

Re: [PATCH] UTC timestamp option for FAT filesystems

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- *From:* Joe Peterson <joe@xxxxxxxxxxxx>
 - *Date:* Thu, 26 Jun 2008 09:45:51 -0600
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OGAWA Hirofumi wrote:

Since the camera does not have a concept of time zone, the camera's clock, itself, would show UTC. You are correct that one could, instead, choose an arbitrary time offset when setting the camera's clock, and if an option existed in Linux to always use this fixed offset on mount, the Linux timestamp could be correct in this case as well.

It means the timestamp of FAT on the camera is just wrong.

I am not sure what you mean.

Of course, UTC is right design for on disk format. But, this is FAT, the writing UTC means you modified the design of FAT. It is not a correct option, it is just a hack like I said, right?

I do not consider this modifying the design of FAT. FAT does not have the concept of time zone, DST, or UTC. It is just a date/time (stamped on the volume with no info about what that means). It is customary to say these times are in local time, and Windows happens to use it as if it's straight local time (Linux tries to emulate this). But using FAT to store UTC instead is not changing the design, it is just using it differently. I agree this would not be a good idea when sharing a volume with Windows, but for cameras, e.g., why not?

I do see what you are saying, in that the semantics of using FAT imply using local time, but I'm not sure this is reason enough to not allow someone to adjust how they use the timestamps. After all, if someone in Iceland, Morocco, or Algeria writes a file to a FAT filesystem using Windows, those timestamps **will** be equivalent to UTC. There is an inherent problem with using local time anyway (since someone receiving a disk has no idea which time zone was used when writing the file), so I'm not sure why it would be wrong to adjust how a particular volume is used.

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However, I can accept that hack for many broken devices on realworld, but, the modifying design is not right option. Do you see what I want to say?

If it is a hack (and I do not consider it to be so), I still do not see why the utc option is a design change – how else would you get the desired behavior?

Yes. And sys_tz is wrong and needs to fix.

I agree it would be good to fix this, but it is probably not trivial, and this is a completely independent issue (even if it were fixed, things like dealing with DST or moving around with a camera are still problematic).

Also, as I understand it, sys_tz is obsolete, but is still used for these legacy things, meaning a new way to flag something as "local time" should probably be used ultimately to fix the sys_tz issue.

So, if one were to, instead of UTC, use an arbitrary "fixed" offset when mounting a FAT partition, the same issue would occur

Yes. To store localtime, complex one is needed.

Right, and I see that as a separate issue. Back to your original point, I do not see that letting a user specify a "fixed" arbitrary offset has any advantage.

Summary: I believe it would be nice if the current local time mode were fixed to match Windows behavior, but it would also be handy to have the utc option for situations where that has advantages.

–Joe

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