Computers and Their File Systems

In the world of computers, there are a few different ways to run computer hardware. Companies have invented separate operating systems to run this hardware. Most people are familiar with Windows, or Mac OS, due to their popularity. An interesting case is Linux, which similarly to macOS, uses a CLI, or command line interface for a file system, instead of a GUI, or graphical user interface. Both Mac OS and Linux give access to Unix commands and other shells. Dissimilarly, Linux is an open source OS which can be used on any device, while Mac OS can only be used on specific Mac devices.

Different operating systems have differences in their file systems. A file system can be thought of as an index for data on a storage device. It stores and organizes the data on the device's drive. File systems contain information such as size, location, hierarchy, and other attributes in the Metadata. Metadata is data that describes other data. Metadata provides a structured reference to help sort and identify attributes of the information it describes.

With Linux, the most commonly used file system is ext4, being the default file system for most linux installations. If the user wants a different file system on their device, they can choose from various options. Btrfs is another file system for Linux.

While being a bit less reliable, Btrfs has become a contender due to its set of interesting features. “The most notable aspect of Btrfs is its copy-on-write (COW) approach, which involves copying data to an alternative location on the disk before modifying it. As a result of its COW approach, Btrfs significantly minimizes the risk of data corruption.” ~ the 6 best file systems for linux

Z File System, or ZFS is one of the more interesting file systems for Linux. Created in 2001 this file system incorporates pooled storage. Unlike most file systems which have a separate file manager, this file system incorporates both in their pooled storage system. If a user had multiple drives, their storage would be combined.

These differing operating systems are bound to lead to different user experiences, with users having their preferences for which operating system to use. Mac’s user experience proves to be pretty smooth with a satisfying user interface, simple operations, high quality animations, and a seamless design. Linux’s can be a bit different, with various different distributions for the user to choose from, allowing for a bit more complexity and a varied impression on the OS. I personally suggest skeptical users give Linux a try, as some users find it to be more intuitive, and much more effective in its navigation and functions.

Works Cited

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