
Subject: Re: [PATCH]: Factor out PTY index allocation

Posted by [akpm](#) on Thu, 17 Apr 2008 21:17:25 GMT

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On Wed, 16 Apr 2008 15:17:23 -0700

sukadev@us.ibm.com wrote:

> Factor out the code used to allocate/free a pts index into new interfaces,
> devpts_new_index() and devpts_kill_index(). This localizes the external
> data structures used in managing the pts indices.

err...

> - mutex_lock(&allocated_ptys_lock);
> + down(&allocated_ptys_lock);

Why the mutex-to-semaphore conversion?

```
--- a/fs/devpts/inode.c~devpts-factor-out-pty-index-allocation-fix
```

```
+++ a/fs/devpts/inode.c
```

```
@@ -17,6 +17,7 @@
```

```
#include <linux/namei.h>
```

```
#include <linux/mount.h>
```

```
#include <linux/tty.h>
```

```
+#include <linux/mutex.h>
```

```
#include <linux/idr.h>
```

```
#include <linux/devpts_fs.h>
```

```
#include <linux/parser.h>
```

```
@@ -29,7 +30,7 @@
```

```
extern int pty_limit; /* Config limit on Unix98 ptys */
```

```
static DEFINE_IDR(allocated_ptys);
```

```
-static DECLARE_MUTEX(allocated_ptys_lock);
```

```
+static DEFINE_MUTEX(allocated_ptys_lock);
```

```
static struct vfsmount *devpts_mnt;
```

```
static struct dentry *devpts_root;
```

```
@@ -186,10 +187,10 @@ retry:
```

```
    return -ENOMEM;
```

```
    }
```

```
- down(&allocated_ptys_lock);
```

```
+ mutex_lock(&allocated_ptys_lock);
```

```
    idr_ret = idr_get_new(&allocated_ptys, NULL, &index);
```

```
    if (idr_ret < 0) {
```

```
- up(&allocated_ptys_lock);
```

```
+ mutex_unlock(&allocated_ptys_lock);
```

```

if (idr_ret == -EAGAIN)
    goto retry;
return -EIO;
@@ -197,18 +198,18 @@ retry:

if (index >= pty_limit) {
    idr_remove(&allocated_ptys, index);
- up(&allocated_ptys_lock);
+ mutex_unlock(&allocated_ptys_lock);
    return -EIO;
}
- up(&allocated_ptys_lock);
+ mutex_unlock(&allocated_ptys_lock);
    return index;
}

void devpts_kill_index(int idx)
{
- down(&allocated_ptys_lock);
+ mutex_lock(&allocated_ptys_lock);
    idr_remove(&allocated_ptys, idx);
- up(&allocated_ptys_lock);
+ mutex_unlock(&allocated_ptys_lock);
}

int devpts_pty_new(struct tty_struct *tty)
-

```

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<https://lists.linux-foundation.org/mailman/listinfo/containers>
