

Which of Linux, Windows or MacOS Offer the Best Security for the Average User and Why?

Aim

The literature review aimed to establish which one of the major three operating systems (OS) Windows, MacOS, and Linux is the most secure. The reason why this is important is that once the OS is chosen it is difficult to be replaced. Security is major consideration for the average user.

Methodology

Basic definition was formulated, and general security classification was investigated. Requirements for common security features were established. Each OS was analysed from security point of view. Then they were compared, and a conclusion was drawn.

Security Features of:

Windows OS

Windows OS generally supports various methods and features. User accounts are at its base that can be grouped in different ways. A security access token is supplied when a user logs on, that contains a user's security identity (ID), any membership groups and any distinctive rights the user might have like making copies for backups, setting the system clock and shutting the system.

MacOS

MacOS is considered a very safe choice by the average users. It is superb because of the code secrecy and the software-hardware synergy. Root access to a Mac device is very difficult for a hacker. Malware hardly gets access as well, due to stricter sets of permissions. According to Computerworld and the interviewed experts macOS achieves "security through obscurity".

Linux OS

In Linux very low users' access is given. In contrast in Windows full administrator's access is provided to the software accounts. Due to this "open access" all the files are in danger when a virus strikes and the whole system can get corrupted. In Linux the whole system cannot be attacked but only a few files. Due to this there is no issue for the rest of the system to work. Also, the IP tables are high tech protected that strengthens the circle of security. Different working environments are used for Linux operations, like Linux Mint, Ubuntu, Kali and others. The potential virus attacks are deterred through division and segmentation.

Conclusion

- Different operating systems' vulnerability statistics can be traced at Open Source Vulnerability Database (OSVDB).
- Linux will help to avoid most threats and it is free. The macOS will provide "best-in-class" usability, security and comprehensive protection against viruses. Windows OS can have additional antivirus and malware programs installed.