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.

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---
 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 */

 #ifdef 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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