Subject: Re: [PATCH] ipc: Save the ipc namespace while reading proc files.
Posted by serge on Sat, 10 Feb 2007 16:29:51 GMT
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Quoting Eric W. Biederman (ebiederm@xmission.com):
>
> The problem we were assuming that current->nsproxy->ipc_ns would never
> change while someone has our file in /proc/sysvipc/ file open. Given
> that this can change with both unshare and by passing the file
> descriptor to another process that assumption is occasionally wrong.
>
> Therefore this patch causes /proc/sysvipc/* to cache the namespace
> and increment it's count when we open the file and to decrement the
> count when we close the file, ensuring consistent operation with
> no surprises.

Looks good, thanks.

Looks like mounts already does this with the mounts ns, and we don't
need it for uts. Something to watch in any upcoming network patches
though.

thanks
-serge

>
> Signed-off-by: Eric W. Biederman <ebiederm@xmission.com>
> ---
> ipc/util.c | 58 ++----------
> 1 files changed, 45 insertions(+), 13 deletions(-)
>
> diff --git a/ipc/util.c b/ipc/util.c
> index a9b7a22..7fd10f1 100644
> --- a/ipc/util.c
> +++ b/ipc/util.c
> @@ -739,14 +739,20 @@ int ipc_parse_version (int *cmd)
> #endif /* __ARCH_WANT_IPC_PARSE_VERSION */
>
> #ifdef CONFIG_PROC_FS
> +struct ipc_proc_iter {
> + struct ipc_namespace *ns;
> + struct ipc_proc_iface *iface;
> +};
> +
> static void *sysvipc_proc_next(struct seq_file *s, void *it, loff_t *pos)
> {
> - struct ipc_proc_iface *iface = s->private;
> + struct ipc_proc_iter *iter = s->private;

```
> + struct ipc_proc_iface *iface = iter->iface;
>   struct kern_ipc_perm *ipc = it;
>   loff_t p;
>   struct ipc_ids *ids;
>
> - ids = current->nsproxy->ipc_ns->ids[iface->ids];
> + ids = iter->ns->ids[iface->ids];
>
>   /* If we had an ipc id locked before, unlock it */
>   if (ipc && ipc != SEQ_START_TOKEN)
> @@ -773,12 +779,13 @@ static void *sysvipc_proc_next(struct seq_file *s, void *it, loff_t *pos)
>   */
>  static void *sysvipc_proc_start(struct seq_file *s, loff_t *pos)
>  {
> - struct ipc_proc_iface *iface = s->private;
> + struct ipc_proc_iter *iter = s->private;
> + struct ipc_proc_iface *iface = iter->iface;
>   struct kern_ipc_perm *ipc;
>   loff_t p;
>   struct ipc_ids *ids;
>
> - ids = current->nsproxy->ipc_ns->ids[iface->ids];
> + ids = iter->ns->ids[iface->ids];
>
>   /*
>    * Take the lock - this will be released by the corresponding
> @@ -807,21 +814,23 @@ static void *sysvipc_proc_start(struct seq_file *s, loff_t *pos)
>  static void sysvipc_proc_stop(struct seq_file *s, void *it)
>  {
>   struct kern_ipc_perm *ipc = it;
> - struct ipc_proc_iface *iface = s->private;
> + struct ipc_proc_iter *iter = s->private;
> + struct ipc_proc_iface *iface = iter->iface;
>   struct ipc_ids *ids;
>
>   /* If we had a locked segment, release it */
>   if (ipc && ipc != SEQ_START_TOKEN)
>    ipc_unlock(ipc);
>
> - ids = current->nsproxy->ipc_ns->ids[iface->ids];
> + ids = iter->ns->ids[iface->ids];
>   /* Release the lock we took in start() */
>   mutex_unlock(&ids->mutex);
>  }
>
>  static int sysvipc_proc_show(struct seq_file *s, void *it)
>  {
> - struct ipc_proc_iface *iface = s->private;
```

```
> + struct ipc_proc_iter *iter = s->private;
> + struct ipc_proc_iface *iface = iter->iface;
>
>   if (it == SEQ_START_TOKEN)
>    return seq_puts(s, iface->header);
> @@ -836,22 +845,45 @@ static struct seq_operations sysvipc_proc_seqops = {
>   .show  = sysvipc_proc_show,
>  };
>
> -static int sysvipc_proc_open(struct inode *inode, struct file *file) {
> +static int sysvipc_proc_open(struct inode *inode, struct file *file)
> +{
>   int ret;
>   struct seq_file *seq;
> + struct ipc_proc_iter *iter;
> +
> + ret = -ENOMEM;
> + iter = kmalloc(sizeof(*iter), GFP_KERNEL);
> + if (!iter)
> +  goto out;
>
>   ret = seq_open(file, &sysvipc_proc_seqops);
> - if (!ret) {
> -  seq = file->private_data;
> -  seq->private = PDE(inode)->data;
> - }
> + if (ret)
> +  goto out_kfree;
> +
> + seq = file->private_data;
> + seq->private = iter;
> +
> + iter->iface = PDE(inode)->data;
> + iter->ns    = get_ipc_ns(current->nsproxy->ipc_ns);
> +out:
>   return ret;
> +out_kfree:
> + kfree(iter);
> + goto out;
> +}
> +
> +static int sysvipc_proc_release(struct inode *inode, struct file *file)
> +{
> + struct seq_file *seq = file->private_data;
> + struct ipc_proc_iter *iter = seq->private;
> + put_ipc_ns(iter->ns);
> + return seq_release_private(inode, file);
>  }
```

>
> static struct file_operations sysvipc_proc_fops = {
>   .open   = sysvipc_proc_open,
>   .read   = seq_read,
>   .llseek = seq_lseek,
> - .release = seq_release,
> + .release = sysvipc_proc_release,
> };
> #endif /* CONFIG_PROC_FS */
> --
> 1.4.4.1.g278f
>
> -
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