Subject: Re: [PATCH] diskquota: 32bit quota tools on 64bit architectures
Posted by Anonymous Coward on Mon, 23 Oct 2006 10:50:24 GMT
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Hello,

Arnd Bergmann wrote:

<snip>
> On a related topic, I just noticed
>
> typedef struct fs_qfilestat {
> __u64 qfs_ino; /* inode number */
> __u64 qfs_nblks; /* number of BBs 512-byte-blks */
> __u32 qfs_nextents; /* number of extents */
> } fs_qfilestat_t;
>
> typedef struct fs_quota_stat {
> __s8 qs_version; /* version number for future changes */
> __u16 qs_flags; /* XFS_QUOTA_{U,P,G}DQ_{ACCT,ENFD} */
> __s8 qs_pad; /* unused */
> fs_qfilestat_t qs_uquota; /* user quota storage information */
> fs_qfilestat_t qs_gquota; /* group quota storage information */
> __u32 qs_incoredqs; /* number of dquots incore */
> __s32 qs_btimelimit; /* limit for blks timer */
> __s32 qs_itimelimit; /* limit for inodes timer */
> __s32 qs_rtbtimelimit;/* limit for rt blks timer */
> __u16 qs_bwarnlimit; /* limit for num warnings */
> __u16 qs_iwarnlimit; /* limit for num warnings */
> } fs_quota_stat_t;
>
> This one seems to have a more severe problem in x86_64 compat
> mode. I haven't tried it, but isn't everything down from
> gs_gquota aligned differently on i386?
<snip>

The problem indeed exists:

ia32:
sizeof(fs_qfilestat) = 0x14
sizeof(fs_quota_stat) = 0x44

x86_64:
sizeof(fs_qfilestat) = 0x18
sizeof(fs_quota_stat) = 0x50

Note, that the difference between sizes of fs_qfilestat on ia32 and
on x86_64 doesn't equal 8 bytes, as was expected (by me :)), but equals 12 bytes:

'cause of padding at the end of fs_quota_stat structure on x86_64.

I will add support of 32-bit XFS quotactl over 64bit OS in next patch.

Thank you!