourself, you'll first want to check how steep the learning curve is and whether the distro offers an easy out-of-box experience. If you're proficient with Linux, then you could opt for a highly secure but complex distro. Beginners may do better with slightly less secure but simpler distros. You'll also want to check what kind of encryption tools the distro offers, the hardware requirements to run it smoothly, and if there's sufficient documentation.

HOW WE TESTED THE BEST LINUX DISTRO FOR PRIVACY AND SECURITY

We've evaluated these distros on factors relating to privacy and security. To start with, we looked at their hardware requirements, size, documentation, and ease of installation.

We assessed the degree of security and privacy the distros offered, the processes they employed to ensure security and privacy, and if there were additional tools to encrypt offline files, emails and instant messaging. We judged the complexity of the distros, and checked if they came with productivity apps too.

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Microsoft Linux

Mayank Sharma

With almost two decades of writing and reporting on Linux, Mayank Sharma would like everyone to think he's *TechRadar Pro's* expert on the topic. Of course, he's just as interested in other computing topics, particularly cybersecurity, cloud, containers, and coding.

With contributions from

Brian Turner

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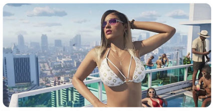

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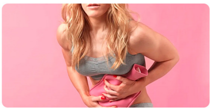

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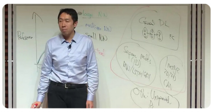

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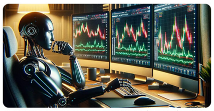

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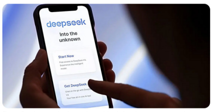

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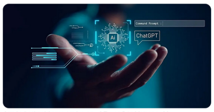

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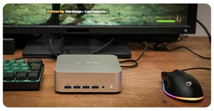

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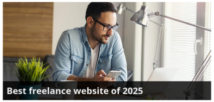
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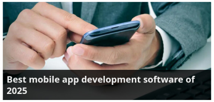
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