
Subject: Re: [Q] missing unused dentry in prune_dcache()?

Posted by [vaverin](#) on Fri, 27 Oct 2006 06:32:35 GMT

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David Howells wrote:

> Vasily Averin <vvs@sw.ru> wrote:

>

>> I've noticed one more minor issue in your patch: in

>> shrink_dcache_for_umount_subtree() function you decrement

>> dentry_stat.nr_dentry without dcache_lock.

>

> How about the attached patch?

I'm sorry, but your patch is wrong:

you have mixed calculation of 2 variables:

dentry_stat.nr_unused -- were correct, it was decremented under dcache_lock.

dentry_stat.nr_dentry -- were incorrect, it was decremented without dcache_lock.

You should correct dentry_stat.nr_dentry, but instead you broke calculation of dentry_stat.nr_unused.

I've fixed this issue by following patch.

Thank you,

Vasily Averin

VFS: Fix an error in dentry_stat.nr_dentry counting

From: Vasily Averin <vvs@sw.ru>

Fix an error in dentry_stat.nr_dentry counting in

shrink_dcache_for_umount_subtree() in which the count is modified without the dcache_lock held.

Signed-Off-By: Vasily Averin <vvs@sw.ru>

--- linux-2.6.19-rc3/fs/dcache.c.nrdntr 2006-10-26 15:14:51.000000000 +0400

+++ linux-2.6.19-rc3/fs/dcache.c 2006-10-27 10:24:07.000000000 +0400

@@ -554,6 +554,7 @@ repeat:

```
static void shrink_dcache_for_umount_subtree(struct dentry *dentry)
{
```

```
    struct dentry *parent;
```

```
+ unsigned detached = 0;
```

```
    BUG_ON(!IS_ROOT(dentry));
```

```
@@ -618,7 +619,7 @@ static void shrink_dcache_for_umount_sub
    atomic_dec(&parent->d_count);
```

```

    list_del(&dentry->d_u.d_child);
-   dentry_stat.nr_dentry--; /* For d_free, below */
+   detached++;

    inode = dentry->d_inode;
    if (inode) {
@@ -635,8 +636,8 @@ static void shrink_dcache_for_umount_sub
    /* finished when we fall off the top of the tree,
     * otherwise we ascend to the parent and move to the
     * next sibling if there is one */
-   if (!parent)
-       return;
+   if (!parent)
+       goto out;

    dentry = parent;

@@ -645,6 +646,11 @@ static void shrink_dcache_for_umount_sub
    dentry = list_entry(dentry->d_subdirs.next,
        struct dentry, d_u.d_child);
    }
+out:
+ /* several dentries were freed, need to correct nr_dentry */
+ spin_lock(&dcache_lock);
+ dentry_stat.nr_dentry -= detached;
+ spin_unlock(&dcache_lock);
    }

    /*

```
