

Re: O2micro smartcard reader driver.

Source: <http://linux.derkeiler.com/Mailing-Lists/Kernel/2007-02/msg06102.html>

- *From:* "Markus Rechberger" <mrechberger@xxxxxxxxx>
 - *Date:* Sat, 17 Feb 2007 04:55:12 +0100
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Hi Eric,

I committed your code to linuxtv.org to review and modify it there.
<http://linuxtv.org/hg/~mrechberger/chipcardreader>

one thing I noticed is the error handling in `ozscr_probe`.

I'll continue the rest during the next few days, I'd like to see it as soon as possible in the upstream kernel before some kernel api changes again which affects your current driver.

Markus

On 2/17/07, Markus Rechberger <mrechberger@xxxxxxxxx> wrote:

Hi,

so finally I'm also looking at that driver,
<http://pieleric.free.fr/o2scr/>
the driver compiles fine, though it doesn't seem to work (unless I'm doing something wrong here)

`dmesg` shows up following entries:

```
pccard: card ejected from slot 1
PCMCIA: socket c160c364: *** DANGER *** unable to remove socket power
pccard: PCMCIA card inserted into slot 1
pcmcia: registering new device pcmcia1.0
pccard: card ejected from slot 1
PCMCIA: socket c160c364: *** DANGER *** unable to remove socket power
pccard: PCMCIA card inserted into slot 1
pcmcia: registering new device pcmcia1.0
pccard: card ejected from slot 1
PCMCIA: socket c160c364: *** DANGER *** unable to remove socket power
pccard: PCMCIA card inserted into slot 1
pcmcia: registering new device pcmcia1.0
OZSCLX O2Micro SmartCardBus Reader (for kernel >= 2.6.17)
```

The module for any reason has a `usecount` value of 1

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ozscr1x 21548 1

devicenode /dev/ozscr1x isn't opened anywhere either.

I'll do some further investigations upon it, I'd also like to see it directly in the kernel. It would be handy to use for encrypted filesystems.

Markus

On 12/12/06, Eric Piel <Eric.Piel@xxxxxxxxxxxxxxxxxxxx> wrote:

```
> 28.11.2006 12:49, Oliver Neukum wrote/a écrit:
>>> Latest version I've published is there:
>>> http://pieleric.free.fr/o2scr/
>>
>> case OZSCR_OPEN: /* Request ICC */
>> dprintk("OZSCR_OPEN\n");
>> ATRLength = ATR_SIZE;
>> pRdrExt->IOBase = (PSCR_REGISTERS *) dev->io_base; //XXX
> necessary?
>> pRdrExt->membase = dev->am_base; //XXX necessary?
>>
>> pRdrExt->m_SCard.AvailableProtocol = 0;
>> pRdrExt->m_SCard.RqstProtocol = 0;
>> dprintk("membase:%p\n", pRdrExt->membase);
>> dprintk("ioport:0x%03x\n", (unsigned)pRdrExt->IOBase);
>>
>> ret = CmdResetReader( pRdrExt, FALSE, ATRBuffer, &ATRLength
);
>> apdu.LengthOut = ATRLength;
>>
>> #ifdef PCMCIA_DEBUG
>> printk(KERN_DEBUG "Open finished, ATR buffer = ");
>> for( ATRLength = 0; ATRLength < apdu.LengthOut; ATRLength++
)
>> printk(" [%02X] ", ATRBuffer[ATRLength] );
>> printk("\n");
>> #endif
>>
>> memcpy( apdu.DataOut, ATRBuffer, ATRLength );
>> ret = copy_to_user((struct ozscr_apdu *)arg, &apdu,
> sizeof(struct ozscr_apdu));
>> break;
>>
>> 1. This needs locking against concurrent ioctls
>> 2. The interpretation of copy_to_user()'s return code is incorrect
>>
>
> Hi Oliver,
>
```

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> Thanks a lot for reading my code, I didn't even hope that someone would!
> I've corrected the copy_to_user (and copy_from_user) code. However I
> don't know how to do locking for the concurrent ioctls. Indeed, I don't
> think there is anything preventing two programs to call the driver at
> the same time. Unfortunately, I've got no idea how to do the locking and
> surprisingly couldn't find any ioctl code in the kernel doing locking.
> Maybe I've just not looked at the right place, could you give a me some
> hint how to do locking for ioctl's ?
>
> See you,
> Eric
>
> -
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> the body of a message to majordomo@xxxxxxxxxxxxxxxxxxxx
> More majordomo info at <http://vger.kernel.org/majordomo-info.html>
> Please read the FAQ at <http://www.tux.org/lkml/>
>

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Markus Rechberger

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Markus Rechberger
--- ozscr1x.c.1 2006-12-12 22:28:24.000000000 +0100
+++ ozscr1x.c 2007-02-17 01:00:46.000000000 +0100
@@ -596,14 +596,14 @@
dev = kzalloc(sizeof(struct ozscr_dev_t), GFP_KERNEL);
if (dev == NULL) {
dprintk("allocate ozscr_dev_t fail\n");
- goto ErrHandle;
+ goto ErrHandle1;
}

/* Allocate space for private device-specific data */
dev->o2scr_reader = kzalloc(sizeof(READER_EXTENSION *), GFP_KERNEL);
if (dev->o2scr_reader == NULL) {
dprintk("allocate READER_EXTENSION fail\n");
- goto ErrHandle;
+ goto ErrHandle2;
}

p_dev->priv = dev;
@@ -628,7 +628,7 @@

ret = ozscr_config(p_dev);

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```
if (ret)
- goto ErrHandle;
+ goto ErrHandle3;

// it's just so redundant... we could merge those fields together
dev->o2scr_reader->IOBase = (PSCR_REGISTERS *) dev->io_base;
@@ -644,11 +644,11 @@
dprintk("function complete\n");
return 0;

- ErrHandle:
- /* Free the allocated memory space */
- if (dev)
- kfree(dev->o2scr_reader);
+ ErrHandle3:
+ kfree(dev->o2scr_reader);
+ ErrHandle2:
kfree(dev);
+ ErrHandle1:
return ret;
}
```

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