

Large Extended Attribute Values

To enable ext4 to store extended attribute values that do not fit in the inode or in the single extended attribute block attached to an inode, the EA_INODE feature allows us to store the value in the data blocks of a regular file inode. This “EA inode” is linked only from the extended attribute name index and must not appear in a directory entry. The inode's `i_atime` field is used to store a checksum of the xattr value; and `i_ctime/i_version` store a 64-bit reference count, which enables sharing of large xattr values between multiple owning inodes. For backward compatibility with older versions of this feature, the `i_mtime/i_generation` *may* store a back-reference to the inode number and `i_generation` of the **one** owning inode (in cases where the EA inode is not referenced by multiple inodes) to verify that the EA inode is the correct one being accessed.