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Subject: [PATCH] NFS: init client before declaration  
Posted by [Stanislav Kinsbursky](#) on Tue, 22 May 2012 12:40:49 GMT  
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Client have to be initialized prior to adding it to per-net clients list,  
because otherwise there are races, shown below:

CPU#0    CPU#1

\_\_\_\_\_

```
nfs_get_client
nfs_alloc_client
list_add(..., nfs_client_list)
    rpc_fill_super
    rpc_pipefs_event
    nfs_get_client_for_event
    __rpc_pipefs_event
    (clp->cl_rpcclient is uninitialized)
    BUG()
init_client
clp->cl_rpcclient = ...
```

Signed-off-by: Stanislav Kinsbursky <[skinsbursky@parallels.com](mailto:skinsbursky@parallels.com)>

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fs/nfs/client.c | 22 ++++++++-----  
1 files changed, 12 insertions(+), 10 deletions(-)

```
diff --git a/fs/nfs/client.c b/fs/nfs/client.c
index ae29d4f..9bf4702 100644
--- a/fs/nfs/client.c
+++ b/fs/nfs/client.c
@@ -525,7 +525,7 @@ nfs_get_client(const struct nfs_client_initdata *cl_init,
    cl_init->hostname ? : "", cl_init->rpc_ops->version);

/* see if the client already exists */
- do {
+ while (1) {
    spin_lock(&nn->nfs_client_lock);

    clp = nfs_match_client(cl_init);
@@ -537,10 +537,10 @@ nfs_get_client(const struct nfs_client_initdata *cl_init,
    spin_unlock(&nn->nfs_client_lock);

    new = nfs_alloc_client(cl_init);
- } while (!IS_ERR(new));
+ if (IS_ERR(new)) {
+   dprintk("--> nfs_get_client() = %ld [failed]\n", PTR_ERR(new));
```

```

+ return new;
+ }

- dprintk("--> nfs_get_client() = %ld [failed]\n", PTR_ERR(new));
- return new;
+ error = cl_init->rpc_ops->init_client(new, timeparms, ip_addr,
+     authflavour, noresvport);
+ if (error < 0) {
+     nfs_put_client(new);
+     return ERR_PTR(error);
+ }
+ }

/* install a new client and return with it unready */
install_client:
@@ -548,12 +556,6 @@ install_client:
    list_add(&clp->cl_share_link, &nn->nfs_client_list);
    spin_unlock(&nn->nfs_client_lock);

- error = cl_init->rpc_ops->init_client(clp, timeparms, ip_addr,
-     authflavour, noresvport);
- if (error < 0) {
-     nfs_put_client(clp);
-     return ERR_PTR(error);
- }
    dprintk("--> nfs_get_client() = %p [new]\n", clp);
    return clp;

```

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