
Subject: [PATCH] kthread: tvaudio.c

Posted by [Sukadev Bhattiprolu](#) on Thu, 31 Aug 2006 01:05:04 GMT

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Replaced kernel_thread() with kthread_run() since kernel_thread() is deprecated in drivers/modules.

Removed the completion and the wait queue which are now useless with kthread. Also removed the allow_signal() call as signals don't apply to kernel threads.

Fixed a small race condition when thread is stopped.

Please check if the timer vs. thread still works fine without the wait queue.

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drivers/media/video/tvaudio.c | 42 ++++++-----
1 files changed, 16 insertions(+), 26 deletions(-)

Index: lx26-18-rc5/drivers/media/video/tvaudio.c

```
=====
--- lx26-18-rc5.org/drivers/media/video/tvaudio.c 2006-08-29 14:02:44.000000000 -0700
+++ lx26-18-rc5/drivers/media/video/tvaudio.c 2006-08-30 17:52:17.000000000 -0700
@@ -28,6 +28,7 @@
#include <linux/i2c-algo-bit.h>
#include <linux/init.h>
#include <linux/smp_lock.h>
+#include <linux/kthread.h>

#include <media/tvaudio.h>
#include <media/v4l2-common.h>
@@ -124,11 +125,8 @@ struct CHIPSTATE {
    int input;

    /* thread */
- pid_t          tpid;
- struct completion  texit;
- wait_queue_head_t  wq;
+ struct task_struct *thread;
```

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    struct timer_list    wt;
- int                    done;
    int                  watch_stereo;
    int                  audmode;
};
@@ -264,28 +262,23 @@ static int chip_cmd(struct CHIPSTATE *ch
static void chip_thread_wake(unsigned long data)
{
    struct CHIPSTATE *chip = (struct CHIPSTATE*)data;
- wake_up_interruptible(&chip->wq);
+ wake_up_process(chip->thread);
}

static int chip_thread(void *data)
{
- DECLARE_WAITQUEUE(wait, current);
    struct CHIPSTATE *chip = data;
    struct CHIPDESC *desc = chiplist + chip->type;

- daemonize("%s", chip->c.name);
- allow_signal(SIGTERM);
    v4l_dbg(1, debug, &chip->c, "%s: thread started\n", chip->c.name);

    for (;;) {
- add_wait_queue(&chip->wq, &wait);
- if (!chip->done) {
- set_current_state(TASK_INTERRUPTIBLE);
+ set_current_state(TASK_INTERRUPTIBLE);
+ if (!kthread_should_stop())
        schedule();
- }
- remove_wait_queue(&chip->wq, &wait);
+ set_current_state(TASK_RUNNING);
        try_to_freeze();
- if (chip->done || signal_pending(current))
+ if (kthread_should_stop())
            break;
        v4l_dbg(1, debug, &chip->c, "%s: thread wakeup\n", chip->c.name);

@@ -301,7 +294,6 @@ static int chip_thread(void *data)
    }

    v4l_dbg(1, debug, &chip->c, "%s: thread exiting\n", chip->c.name);
- complete_and_exit(&chip->texit, 0);
    return 0;
}

@@ -1536,19 +1528,18 @@ static int chip_attach(struct i2c_adapte

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    chip_write(chip, desc->treblereg, desc->treblefunc(chip->treble));
}

- chip->tpid = -1;
+ chip->thread = NULL;
  if (desc->checkmode) {
    /* start async thread */
    init_timer(&chip->wt);
    chip->wt.function = chip_thread_wake;
    chip->wt.data = (unsigned long)chip;
-   init_waitqueue_head(&chip->wq);
-   init_completion(&chip->textit);
-   chip->tpid = kernel_thread(chip_thread, (void *)chip, 0);
-   if (chip->tpid < 0)
-   v4l_warn(&chip->c, "%s: kernel_thread() failed\n",
+   chip->thread = kthread_run(chip_thread, chip, chip->c.name);
+   if (IS_ERR(chip->thread)) {
+   v4l_warn(&chip->c, "%s: failed to create kthread\n",
        chip->c.name);
-   wake_up_interruptible(&chip->wq);
+   chip->thread = NULL;
+ }
  }
  return 0;
}

@@ -1569,11 +1560,10 @@ static int chip_detach(struct i2c_client
    struct CHIPSTATE *chip = i2c_get_clientdata(client);

    del_timer_sync(&chip->wt);
-   if (chip->tpid >= 0) {
+   if (chip->thread) {
    /* shutdown async thread */
-   chip->done = 1;
-   wake_up_interruptible(&chip->wq);
-   wait_for_completion(&chip->textit);
+   kthread_stop(chip->thread);
+   chip->thread = NULL;
  }

  i2c_detach_client(&chip->c);

```

Containers mailing list

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