

Re: [PATCH 10/11] LED: Add IDE disk activity LED trigger

Source: <http://linux.derkeiler.com/Mailing-Lists/Kernel/2006-01/msg11458.html>

- *From:* Richard Purdie <rpurdie@xxxxxxxxx>
 - *Date:* Tue, 31 Jan 2006 16:21:19 +0000
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Hi,

On Tue, 2006-01-31 at 15:46 +0100, Bartlomiej Zolnierkiewicz wrote:

>

> Why cannot existing block layer hook be used for this?

The trigger is supposed to be reflecting actual hardware activity, not block layer activity.

I'll experiment with the feasibility of the block later as I've always been uneasy about the hooks into the lower level layers. There are a number of issues to consider though.

1. The block layer isn't always aware of device activity (eg. flash block erasing in mtd devices) (is this the case for IDE?).
2. Default trigger naming becomes problematic for led devices. Currently an MMC card reader's LED could set its trigger to say "mmc-disk" and end up with some kind of sensible activity light. (ignoring the more than one card reader case where all the lights would be synced :).

A potential solution would be to add individual gendisk triggers by hooking `add_disk/del_disk`. The MMC read would presumably know its major/minor number before registering its LED.

I'm not sure how to intercept disk activity for a given gendisk offhand. There is also a question of where the `led_trigger` pointers end up. `struct gendisk` may or may not be acceptable.

3. Matching something like all IDE disks becomes hard (and is actually more desirable than individual devices at times – see below).

At first glance a potential solution would be to hook `register_blkdev/unregister_blkdev` and create yet more triggers but where do you hook the activity? There is no data structure the led trigger pointer can be part of either.

These solutions are going to end up with a lot of unused led triggers on

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any given system.

- > Why are you adding LED_FULL event handling to a specific
- > device driver (ide-disk) but LED_OFF event handling to a generic
- > IDE end request function?

The trigger started out as just being ide-disk.c based but there is no place where the IDE end request function could be hooked within it due to its use of generic functions. The trigger therefore had to move into more generic code. If there was a point in ide-disk where an IDE end request could be hooked it, it could be confined to that file.

Alternatively it could be made to apply to all ide activity if a suitable start request point was found to hook into.

- > This solution has very limited flexibility (disk accesses for
- > all IDE ports will be registered as coming from the same
- > source) but I guess it is fine?

For users in the handheld world, that's desirable as the trigger shows any IDE disk activity. You normally only have a small number of leds to work with (say 1 or 2).

I can imagine some users wanting to be able to get this information per IDE port but the code to do that would be a lot more invasive with more overhead. It might be easier and more flexible through the block layer which is something I'll investigate. I get the feeling things start to scale out of proportion and control though.

Regards,

Richard

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• **Follow-Ups:**

- ◆ **Re: [PATCH 10/11] LED: Add IDE disk activity LED trigger**
◇ From: Jens Axboe
- ◆ **Re: [PATCH 10/11] LED: Add IDE disk activity LED trigger**
◇ From: Bartlomiej Zolnierkiewicz

• **References:**

- ◆ **[PATCH 10/11] LED: Add IDE disk activity LED trigger**
◇ From: Richard Purdie
- ◆ **Re: [PATCH 10/11] LED: Add IDE disk activity LED trigger**

Re: [PATCH 10/11] LED: Add IDE disk activity LED trigger

◇ *From:* Bartlomiej Zolnierkiewicz

- Prev by Date: ***Re: [RFC/RFT] finally solve "swsusp fails with mysqld" problem***
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