
Subject: [PATCH v3] NFSd: fix locking in nfsd_forget_delegations()
Posted by [Stanislav Kinsbursky](#) on Tue, 03 Jul 2012 13:01:48 GMT
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v3: rebased on 3.5-rc3 kernel

v2: dl_recall_lru list is used for delegations collect because it's modified both in unhash_delegation() and nfsd_break_one_deleg().

This patch adds recall_lock hold to nfsd_forget_delegations() to protect nfsd_process_n_delegations() call.

Also, looks like it would be better to collect delegations to some local on-stack list, and then unhash collected list. This split allows to simplify locking, because delegation traversing is protected by recall_lock, when delegation unhash is protected by client_mutex.

Signed-off-by: Stanislav Kinsbursky <skinsbursky@parallels.com>

fs/nfsd/nfs4state.c | 21 ++++++++-----
1 files changed, 17 insertions(+), 4 deletions(-)

diff --git a/fs/nfsd/nfs4state.c b/fs/nfsd/nfs4state.c
index 59b9efc..33eccee 100644

--- a/fs/nfsd/nfs4state.c

+++ b/fs/nfsd/nfs4state.c

@@ -4579,7 +4579,7 @@ void nfsd_forget_openowners(u64 num)
 printk(KERN_INFO "NFSD: Forgot %d open owners", count);
}

-int nfsd_process_n_delegations(u64 num, void (*deleg_func)(struct nfs4_delegation *))

+int nfsd_process_n_delegations(u64 num, struct list_head *list)

```
{  
    int i, count = 0;  
    struct nfs4_file *fp, *fnext;  
@@ -4588,7 +4588,7 @@ int nfsd_process_n_delegations(u64 num, void (*deleg_func)(struct  
nfs4_delegatio  
    for (i = 0; i < FILE_HASH_SIZE; i++) {  
        list_for_each_entry_safe(fp, fnext, &file_hashtbl[i], fi_hash) {  
            list_for_each_entry_safe(dp, dnext, &fp->fi_delegations, dl_perfile) {  
-        deleg_func(dp);  
+        list_move(&dp->dl_recall_lru, list);  
            if (++count == num)  
                return count;  
        }  
    }
```

```
@@ -4601,9 +4601,16 @@ int nfsd_process_n_delegations(u64 num, void (*deleg_func)(struct  
nfs4_delegatio  
    void nfsd_forget_delegations(u64 num)  
    {
```

```

    unsigned int count;
+ LIST_HEAD(victims);
+ struct nfs4_delegation *dp, *dnext;
+
+ spin_lock(&recall_lock);
+ count = nfsd_process_n_delegations(num, &victims);
+ spin_unlock(&recall_lock);

    nfs4_lock_state();
- count = nfsd_process_n_delegations(num, unhash_delegation);
+ list_for_each_entry_safe(dp, dnext, &victims, dl_recall_lru)
+ unhash_delegation(dp);
    nfs4_unlock_state();

    printk(KERN_INFO "NFSD: Forgot %d delegations", count);
@@ -4612,10 +4619,16 @@ void nfsd_forget_delegations(u64 num)
void nfsd_recall_delegations(u64 num)
{
    unsigned int count;
+ LIST_HEAD(victims);
+ struct nfs4_delegation *dp, *dnext;

    nfs4_lock_state();
    spin_lock(&recall_lock);
- count = nfsd_process_n_delegations(num, nfsd_break_one_deleg);
+ count = nfsd_process_n_delegations(num, &victims);
+ list_for_each_entry_safe(dp, dnext, &victims, dl_recall_lru) {
+ list_del(&dp->dl_recall_lru);
+ nfsd_break_one_deleg(dp);
+ }
    spin_unlock(&recall_lock);
    nfs4_unlock_state();

```
