Subject: Re: [PATCH] diskquota: 32bit quota tools on 64bit architectures
Posted by Vasily Tarasov on Fri, 15 Jun 2007 14:48:02 GMT
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On Fri, 2007-06-15 at 12:43 +0200, Arnd Bergmann wrote:
> On Friday 15 June 2007, Mikael Pettersson wrote:
> > > --- linux-2.6.22-rc4-fixed/fs/quota.c.orig 2007-06-14 15:55:26.000000000 +0400
> > > +++ linux-2.6.22-rc4-fixed/fs/quota.c 2007-06-14 19:50:13.000000000 +0400
> > ...
> > > +#if defined(CONFIG_X86_64) || defined(CONFIG_IA64)
> > > +/*
> > > + * This code works only for 32 bit quota tools over 64 bit OS (x86_64, ia64)
> > > + * and is necessary due to alignment problems.
> > > + */
> >
> > The #ifdef looks way too arch-specific. And isn't there a shared
> > compat.c module somewhere that this should go into?
> >
>
> Only x86_64 and ia64 have this particular problem, the other architectures,
> and hopefully all future 64 bit platforms with 32 bit user space use
> the same alignment rules in elf32 and elf64.
>
> Still, the patch should be converted to use the compat_u64 type and not
> add an 'attribute((packed))' so that you _can_ use the same code on all
> architectures. See my 'Introduce compat_u64 and compat_s64 types' patch
> that I just posted in another thread.
>
> Arnd <><
>

Hello,

I just noticed that we can not avoid the addition of packed attribute.
Look, for example:

```
struct if_dqblk {
        __u64 dqb_bhardlimit;
        __u64 dqb_bsoftlimit;
        __u64 dqb_curspace;
        __u64 dqb_ihardlimit;
        __u64 dqb_isoftlimit;
        __u64 dqb_curinodes;
        __u64 dqb_btime;
        __u64 dqb_itime;
        __u32 dqb_valid;
};
```

sizeof(if_dqblk) = 0x48
On 32 bit: 0x44

If I replace __u64/__u32 with compat equivalents - it will not help!
alligned attribute can _only_ _increase_ the size of structure, but not decrease it.

So we should use packed or just use the array of ints: int[2].

Vasily
