

Linux-Kernel: Re: [PATCH] check\_/request\_region fixes & request for enlightenment

## Re: [PATCH] check\_/request\_region fixes & request for enlightenment

**Source:** <http://linux.derkeiler.com/Mailing-Lists/Kernel/2004-06/3985.html>

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**Date:** 06/17/04

Date: Thu, 17 Jun 2004 21:27:59 +0200 (CEST)

To: Jesper Juhl <[juhl-lkml@dif.dk](mailto:juhl-lkml@dif.dk)>

On Wed, 16 Jun 2004, Jesper Juhl wrote:

> *in the isp16.c case the region is free'ed in isp16\_exit(), but one thing I*

That looks like a bug – release\_region() without request\_region().

> *don't understand is is I'm supposed to preserve the pointer returned by*  
> *request\_region and later pass that to release\_region as well to make sure*  
> *the right resource is free'ed? I see \_\_release\_region() taking 3*  
> *parameters, but the release\_region #define only takes two??? Could someone*  
> *explain to me how that works?*

No. You pass the same address and size you used to request the region.

> *For now I assumed the current release\_region in isp16\_exit() is OK, and*  
> *the code compiles fine with my changes, but I can't test it since I don't*  
> *have the hardware.*  
> *Here's the patch against 2.6.7 for that file – comments are very welcome :*

You also have to release\_region() in all failure-cases in the isp16\_init(). Also, I think, if the region is busy you should return -EBUSY, but there I am not too sure.

```
> --- linux-2.6.7-orig/drivers/cdrom/isp16.c 2004-06-16 07:20:04.000000000 +0200
> +++ linux-2.6.7/drivers/cdrom/isp16.c 2004-06-16 22:36:52.000000000 +0200
> @@ -121,7 +121,7 @@ int __init isp16_init(void)
> return (0);
> }
>
> - if (check_region(ISP16_IO_BASE, ISP16_IO_SIZE)) {
> + if (!request_region(ISP16_IO_BASE, ISP16_IO_SIZE, "isp16")) {
> printk("ISP16: i/o ports already in use.\n");
> return (-EIO);
> }
>
```

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- >
- > *Now, in trm290.c it seems that the region it tries to access is already*
- > *requested in probe\_hwif() in ide-probe.c, so the check\_region is only used*
- > *as an extra check to print an error message. I see no code in trm290.c*
- > *that ever tries to release the region, is that wrong, or does it simply*
- > *rely on the code in ide-probe.c to release the region for it?*
- > *How can it be that the check\_region doesn't always fail if it has already*
- > *been locked in ide-probe.c ? And if it doesn't always fail, shouldn't the*

It is requested later:

```
trm290_init_one
  ide_setup_pci_device
```

first calls

```
  do_ide_setup_pci_device
  ide_pci_setup_ports
  d->init_hwif(hwif) = init_hwif_trm290
  ***check_region***
```

then it calls

```
  probe_hwif_init
  probe_hwif
  ide_hwif_request_regions
```

where regions are requested. So, I would just completely through "check region" away. A bit uncomfortable is that the driver seems to need to configure the chip with the address:

```
hwif->OUTW(compat|1, hwif->config_data);
new = hwif->INW(hwif->config_data);
```

and that doesn't look very nice before request\_region(). And there's no other hook between request\_region() in probe\_hwif and the first use of the chip, so, I am not quite sure if it is safe here to just blindly configure the chip with the port address...

Please, correct me anybody if I am wrong.

Guennadi

- > *driver release it itself right after doing it's check (now) with*
- > *request\_region?*
- >
- > *Here's what I came up with initially – just replacing check\_region with*
- > *request\_region – but I have a feeling it's not that simple.*
- > *Would anyone care to clarify?*
- >
- > --- linux-2.6.7-orig/drivers/ide/pci/trm290.c 2004-06-16 07:19:01.000000000 +0200

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```
> +++ linux-2.6.7/drivers/ide/pci/trm290.c 2004-06-16 22:57:24.000000000 +0200
> @@ -373,12 +373,12 @@ void __devinit init_hwif_trm290(ide_hwif
> /* leave lower 10 bits untouched */
> compat += (next_offset += 0x400);
> # if 1
> - if (check_region(compat + 2, 1))
> - printk(KERN_ERR "%s: check_region failure at 0x%04x\n",
> + if (!request_region(compat + 2, 1, "trm290"))
> + printk(KERN_ERR "%s: request_region failure at 0x%04x\n",
> hwif->name, (compat + 2));
> /*
> * The region check is not needed; however.....
> - * Since this is the checked in ide-probe.c,
> + * Since this is checked in ide-probe.c,
> * this is only an assignment.
> */
> # endif
>
>
> I've been digging for a while looking for some documentation on this, but
> found nothing more than brief mentions about it in Documentation/
> Searching lkml archives and reading the
> check_region/request_region code provided enough info to give me the
> understanding I described above, but if someone has knowledge of some
> documentation/explanation on this I'd love a pointer so I can read up.
>
>
> --
> Jesper Juhl <juhl-lkml@dif.dk>
>
> -
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> the body of a message to majordomo@vger.kernel.org
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>
>
```

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Guennadi Liakhovetski

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