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Subject: RE: [PATCH 1/1] scsi : megaraid\_{mm, mbox}: a fix on 64-bit DMA capability check

Posted by [Seokmann.Ju](#) on Tue, 20 Jun 2006 14:06:16 GMT

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Hi Vasily,

Tuesday, June 20, 2006 9:53 AM, Vasily Averin wrote:

> As far as I see the 64-bit magic is set, pci(0xA4) == 0x0299  
> and driver tries to  
> enable 64-bit DMA. However the controller is not supported  
> 64-bit DMA, and I  
> still have the same error messages.

>  
> Could you please check this issue and update your patch properly.  
I'll double check with F/W team for further clarification and will submit updated patch, soon.  
Thank you for pointing out and sorry for inconvenience.

Seokmann

> -----Original Message-----

> From: Vasily Averin [mailto:vvs@sw.ru]  
> Sent: Tuesday, June 20, 2006 9:53 AM  
> To: Ju, Seokmann  
> Cc: James Bottomley; Andrew Morton;  
> linux-scsi@vger.kernel.org; linux-kernel@vger.kernel.org;  
> devel@openvz.org  
> Subject: Re: [PATCH 1/1] scsi : megaraid\_{mm,mbox}: a fix on  
> 64-bit DMA capability check

>  
> Hello Seokmann,  
>  
> I would like to tell you that your patch is wrong, at least for  
> MegaRAID SATA 150-4 RAID Controller

>  
> 06:02.0 RAID bus controller: LSI Logic / Symbios Logic  
> MegaRAID (rev 01)  
>     Subsystem: LSI Logic / Symbios Logic MegaRAID SATA  
> 150-4 RAID Controller

> 00: 00 10 60 19 16 03 b0 04 01 00 04 01 08 20 00 00  
> 10: 08 00 20 df 00 00 00 00 00 00 00 00 00 00 00 00  
> 20: 00 00 00 00 00 00 00 00 00 00 00 00 00 10 23 45  
> 30: 00 00 00 00 80 00 00 00 00 00 00 00 00 0a 01 00 00  
> 40: 00 00 ff ff 00 00 00 d0 08 00 00 fc 00 00 00 fc  
> 50: 00 00 00 d0 00 00 00 00 00 00 00 00 00 00 00 00  
> 60: 00 00 00 00 88 1f 00 00 00 00 00 f8 00 00 00 00  
> 70: 00 00 00 00 00 00 ff ff 00 00 f4 fe 00 00 00 00  
> 80: 01 00 02 00 00 00 00 00 06 01 38 00 00 00 00 00

```

> 90: 00 00 00 00 00 00 00 00 06 01 00 20 9c 00 00 00
> a0: cc cc 00 00 99 02 00 00 00 06 00 80 00 00 00 00
> b0: 00 00 00 6e 00 00 00 00 00 00 00 00 fd 01 00 00
> c0: fd 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
> d0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
> e0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
> f0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
>
> As far as I see the 64-bit magic is set, pci(0xA4) == 0x0299
> and driver tries to
> enable 64-bit DMA. However the controller is not supported
> 64-bit DMA, and I
> still have the same error messages.
>
> Could you please check this issue and update your patch properly.
>
> Thank you,
> Vasily Averin
>
> SWsoft Virtuozzo/OpenVZ Linux kernel team
>
> Ju, Seokmann wrote:
> > Hi,
> >
> > This patch contains a fix for 64-bit DMA capability check in
> > megaraid_{mm,mbox} driver. With patch, the driver access PCI
> > configuration space with dedicated offset to read a
> > signature. If the
> > signature read, it means that the controller has capability
> > to handle
> > 64-bit DMA. Before this patch, the driver blindly claimed
> > the capability
> > without checking with controller.
> > The issue has been reported by Vasily Averin [vvs@sw.ru]. Thank you
> > Vasily for the reporting.
>
> > + #define HBA_SIGNATURE_64BIT 0x0299
> > + #define PCI_CONF_AMISIG64 0xa4
> ...
> > - if (pci_set_dma_mask(adapter->pdev, DMA_64BIT_MASK) != 0) {
> > + pci_read_config_dword(adapter->pdev, PCI_CONF_AMISIG64,
> > &magic64);
> >
> > - con_log(CL_ANN, (KERN_WARNING
> > - "megaraid: could not set DMA mask for
> > 64-bit.\n"));
> > + if ((magic64 == HBA_SIGNATURE_64BIT) ||
> > + (adapter->pdev->vendor == PCI_VENDOR_ID_DELL &&

```

```
> > + adapter->pdev->device ==
> > PCI_DEVICE_ID_PERC4_DI_EVERGLADES) ||
> > + (adapter->pdev->vendor == PCI_VENDOR_ID_LSI_LOGIC &&
> > + adapter->pdev->device == PCI_DEVICE_ID_VERDE) ||
> > + (adapter->pdev->vendor == PCI_VENDOR_ID_LSI_LOGIC &&
> > + adapter->pdev->device == PCI_DEVICE_ID_DOBSON) ||
> > + (adapter->pdev->vendor == PCI_VENDOR_ID_DELL &&
> > + adapter->pdev->device == PCI_DEVICE_ID_PERC4E_DI_KOBUK)
> > ||
> > + (adapter->pdev->vendor == PCI_VENDOR_ID_LSI_LOGIC &&
> > + adapter->pdev->device == PCI_DEVICE_ID_LINDSAY)) {
> > + if (pci_set_dma_mask(adapter->pdev, DMA_64BIT_MASK) !=
> > 0) {
>
```

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