
Subject: [PATCH] Fix OOPS in show_uevent()
Posted by [Pavel Emelianov](#) on Fri, 10 Aug 2007 10:13:43 GMT
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The platform_uevent() callback called via
show_uevent()
dev_uevent()
platform_uevent()
forgot to set NULL to the last envp pointer and this caused the
show_uevent() oops while printing all the envp pointers like this:

BUG: unable to handle kernel paging request at virtual address 000280d0

...
Call Trace:
[<c04d3d2d>] vsnprintf+0x2c7/0x48c
[<c04d3f6d>] sprintf+0x17/0x19
[<c052efa2>] show_uevent+0xeb/0x110
[<c0457649>] buffered_rmqueue+0x1bf/0x1ed
[<c04577b7>] get_page_from_freelist+0x82/0xa2
[<c0457836>] __alloc_pages+0x5f/0x286
[<c052eeb7>] show_uevent+0x0/0x110
[<c052ec32>] dev_attr_show+0x15/0x1c
[<c04aa7c3>] fill_read_buffer+0x57/0x89
[<c04aa81d>] sysfs_read_file+0x28/0x53
[<c0471762>] vfs_read+0x7f/0xef
[<c04719f7>] sys_read+0x3c/0x62
[<c0404bd6>] sysenter_past_esp+0x5f/0x99
...

The last hunk in this patch fixes this.

The other problem is that the envp passed to bus, type and platform callbacks from dev_uevent() is the same, so the callbacks can overwrite the info, written by the others. Did I miss something important?

This is for 2.6.23-rc2-mm1

Signed-off-by: Pavel Emelyanov <xemul@openvz.org>

```
--- ./drivers/base/core.c.ubug 2007-08-10 14:07:26.000000000 +0400
+++ ./drivers/base/core.c 2007-08-10 14:07:15.000000000 +0400
@@ -222,6 +222,11 @@ static int dev_uevent(struct kset *kset,
     if (retval)
         pr_debug("%s: bus uevent() returned %d\n",
                 __FUNCTION__, retval);
+
```

```

+ while (*envp != NULL) {
+   envp++;
+   num_envp--;
+ }
+ }

    if (dev->class && dev->class->dev_uevent) {
@@ -230,6 +235,11 @@ static int dev_uevent(struct kset *kset,
    if (retval)
        pr_debug("%s: class uevent() returned %d\n",
            __FUNCTION__, retval);
+
+ while (*envp != NULL) {
+   envp++;
+   num_envp--;
+ }
+ }

    if (dev->type && dev->type->uevent) {
@@ -238,6 +248,11 @@ static int dev_uevent(struct kset *kset,
    if (retval)
        pr_debug("%s: dev_type uevent() returned %d\n",
            __FUNCTION__, retval);
+
+ while (*envp != NULL) {
+   envp++;
+   num_envp--;
+ }
+ }

    return retval;
--- ./drivers/base/platform.c.ubug 2007-08-10 14:07:44.000000000 +0400
+++ ./drivers/base/platform.c 2007-08-10 13:58:55.000000000 +0400
@@ -547,6 +547,7 @@ static int platform_uevent(struct device

    envp[0] = buffer;
    snprintf(buffer, buffer_size, "MODALIAS=%s", pdev->name);
+ envp[1] = NULL;
    return 0;
}

```

Subject: Re: [PATCH] Fix OOPS in show_uevent()
 Posted by [Cornelia Huck](#) on Fri, 10 Aug 2007 12:09:36 GMT
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On Fri, 10 Aug 2007 14:13:43 +0400,
 Pavel Emelyanov <xemul@openvz.org> wrote:

> The last hunk in this patch fixes this.

Looks sane.

> The other problem is that the envp passed to bus, type and platform callbacks
> from dev_uevent() is the same, so the callbacks can overwrite the info, written
> by the others. Did I miss something important?

I don't think so.

```
>
> This is for 2.6.23-rc2-mm1
>
> Signed-off-by: Pavel Emelyanov <xemul@openvz.org>
>
> ---
>
> --- ./drivers/base/core.c.ubug 2007-08-10 14:07:26.000000000 +0400
> +++ ./drivers/base/core.c 2007-08-10 14:07:15.000000000 +0400
> @@ -222,6 +222,11 @@ static int dev_uevent(struct kset *kset,
>  if (retval)
>    pr_debug ("%s: bus uevent() returned %d\n",
>      __FUNCTION__, retval);
> +
> + while (*envp != NULL) {
> +   envp++;
> +   num_envp--;
> + }
```

Hm, we may also want to adjust the remaining buffer size here, but only the ->uevent() method has that knowledge...

```
> }
>
> if (dev->class && dev->class->dev_uevent) {
> @@ -230,6 +235,11 @@ static int dev_uevent(struct kset *kset,
>  if (retval)
>    pr_debug ("%s: class uevent() returned %d\n",
>      __FUNCTION__, retval);
> +
> + while (*envp != NULL) {
> +   envp++;
> +   num_envp--;
> + }
> }
>
> if (dev->type && dev->type->uevent) {
```

```

> @@ -238,6 +248,11 @@ static int dev_uevent(struct kset *kset,
> if (retval)
> pr_debug("%s: dev_type uevent() returned %d\n",
> __FUNCTION__, retval);
> +
> + while (*envp != NULL) {
> + envp++;
> + num_envp--;
> + }
> }
>
> return retval;
> --- ./drivers/base/platform.c.ubug 2007-08-10 14:07:44.000000000 +0400
> +++ ./drivers/base/platform.c 2007-08-10 13:58:55.000000000 +0400
> @@ -547,6 +547,7 @@ static int platform_uevent(struct device
>
> envp[0] = buffer;
> snprintf(buffer, buffer_size, "MODALIAS=%s", pdev->name);
> + envp[1] = NULL;
> return 0;
> }
>
>

```

Subject: Re: [PATCH] Fix OOPS in show_uevent()
 Posted by [Kay Sievers](#) on Fri, 10 Aug 2007 12:23:56 GMT
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On 8/10/07, Pavel Emelyanov <xemul@openvz.org> wrote:

```

> The platform_uevent() callback called via
> show_uevent()
> dev_uevent()
> platform_uevent()
> forgot to set NULL to the last envp pointer and this caused the
> show_uevent() oops while printing all the envp pointers like this:

```

```

> The last hunk in this patch fixes this.

```

Looks like the right fix, yes.

```

> The other problem is that the envp passed to bus, type and platform callbacks
> from dev_uevent() is the same, so the callbacks can overwrite the info, written
> by the others. Did I miss something important?

```

Sounds like a bug, yes.

But we still don't update the remaining buffer size and the remaining array fields which are left after the call. Shouldn't we instead just

change the:

```
int (*dev_uevent)(struct device *dev,  
                  char **envp, int num_envp,  
                  char *buffer, int buffer_size);
```

to:

```
int (*dev_uevent)(struct device *dev,  
                  char **envp, int num_envp, int *cur_index,  
                  char *buffer, int buffer_size, int *cur_len);
```

like we do for:

```
int add_uevent_var(char **envp, int num_envp, int *cur_index,  
                  char *buffer, int buffer_size, int *cur_len,  
                  const char *format, ...)
```

and along with the change of the callers, we would update the values properly, so the next call has the correct numbers? There are 6 classes and something like 12 buses using this method, so it shouldn't be too much trouble.

Thanks,
Kay

Subject: Re: [PATCH] Fix OOPS in show_uevent()
Posted by [Cornelia Huck](#) on Fri, 10 Aug 2007 12:39:27 GMT
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On Fri, 10 Aug 2007 14:23:56 +0200,
"Kay Sievers" <kay.sievers@vrfy.org> wrote:

> But we still don't update the remaining buffer size and the remaining
> array fields which are left after the call. Shouldn't we instead just
> change the:
> int (*dev_uevent)(struct device *dev,
> char **envp, int num_envp,
> char *buffer, int buffer_size);
> to:
> int (*dev_uevent)(struct device *dev,
> char **envp, int num_envp, int *cur_index,
> char *buffer, int buffer_size, int *cur_len);
>
> like we do for:
> int add_uevent_var(char **envp, int num_envp, int *cur_index,
> char *buffer, int buffer_size, int *cur_len,
> const char *format, ...)
>
> and along with the change of the callers, we would update the values
> properly, so the next call has the correct numbers? There are 6

> classes and something like 12 buses using this method, so it shouldn't
> be too much trouble.

Sounds like a sensible approach. We may want the remaining non-users to
add_uevent_var() at the same time, I guess.

Subject: Re: [PATCH] Fix OOPS in show_uevent()
Posted by [Pavel Emelianov](#) on Fri, 10 Aug 2007 13:21:51 GMT
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Cornelia Huck wrote:

> On Fri, 10 Aug 2007 14:23:56 +0200,
> "Kay Sievers" <kay.sievers@vrfy.org> wrote:
>
>> But we still don't update the remaining buffer size and the remaining
>> array fields which are left after the call. Shouldn't we instead just
>> change the:
>> int (*dev_uevent)(struct device *dev,
>> char **envp, int num_envp,
>> char *buffer, int buffer_size);
>> to:
>> int (*dev_uevent)(struct device *dev,
>> char **envp, int num_envp, int *cur_index,
>> char *buffer, int buffer_size, int *cur_len);
>>
>> like we do for:
>> int add_uevent_var(char **envp, int num_envp, int *cur_index,
>> char *buffer, int buffer_size, int *cur_len,
>> const char *format, ...)
>>
>> and along with the change of the callers, we would update the values
>> properly, so the next call has the correct numbers? There are 6
>> classes and something like 12 buses using this method, so it shouldn't
>> be too much trouble.

isn't it better to change

```
int (*dev_uevent)(struct device *dev,  
                  char **envp, int num_envp,  
                  char *buffer, int buffer_size);  
to  
int (*dev_uevent)(struct device *dev,  
                  char **envp, int num_envp,  
                  char **buffer);  
and alter the buffer pointer inside?
```

> Sounds like a sensible approach. We may want the remaining non-users to

> add_uevent_var() at the same time, I guess.
>

Thanks,
Pavel

Subject: Re: [PATCH] Fix OOPS in show_uevent()
Posted by [Cornelia Huck](#) on Fri, 10 Aug 2007 13:37:28 GMT
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On Fri, 10 Aug 2007 17:21:51 +0400,
Pavel Emelyanov <xemul@openvz.org> wrote:

> Cornelia Huck wrote:
> > On Fri, 10 Aug 2007 14:23:56 +0200,
> > "Kay Sievers" <kay.sievers@vrfy.org> wrote:
> >
> >> But we still don't update the remaining buffer size and the remaining
> >> array fields which are left after the call. Shouldn't we instead just
> >> change the:
> >> int (*dev_uevent)(struct device *dev,
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> >> char *buffer, int buffer_size);
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> >> int (*dev_uevent)(struct device *dev,
> >> char **envp, int num_envp, int *cur_index,
> >> char *buffer, int buffer_size, int *cur_len);
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> >> like we do for:
> >> int add_uevent_var(char **envp, int num_envp, int *cur_index,
> >> char *buffer, int buffer_size, int *cur_len,
> >> const char *format, ...)
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> >> and along with the change of the callers, we would update the values
> >> properly, so the next call has the correct numbers? There are 6
> >> classes and something like 12 buses using this method, so it shouldn't
> >> be too much trouble.
>
> isn't it better to change
> int (*dev_uevent)(struct device *dev,
> char **envp, int num_envp,
> char *buffer, int buffer_size);
> to
> int (*dev_uevent)(struct device *dev,
> char **envp, int num_envp,
> char **buffer);
> and alter the buffer pointer inside?

But the function wants to know the `buffer_size`, doesn't it?
(And the caller can make the adjustments easily; it saves duplicated code.)
