

Brian Lantz <BLantz@stanford.edu>

June 24, 2015 11:08 AM

To: aligo_ifo@ligo.org

Cc: aligo-isc@ligo.caltech.edu

Re: Re: [aligo_ifo] reminder about automation and watchdogs

Sheila,

Thanks for the SEI watchdog (WD) suggestions, I think we should address this before O1 starts.

Just to be clear (for the casual observer)

The WD **saturation counters** keep track of how often there are saturations for a particular type of input (e.g. GS-13s)

The WD **trips** if the saturation counters show "too many" saturations. "too many" is defined by the input type, and the current settings for the GS-13 on HAM6 (which is saturated by the shutter) is discussed in

<https://dcc.ligo.org/LIGO-E1500186>

to be clear, We all agree that only a human can reset the WD if it trips (for the time being, anyway).
and Sheila is suggesting that the computer be allowed to automatically modify the saturation counters.

The seismic team thinks it is smart to reset the saturation counter automatically for HAM6 one time after the shutter trips. Sounds like we were not doing this in the best way.

I propose that Sheila + (Arnaud, me, Hugo) I will propose a smarter way to do this for an ECR in the next few days.

If you have comments and suggestions, please let us know,
-Brian

On Jun 24, 2015, at 9:53 AM, Sheila Dwyer <dwyer_s@ligo-wa.caltech.edu> wrote:

We currently have watchdogs that count saturations and will eventually go off when the number of saturations gets too large, no matter how old those saturations are. With every very lockloss when the fastshutter goes off, the HAM6 ISI will saturate, and if we did not reset this counter with the automation the ISI will trip after a few locklosses. If we want to avoid resetting watchdogs in automation, we should fix the underlying problem with the watchdogs. If these saturation counters could somehow be bled off so that old saturations would not cause trips, I do not think we would have any reason to reset them in the automation.

Hi, all. This is for anyone that ever works on any automation code:

Today I found an instance of a Guardian state that was resetting a software watchdog.

UNDER NO CIRCUMSTANCE SHALL ANY AUTOMATION CODE EVER TOUCH ANY WATCHDOG CHANNEL.

This is absolutely forbidden as it completely defeats the point of the watchdogs. The watchdogs are there precisely to protect the hardware from rouge or mis-programmed computer processes, be they front end, guardian, scripts, etc. The watchdog EPICS channel exist purely for human operators to reset the watchdogs once they have determined that it is safe to do so. No automated process should ever touch any of those channel to reset the watchdogs automatically.

We should maybe consider how we could make the watchdog reset channels accessible only by human operators, and completely inaccessible from Guardian or any other script.

jamie.

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