Disscusion 2:

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1. A file with the 'a' attribute set can only be open in append mode for writing. Only the superuser or a process possessing the CAP\_LINUX\_IMMUTABLE capability can set or clear this attribute.
2. When a file with the 'A' attribute set is accessed, it's a time record is not modified. This avoids a certain amount of disk I/O for laptop systems.
3. A file with the 'c' attribute set is automatically compressed on the disk by the kernel. A read from this file returns uncompressed data. A write to this file compresses data before storing them on the disk. Note: please make sure to read the bugs and limitations section at the end of this document.
4. A file with the 'C' attribute set will not be subject to copy-on-write updates. This flag is only supported on file systems that perform copy-on-write. (Note: For btrfs, the 'C' flag should be set on new or empty files. If it is set on a file which already has data blocks, it is undefined when the blocks assigned to the file will be fully stable.
5. If the 'C' flag is set on a directory, it will not affect the directory, but new files created in that directory will have the No\_COW attribute set.)
6. A file with the 'd' attribute set is not a candidate for backup when the dump(8) program is run.
7. When a directory with the 'D' attribute set is modified, the changes are written synchronously on the disk; this is equivalent to the 'dirsync' mount option applied to a subset of the files.
8. The 'e' attribute indicates that the file is using extents for mapping the blocks on disk. It may not be removed using chattr(1).
9. The 'E' attribute is used by the experimental encryption patches to indicate that the file has been encrypted. It may not be set or reset using chattr(1), although it can be displayed by lsattr(1).
10. A file with the 'i' attribute cannot be modified: it cannot be deleted or renamed, no link can be created to this file, most of the file's metadata can not be modified, and the file can not be opened in write mode. Only the superuser or a process possessing the CAP\_LINUX\_IMMUTABLE capability can set or clear this attribute.
11. The 'I' attribute is used by the three codes to indicate that a directory is being indexed using hashed trees. It may not be set or reset using chattr(1), although it can be displayed by lsattr(1).
12. A file with the 'j' attribute has all of its data written to the ext3 or ext4 journal before being written to the file itself if the file system is mounted with the "data=ordered" or "data=writeback" options and the file system has a journal. When the filesystem is mounted with the "data=journal" option all file data is already journaled and this attribute has no effect. Only the superuser or a process possessing the CAP\_SYS\_RESOURCE capability can set or clear this attribute.
13. A file with the 'N' attribute set indicates that the file has data stored inline, within the inode itself. It may not be set or reset using chattr(1), although it can be displayed by lsattr(1).
14. A directory with the 'P' attribute set will enforce a hierarchical structure for project ids. This means that files and directory created in the directory will inherit the project id of the directory, rename operations are constrained so when a file or directory is moved into another directory, that the project id's much match. In addition, a hard link to file can only be created when the project id for the file and the destination directory match.
15. When a file with the 's' attribute set is deleted, its blocks are zeroed and written back to the disk. Note: please make sure to read the bugs and limitations section at the end of this document.
16. When a file with the 'S' attribute set is modified, the changes are written synchronously on the disk; this is equivalent to the 'sync' mount option applied to a subset of the files.
17. A file with the 't' attribute will not have a partial block fragment at the end of the file merged with other files (for those filesystems which support tail-merging). This is necessary for applications such as LILO which read the filesystem directly, and which don't understand tail-merged files. Note: As of this writing, the ext2 or ext3 filesystem‐items do not (yet, except in very experimental patches) support tail- merging.
18. A directory with the 'T' attribute will be deemed to be the top of directory hierarchies for the Orlov block allocator. This is a hint to the block allocator used by ext3 and ext4 that the subdirectories under this directory are not related, and thus should be spread apart for allocation purposes. For example, it is a very good idea to set the 'T' attribute on the /home directory, so that /home/john and /home/mary are placed into separate block groups. For directories where this attribute is not set, the Orlov block allocator will try to group subdirectories closer together where possible.
19. When a file with the 'u' attribute set is deleted, its contents are saved. This allows the user to ask for its undeletion. Note: please make sure to read the bugs and limitations section at the end of this document.