
Subject: Re: Re: [PATCH 2.6.19-rc3] VFS: per-sb dentry lru list

Posted by [Neil Brown](#) on Tue, 14 Nov 2006 05:44:46 GMT

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On Wednesday November 1, vvs@sw.ru wrote:

>
> Currently we have 3 type of functions that works with dentry_unused list:
>
> 1) prune_dcache(NULL) -- called from shrink_dcache_memory, frees the memory and
> requires global LRU. works well in current implementation.
> 2) prune_dcache(sb) -- called from shrink_dcache_parent(), frees subtree, LRU
> is not need here. Current implementation uses global LRU for these purposes, it
> is ineffective, and patch from Neil Brown fixes this issue.
> 3) shrink_dcache_sb() -- called when we need to free the unused dentries for
> given super block. Current implementation is not effective too, and per-sb LRU
> would be the best solution here. On the other hand patch from Neil Brown is much
> better than current implementation.
>
> In general I think that we should approve Neil Brown's patch. We (I and Kirill
> Korotaev) are ready to acknowledge it when the following remarks fill be fixed:

>
> - it seems for me list_splice() is not required inside
> prune_dcache(),

Yes, the list should be empty when we finish so you are right.

> - DCACHE_REFERENCED dentries should not be removed from private list to
> dentry_unused list, this flag should be ignored if the private list is used,

Agreed.

> - count argument should be ignored in this case too, we want to free all the
> dentries in private list,

Agreed.

> - when we shrink the whole super block we should free per-sb anonymous dentries
> too (please see Kirill Korotaev's letter)
>

Yes. Unfortunately I don't think it is as easy as it sounds.
I'll have a closer look.

> Then I'm going to prepare new patch that will enhance the shrink_dcache_sb()
> performance:

- > - we can add new list head into struct superblock and use it in
- > shrink_dcache_sb() instead of temporal private list. We will check is it empty
- > in dput() and add the new unused dentries to per-sb list instead of
- > dentry_unused list.

I think that makes sense. It means that you end up doing less work in select_parent, because the work has already been done in dput.

How is the patch going?

NeilBrown
