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Subject: Re: [PATCH] usbatm: Update to use the kthread api.  
Posted by [Cedric Le Goater](#) on Wed, 13 Dec 2006 16:24:17 GMT  
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Eric W. Biederman wrote:

- > During driver initialization if the driver has an expensive
- > initialization routine usbatm starts a separate kernel thread for it.
- >
- > In the driver cleanup routine the code waits to ensure the
- > initialization routine has finished.
- >
- > Switching to the kthread api allowed some of the thread management
- > code to be removed.
- >
- > In addition the kill\_proc(SIGTERM, ...) in usbatm\_usb\_disconnect was
- > removed because it was absolutely pointless. The kernel thread did
- > not handle SIGTERM or any pending signals, so despite marking the
- > signal as pending it would never have been handled.

are you sure that the heavy\_init() routines don't handle pending signals. they do firmware loading, etc. ?

- > Signed-off-by: Eric W. Biederman <ebiederm@xmission.com>
- > ---
- > drivers/usb/atm/usbatm.c | 24 ++++++-----
- > drivers/usb/atm/usbatm.h | 2 --
- > 2 files changed, 6 insertions(+), 20 deletions(-)
- >
- > diff --git a/drivers/usb/atm/usbatm.c b/drivers/usb/atm/usbatm.c
- > index ec63b0e..e6cd5e4 100644
- > --- a/drivers/usb/atm/usbatm.c
- > +++ b/drivers/usb/atm/usbatm.c
- > @@ -81,6 +81,7 @@
- > #include <linux/stat.h>
- > #include <linux/timer.h>
- > #include <linux/wait.h>
- > +#include <linux/kthread.h>
- >
- > #ifdef VERBOSE\_DEBUG
- > static int usbatm\_print\_packet(const unsigned char \*data, int len);
- > @@ -999,35 +1000,26 @@ static int usbatm\_do\_heavy\_init(void \*arg)
- > struct usbatm\_data \*instance = arg;
- > int ret;
- >
- > - daemonize(instance->driver->driver\_name);
- > - allow\_signal(SIGTERM);
- > - instance->thread\_pid = current->pid;
- > -

```

> - complete(&instance->thread_started);
> -
> ret = instance->driver->heavy_init(instance, instance->usb_intf);
>
> if (!ret)
>   ret = usbatm_atm_init(instance);
>
> - mutex_lock(&instance->serialize);
> - instance->thread_pid = -1;
> - mutex_unlock(&instance->serialize);
>
> complete_and_exit(&instance->thread_exited, ret);
> }
>
> static int usbatm_heavy_init(struct usbatm_data *instance)
> {
> - int ret = kernel_thread(usbatm_do_heavy_init, instance, CLONE_KERNEL);
> -
> - if (ret < 0) {
> + struct task_struct *thread;
> + thread = kthread_run(usbatm_do_heavy_init, instance,
> +   instance->driver->driver_name);
> + if (IS_ERR(thread)) {
> +   int ret = PTR_ERR(thread);
>   usb_err(instance, "%s: failed to create kernel_thread (%d)!\n", __func__, ret);
>   return ret;
> }
>
> - wait_for_completion(&instance->thread_started);
> -
> return 0;
> }
>
> @@ -1109,8 +1101,6 @@ int usbatm_usb_probe(struct usb_interface *intf, const struct
usb_device_id *id,
>   kref_init(&instance->refcount); /* dropped in usbatm_usb_disconnect */
>   mutex_init(&instance->serialize);
>
> - instance->thread_pid = -1;
> - init_completion(&instance->thread_started);
>   init_completion(&instance->thread_exited);
>
>   INIT_LIST_HEAD(&instance->vcc_list);
> @@ -1272,8 +1262,6 @@ void usbatm_usb_disconnect(struct usb_interface *intf)
>
>   mutex_lock(&instance->serialize);
>   instance->disconnected = 1;
> - if (instance->thread_pid >= 0)

```

```
> - kill_proc(instance->thread_pid, SIGTERM, 1);
> mutex_unlock(&instance->serialize);
>
> wait_for_completion(&instance->thread_exited);
> diff --git a/drivers/usb/atm/usbatm.h b/drivers/usb/atm/usbatm.h
> index ff8551e..ab42355 100644
> --- a/drivers/usb/atm/usbatm.h
> +++ b/drivers/usb/atm/usbatm.h
> @@ -176,8 +176,6 @@ struct usbatm_data {
>  int disconnected;
>
>  /* heavy init */
> - int thread_pid;
> - struct completion thread_started;
>  struct completion thread_exited;
>
>  /* ATM device */
```

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