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Subject: [RFC][PATCH] Use struct pid reference in autofs rather than pid\_t  
Posted by [Sukadev Bhattiprolu](#) on Tue, 23 Jan 2007 23:25:26 GMT  
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From: Sukadev Bhattiprolu <sukadev@us.ibm.com>  
Subject: Use struct pid reference in autofs rather than pid\_t

Make autofs container-friendly by caching struct pid reference rather than pid\_t.

Signed-off-by: Sukadev Bhattiprolu <sukadev@us.ibm.com>  
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Cc: Eric Biederman <ebiederm@xmission.com>  
Cc: containers@lists.osdl.org

---  
fs/autofs/autofs\_i.h | 4 ++--  
fs/autofs/inode.c | 16 ++++++++-----  
fs/autofs/root.c | 6 ++++--  
fs/autofs4/autofs\_i.h | 10 +++++-----  
fs/autofs4/inode.c | 12 ++++++-----  
fs/autofs4/root.c | 3 +-  
fs/autofs4/waitq.c | 8 ++++----  
7 files changed, 33 insertions(+), 26 deletions(-)

Index: lx26-20-rc4-mm1/fs/autofs/autofs\_i.h

```
=====
--- lx26-20-rc4-mm1.orig/fs/autofs/autofs_i.h 2006-11-29 13:57:37.000000000 -0800
+++ lx26-20-rc4-mm1/fs/autofs/autofs_i.h 2007-01-23 12:59:00.245379800 -0800
@@ -101,7 +101,7 @@ struct autofs_symlink {
 struct autofs_sb_info {
     u32 magic;
     struct file *pipe;
- pid_t oz_pgrp;
+ struct pid *oz_pgrp;
     int catatonic;
     struct super_block *sb;
     unsigned long exp_timeout;
@@ -122,7 +122,7 @@ static inline struct autofs_sb_info *aut
     filesystem without "magic".) */

static inline int autofs_oz_mode(struct autofs_sb_info *sbi) {
- return sbi->catatonic || process_group(current) == sbi->oz_pgrp;
+ return sbi->catatonic || task_pgrp(current) == sbi->oz_pgrp;
}

/* Hash operations */
```

Index: lx26-20-rc4-mm1/fs/autofs4/autofs\_i.h

```
=====
--- lx26-20-rc4-mm1.orig/fs/autofs4/autofs_i.h 2007-01-19 17:29:25.000000000 -0800
+++ lx26-20-rc4-mm1/fs/autofs4/autofs_i.h 2007-01-23 13:48:11.085783872 -0800
@@ -35,7 +35,7 @@
/* #define DEBUG */

#ifndef DEBUG
#define DPRINTK(fmt,args...) do { printk(KERN_DEBUG "pid %d: %s: " fmt "\n" , current->pid ,
__FUNCTION__ , ##args); } while(0)
#define DPRINTK(fmt,args...) do { printk(KERN_DEBUG "pid %d: %s: " fmt "\n" ,
pid_nr(task_pid(current)), __FUNCTION__ , ##args); } while(0)
#else
#define DPRINTK(fmt,args...) do {} while(0)
#endif
@@ -79,8 +79,8 @@ struct autofs_wait_queue {
    u64 ino;
    uid_t uid;
    gid_t gid;
-   pid_t pid;
-   pid_t tgid;
+   struct pid *pid;
+   struct pid *tgid;
    /* This is for status reporting upon return */
    int status;
    atomic_t wait_ctr;
@@ -96,7 +96,7 @@ struct autofs_sb_info {
    u32 magic;
    int pipefd;
    struct file *pipe;
-   pid_t oz_pgrp;
+   struct pid *oz_pgrp;
    int catatonic;
    int version;
    int sub_version;
@@ -127,7 +127,7 @@ static inline struct autofs_info *autofs
    filesystem without "magic".) */

static inline int autofs4_oz_mode(struct autofs_sb_info *sbi) {
-   return sbi->catatonic || process_group(current) == sbi->oz_pgrp;
+   return sbi->catatonic || task_pgrp(current) == sbi->oz_pgrp;
}
```

/\* Does a dentry have some pending activity? \*/

Index: lx26-20-rc4-mm1/fs/autofs/inode.c

```
=====
--- lx26-20-rc4-mm1.orig/fs/autofs/inode.c 2007-01-19 17:29:25.000000000 -0800
+++ lx26-20-rc4-mm1/fs/autofs/inode.c 2007-01-23 13:17:35.016908768 -0800
```

```

@@ -69,7 +69,8 @@ static match_table_t autofs_tokens = {
    {Opt_err, NULL}
};

-static int parse_options(char *options, int *pipefd, uid_t *uid, gid_t *gid, pid_t *pgrp, int *minproto,
int *maxproto)
+static int parse_options(char *options, int *pipefd, uid_t *uid, gid_t *gid,
+ struct pid **pgrp, int *minproto, int *maxproto)
{
    char *p;
    substring_t args[MAX_OPT_ARGS];
@@ -77,7 +78,7 @@ static int parse_options(char *options,

    *uid = current->uid;
    *gid = current->gid;
- *pgrp = process_group(current);
+ *pgrp = task_pgrp(current);

    *minproto = *maxproto = AUTOFS_PROTO_VERSION;

@@ -111,7 +112,7 @@ static int parse_options(char *options,
    case Opt_pgrp:
        if (match_int(&args[0], &option))
            return 1;
- *pgrp = option;
+ *pgrp = find_pid(option);
    break;
    case Opt_minproto:
        if (match_int(&args[0], &option))
@@ -149,7 +150,7 @@ int autofs_fill_super(struct super_block
    sbi->pipe = NULL;
    sbi->catatonic = 1;
    sbi->exp_timeout = 0;
- sbi->oz_pgrp = process_group(current);
+ sbi->oz_pgrp = task_pgrp(current);
    autofs_initialize_hash(&sbi->dirhash);
    sbi->queues = NULL;
    memset(sbi->symlink_bitmap, 0, sizeof(long)*AUTOFS_SYMLINK_BITMAP_LEN);
@@ -169,7 +170,9 @@ int autofs_fill_super(struct super_block
    goto fail_iput;

    /* Can this call block? - WTF cares? s is locked. */
- if (
parse_options(data,&pipefd,&root_inode->i_uid,&root_inode->i_gid,&sbi->oz_pgrp,&minproto,&m
axproto) ) {
+ if ( parse_options(data, &pipefd, &root_inode->i_uid,
+ &root_inode->i_gid, &sbi->oz_pgrp, &minproto,
+ &maxproto) ) {

```

```

    printk("autofs: called with bogus options\n");
    goto fail_dput;
}
@@ -181,7 +184,8 @@ int autofs_fill_super(struct super_block
    goto fail_dput;
}

- DPRINTK(("autofs: pipe fd = %d, pgrp = %u\n", pipefd, sbi->oz_pgrp));
+ DPRINTK(("autofs: pipe fd = %d, pgrp = %u\n", pipefd,
+   pid_nr(sbi->oz_pgrp)));
    pipe = fget(pipefd);

    if ( !pipe ) {
Index: lx26-20-rc4-mm1/fs/autofs4/inode.c
=====
--- lx26-20-rc4-mm1.orig/fs/autofs4/inode.c 2007-01-19 17:29:25.000000000 -0800
+++ lx26-20-rc4-mm1/fs/autofs4/inode.c 2007-01-23 13:17:52.957181432 -0800
@@ -181,7 +181,7 @@ static int autofs4_show_options(struct s
    return 0;

    seq_printf(m, ",fd=%d", sbi->pipefd);
- seq_printf(m, ",pgrp=%d", sbi->oz_pgrp);
+ seq_printf(m, ",pgrp=%d", pid_nr(sbi->oz_pgrp));
    seq_printf(m, ",timeout=%lu", sbi->exp_timeout/HZ);
    seq_printf(m, ",minproto=%d", sbi->min_proto);
    seq_printf(m, ",maxproto=%d", sbi->max_proto);
@@ -218,7 +218,7 @@ static match_table_t tokens = {
};

static int parse_options(char *options, int *pipefd, uid_t *uid, gid_t *gid,
-   pid_t *pgrp, unsigned int *type,
+   struct pid **pgrp, unsigned int *type,
    int *minproto, int *maxproto)
{
    char *p;
@@ -227,7 +227,7 @@ static int parse_options(char *options,

    *uid = current->uid;
    *gid = current->gid;
- *pgrp = process_group(current);
+ *pgrp = task_pgrp(current);

    *minproto = AUTOFS_MIN_PROTO_VERSION;
    *maxproto = AUTOFS_MAX_PROTO_VERSION;
@@ -261,7 +261,7 @@ static int parse_options(char *options,
    case Opt_pgrp:
        if (match_int(args, &option))
            return 1;

```

```

- *pgrp = option;
+ *pgrp = find_pid(option);
  break;
  case Opt_minproto:
    if (match_int(args, &option))
@@ -326,7 +326,7 @@ int autofs4_fill_super(struct super_bloc
  sbi->pipe = NULL;
  sbi->catatonic = 1;
  sbi->exp_timeout = 0;
- sbi->oz_pgrp = process_group(current);
+ sbi->oz_pgrp = task_pgrp(current);
  sbi->sb = s;
  sbi->version = 0;
  sbi->sub_version = 0;
@@ -391,7 +391,7 @@ int autofs4_fill_super(struct super_bloc
  sbi->version = sbi->max_proto;
  sbi->sub_version = AUTOFS_PROTO_SUBVERSION;

- DPRINTK("pipe fd = %d, pgrp = %u", pipefd, sbi->oz_pgrp);
+ DPRINTK("pipe fd = %d, pgrp = %u", pipefd, pid_nr(sbi->oz_pgrp));
  pipe = fget(pipefd);

```

```

if ( !pipe ) {

```

Index: lx26-20-rc4-mm1/fs/autofs/root.c

```

=====
--- lx26-20-rc4-mm1.orig/fs/autofs/root.c 2007-01-19 17:29:25.000000000 -0800
+++ lx26-20-rc4-mm1/fs/autofs/root.c 2007-01-23 13:50:51.124454296 -0800
@@ -213,8 +213,10 @@ static struct dentry *autofs_root_lookup
  sbi = autofs_sbi(dir->i_sb);

  oz_mode = autofs_oz_mode(sbi);
- DPRINTK(("autofs_lookup: pid = %u, pgrp = %u, catatonic = %d, oz_mode = %d\n",
- current->pid, process_group(current), sbi->catatonic, oz_mode));
+ DPRINTK(("autofs_lookup: pid = %u, pgrp = %u, catatonic = %d, "
+ "oz_mode = %d\n", pid_nr(task_pid(current)),
+ process_group(current), sbi->catatonic,
+ oz_mode));

```

```

/*

```

\* Mark the dentry incomplete, but add it. This is needed so

Index: lx26-20-rc4-mm1/fs/autofs4/root.c

```

=====
--- lx26-20-rc4-mm1.orig/fs/autofs4/root.c 2007-01-19 17:29:25.000000000 -0800
+++ lx26-20-rc4-mm1/fs/autofs4/root.c 2007-01-23 13:49:01.816071696 -0800
@@ -495,7 +495,8 @@ static struct dentry *autofs4_lookup(str
  oz_mode = autofs4_oz_mode(sbi);

  DPRINTK("pid = %u, pgrp = %u, catatonic = %d, oz_mode = %d",

```

```
- current->pid, process_group(current), sbi->catatonic, oz_mode);
+ pid_nr(task_pid(current)), process_group(current),
+ sbi->catatonic, oz_mode);
```

```
/*
```

```
 * Mark the dentry incomplete, but add it. This is needed so
Index: lx26-20-rc4-mm1/fs/autofs4/waitq.c
```

```
=====
--- lx26-20-rc4-mm1.orig/fs/autofs4/waitq.c 2006-11-29 13:57:37.000000000 -0800
```

```
+++ lx26-20-rc4-mm1/fs/autofs4/waitq.c 2007-01-23 13:46:41.830352760 -0800
```

```
@ @ -141,8 +141,8 @ @ static void autofs4_notify_daemon(struct
```

```
    packet->ino = wq->ino;
    packet->uid = wq->uid;
    packet->gid = wq->gid;
- packet->pid = wq->pid;
- packet->tgid = wq->tgid;
+ packet->pid = pid_nr(wq->pid);
+ packet->tgid = pid_nr(wq->tgid);
    break;
}
```

```
default:
```

```
@ @ -292,8 +292,8 @ @ int autofs4_wait(struct autofs_sb_info *
```

```
    wq->ino = autofs4_get_ino(sbi);
    wq->uid = current->uid;
    wq->gid = current->gid;
- wq->pid = current->pid;
- wq->tgid = current->tgid;
+ wq->pid = task_pid(current);
+ wq->tgid = task_tgid(current);
    wq->status = -EINTR; /* Status return if interrupted */
    atomic_set(&wq->wait_ctr, 2);
    mutex_unlock(&sbi->wq_mutex);
```

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Containers mailing list

Containers@lists.osdl.org

<https://lists.osdl.org/mailman/listinfo/containers>

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