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Boston Linux and Unix



Presentation prepared in LibreOffice Impress

Boston Linux and Unix 12/17/2014



Background



Overview

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- **Please feel free to ask questions at any time.**



Terminology



Terminology



The File Systems I will talk about

<u>File System</u>	<u>Short Description</u>
EXT2	The venerable Second Extended File System. This was the standard for several years
EXT3	EXT3 simply adds journaling to ext2
EXT4	A substantial upgrade in both performance as well as support for larger files. EXT4 currently is the default for Fedora and Debian.
BTRFS	Btree File System. Adds pooling, snapshots, checksum and multiple device spanning and a few other features
XFS	XFS is a journaling system developed by SGI. It is currently the default file system for Red Hat Enterprise 7
ZFS	ZFS is a tree-based file system developed by Sun (Oracle) for use on Solaris. It has been available in Linux for several years
JFS	JFS is a B-Tree based journaling file system developed by IBM for AIX and OS2.
ReiserFS	I am including ReiserFS for historical purposes. This is a B-Tree based system that was the standard for SuSE for several years



Why the end user should be interested



Linux vs Windows



Linux vs. Windows



Linux vs. Windows



Linux vs. Windows



Linux vs. Windows



The EXT family



Rémy Card



The venerable EXT2



The venerable EXT2



Inode #	Access Control List	Extended Attribute
Direct/Indirect Disk Blocks	Time stamp(3) Access,change, modification	Number of blocks
File Deletion Time	File generation number	File Size
File Type	Group	Number of links
Owner	Permissions	Status flags



EXT3 adds journaling to EXT2



EXT3 adds journaling to EXT2



EXT4 – major upgrade to EXT2/3



EXT4 – New features



EXT4 – New features



EXT4 – Performance Features



BTRFS – The Linux file system of the future



BTRFS - features



BTRFS - features



BTRFS - features



BTRFS – my observation



BTRFS – a couple of issues



More on BTRFS File System Full



ZFS – Commercial File system



ZFS on Linux



ReiserFS – A look back



ReiserFS features

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References



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