
Subject: [PATCH 14/25] sysfs: Don't use lookup_one_len_kern
Posted by [ebiederm](#) on Tue, 07 Aug 2007 21:23:57 GMT

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Upon inspection it appears that there is no looking of the inode mutex in lookup_one_len_kern and we aren't calling it with the inode mutex and that is wrong.

So this patch rolls our own dcache insertion function that does exactly what we need it to do. As it turns out this is pretty trivial to do and it makes the code easier to audit.

Signed-off-by: Eric W. Biederman <ebiederm@xmission.com>

```
fs/sysfs/dir.c | 41 ++++++
1 files changed, 39 insertions(+), 2 deletions(-)
```

```
diff --git a/fs/sysfs/dir.c b/fs/sysfs/dir.c
```

```
index a9bdb12..1d53c2a 100644
```

```
--- a/fs/sysfs/dir.c
```

```
+++ b/fs/sysfs/dir.c
```

```
@@ -765,6 +765,44 @@ static struct dentry *__sysfs_get_dentry(struct super_block *sb, struct
sysfs_di
    return dentry;
}
```

```
+static struct dentry *sysfs_add_dentry(struct dentry *parent, struct sysfs_dirent *sd)
+{
+ struct qstr name;
+ struct dentry *dentry;
+ struct inode *inode;
+
+ mutex_lock(&parent->d_inode->i_mutex);
+ mutex_lock(&sysfs_mutex);
+ dentry = ERR_PTR(-EINVAL);
+ if (parent->d_fsdata != sd->s_parent)
+ goto out;
+
+ name.name = sd->s_name;
+ name.len = strlen(sd->s_name);
+ dentry = d_hash_and_lookup(parent, &name);
+ if (dentry)
+ goto out;
+
+ dentry = d_alloc(parent, &name);
+ if (!dentry) {
+ dentry = ERR_PTR(-ENOMEM);
```

```

+ goto out;
+ }
+
+ inode = sysfs_get_inode(sd);
+ if (!inode) {
+ dput(dentry);
+ dentry = ERR_PTR(-ENOMEM);
+ goto out;
+ }
+ d_instantiate(dentry, inode);
+ sysfs_attach_dentry(sd, dentry);
+out:
+ mutex_unlock(&sysfs_mutex);
+ mutex_unlock(&parent->d_inode->i_mutex);
+ return dentry;
+}
+
+/**
+ * sysfs_get_dentry - get dentry for the given sysfs_dirent
+ * @sd: sysfs_dirent of interest
+ @@ -806,8 +844,7 @@ struct dentry *sysfs_get_dentry(struct sysfs_dirent *sd)
+
+ /* look it up */
+ parent_dentry = dentry;
+ - dentry = lookup_one_len_kern(cur->s_name, parent_dentry,
+ -     strlen(cur->s_name));
+ + dentry = sysfs_add_dentry(parent_dentry, cur);
+     dput(parent_dentry);
+
+     if (IS_ERR(dentry))
+ --
1.5.1.1.181.g2de0

```

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