Linux Distributions

Linux distributions - or distros - are operating systems based on the Linux kernel. They are used for various purposes, from servers and embedded devices to desktop computers and mobile phones. Each Linux distribution is different, with its own set of features, packages, and tools. Some popular examples include:

- Ubuntu
- Fedora
- CentOS
- Debian
- Red Hat Enterprise Linux

Many users choose Linux for their desktop computers because it is free, open source, and highly customizable. Ubuntu and Fedora are two popular choices for desktop Linux and beginners. It is also widely used as a server operating system because it is secure, stable, and reliable and comes with frequent and regular updates. Finally, we, as cybersecurity specialists, often prefer Linux because it is open source, meaning its source code is available for scrutiny and customization. Because of such customization, we can optimize and customize our Linux distribution the way we want and configure it for specific use cases only if necessary.

We can use those distros everywhere, including (web) servers, mobile devices, embedded systems, cloud computing, and desktop computing. For cyber security specialists, some of the most popular Linux distributions are but are not limited to:

ParrotOS	Ubuntu	Debian
Raspberry Pi OS	CentOS	BackBox
BlackArch	Pentoo	

The main differences between the various Linux distributions are the included packages, the user interface, and the tools available. Kali Linux is the most popular distribution for cyber security specialists, including a wide range of security-focused tools and packages. Ubuntu is widespread for desktop users, while Debian is popular for servers and embedded systems. Finally, red Hat Enterprise Linux and CentOS are popular for enterprise-level computing.

Debian

Debian is a widely used and well-respected Linux distribution known for its stability and reliability. It is used for various purposes, including desktop computing, servers, and embedded system. It uses an Advanced Package Tool (`apt`) package management system to handle software updates and security patches. The package management system helps keep the system up-to-date and secure by automatically downloading and installing security updates as soon as they are available. This can be executed manually or set up automatically.

Debian can have a steeper learning curve than other distributions, but it is widely regarded as one of the most flexible and customizable Linux distros. The configuration and setup can be complex, but it also provides excellent control over the system, which can be good for advanced users. The more control we have over a Linux system, the more complex it feels to become. However, it just feels that way compared to the options and possibilities we get. Without learning it with the required depth, we might spend way more time configuring “easy” tasks and processes than when we would learn to use a few commands and tools more in-depth. We will see it in the `Filter Contents` and `Find Files and Directories` sections.

Stability and reliability are key strengths of Debian. The distribution is known for its long-term support releases, which can provide updates and security patches for up to five years. This can be especially important for servers and other systems that must be up and running 24/7. It has had some vulnerabilities, but the development community has quickly released patches and security updates. In addition, Debian has a strong commitment to security and privacy, and the distribution has a well-established security track record. Debian is a versatile and reliable Linux distribution that is widely used for a range of purposes. Its stability, reliability, and commitment to security make it an attractive choice for various use cases, including cyber security.