Linux File Systems Pros and Cons

**Ext4-** Usually the default system on most Linux distros, which improves upon its previous version Ext3. Where this system doesn’t offer the leading edge in functionality, it makes up for this by being solidly built and stable in most facets. Unfortunately, this option isn’t viable when needing to transfer files, or formatting drives between non-Linux machines, as non-Linux machines cannot read Ext4 file systems.

**BtrFS-** Also known as better/butter file system, this option comes from Oracle. This option allows drive pooling, transparent compression, and online defragging. It models Ext4 with its very own innovative features. It is becoming the standard across Linux distros, but isn’t yet due to stability reasons.

**ReiserFS-** first released in 2001, it was leading the way by including features Ext4 would never be able to offer, as well as, upgrading/improving ReiserFS to ReiserFS4 by 2004. Unfortunately, development halted in 2008 when the lead developer, Hans Reiser, went to prison.

**ZFS-** Owned by Oracle and developed by Sun Microsystems for Solaris, this option supports various amounts of features like BtrFS. Each file has a checksum, so ZFS can verify its integrity constantly. Due to license restrictions this will never be the Linux default but is obtainable for use.

**JFS**- Journaled File System was made by IBM for their IBM AIX OS in 1990, which was then later ported to Linux. With low CPU usage and optimized performance for both large and small files, this option still offers much for being considered a “relic”. This option boasts the ability to resize partitions, cross-distro ability, and AIX features.

**XFS-**Developed by Silicon Graphics in 1994 for SGI IRX OS, which then got ported to Linux in 2001. This option is very similar to Ext4 in design, but also offers features seen in JFS and ReiserFS. Great when dealing with large files but tends to fall short compared to others when handling small files. Primary usage is for servers handling large files.

# References

Garrison, J. (2017, July 10). *Which Linux File System Should You Use?* Retrieved from How-To Geek: https://www.howtogeek.com/howto/33552/htg-explains-which-linux-file-system-should-you-choose/