

From: mogulskier <mogulskier@gmail.com>
Sent: Wednesday, February 6, 2019 10:22 AM
To: 'Andy Howell'; 'Peter Jenniskens'; 'Steve Rau'
Cc: 'Ray Fobes'; 'Nick Moskovitz'; 'Mohammad Odeh'
Subject: RE: Post-capture time reduced from 4 hours to 1 hour

That's great Andy. I'm glad you shared that with us. Thanks.

So all of know, Andy's CAMS drive is a Drobo NAS-like (RAID I think) device that is connected to his computer using a very fast USB3. That makes it a DAS (direct-attached storage vs Network attached storage). Not all of these devices are as good as his Drobo, but this one is working extremely well. He's using it with a single 8-channel Sensoray board. Without these settings, I would say that the device would be limited to a single board and would not be usable with a two-Sensoray board system. With this setting, the performance can now get all the post-capture processing finished for two boards for about 4 days of capture (that's 8 capture sessions) in a single 8-10 hour day (time from capture end to the start of next capture). This is very significant.

Windows treats all USB connections as "removable" storage, like a floppy disk or a thumb drive. Windows considered removable storage as something that could be pulled from the computer without warning. Therefore, the directory and file updates are updated more often to protect from data loss when removed.

I'm guessing that Andy's settings could possibly be used on any removable drive, such as a WD Passport, to improve the performance.

Just be sure to use the Windows user interface for Ejecting the drive before turning the device off or unplugging it. The Eject action will flush the write cache to the drive.

Of course, when the computer is turned off, it is safe to remove the drive, since Windows flushes the cache during "normal" shutdown.

Enabling write cache is not supported for all removable storage devices. Also, with write caching enabled, the drive may not sleep as often like it does without write caching. So expect a different behavior.

Thanks again Andy.

From: Andy Howell [mailto:camsflorida@gmail.com]
Sent: Wednesday, February 6, 2019 9:34 AM
To: Peter Jenniskens <pjenniskens@seti.org>; Steve Rau <steve.rau@telenet.be>; Mogul Skier <mogulskier@gmail.com>
Subject: Post-capture time reduced from 4 hours to 1 hour

I made a Windows software change two nights ago that reduced post-capture processing time from 4 hours to 1 hour. Here's how:

1. Open Device Manager;
2. Click on Disk Drives. Then right-click on the external hard drive where the CAMS files are located. Open "Properties" and then select the "Policies" tab;
3. The policies tab has two radio buttons: "Quick removal (default)", and "Better performance";
4. If this is currently set at "Quick removal (default)", change it to "Better performance".

What this does is to eliminate write caching.

More information - <https://tinyurl.com/y8zhkvap>

On my i7 computer, the change reduced post-capture processing time from 4 hours to 1 hour! It also reduced the number of dropped frames. Over the past two nights, there have been zero (0) dropped frames on all 8 cameras.

One drawback is that if there is a power outage while the drive is being used, there WILL BE lost data. Since the computer and hard drive are both on a UPS, this should not be an issue.

Best, Andy

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MISSION STATEMENT:

CAMS-Florida is an independent citizen science group, a contributor to the NASA-CAMS project led by Peter Jenniskens, whose purpose is to identify meteor streams and their associated parent bodies.