
Subject: Re: [RFC][PATCH 4/4]: Enable cloning PTY namespaces

Posted by [serue](#) on Wed, 06 Feb 2008 16:25:57 GMT

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Quoting Pavel Emelyanov (xemul@openvz.org):

> Serge E. Hallyn wrote:

> > Quoting Pavel Emelyanov (xemul@openvz.org):

> > > sukadev@us.ibm.com wrote:

> > > > From: Sukadev Bhattiprolu <sukadev@us.ibm.com>

> > > > Subject: [RFC][PATCH 4/4]: Enable cloning PTY namespaces

> > > >

> > > > Enable cloning PTY namespaces.

> > > >

> > > > TODO:

> > > > This version temporarily uses the clone flag '0x80000000' which

> > > > is unused in mainline atm, but used for CLONE_IO in -mm.

> > > > While we must extend clone() (urgently) to solve this, it hopefully

> > > > does not affect review of the rest of this patchset.

> > > >

> > > > Changelog:

> > > > - Version 0: Based on earlier versions from Serge Hallyn and

> > > > Matt Helsley.

> > > >

> > > > Signed-off-by: Sukadev Bhattiprolu <sukadev@us.ibm.com>

> > > > ---

> > > > fs/devpts/inode.c | 84 ++++++-----

> > > > include/linux/devpts_fs.h | 52 ++++++

> > > > include/linux/init_task.h | 1

> > > > include/linux/nsproxy.h | 2 +

> > > > include/linux/sched.h | 2 +

> > > > kernel/fork.c | 2 -

> > > > kernel/nsproxy.c | 17 ++++++-

> > > > 7 files changed, 146 insertions(+), 14 deletions(-)

> > > >

> > > > Index: linux-2.6.24/fs/devpts/inode.c

> > > > =====

> > > > --- linux-2.6.24.orig/fs/devpts/inode.c 2008-02-05 19:16:39.000000000 -0800

> > > > +++ linux-2.6.24/fs/devpts/inode.c 2008-02-05 20:27:41.000000000 -0800

> > > > @@ -25,18 +25,25 @@

> > > > #define DEVPTS_SUPER_MAGIC 0x1cd1

> > > >

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

> > > > -static DEFINE_IDR(allocated_ptys);

> > > > static DECLARE_MUTEX(allocated_ptys_lock);

> > > > +static struct file_system_type devpts_fs_type;

> > > > +

> > > > +struct pts_namespace init_pts_ns = {

> > > > + .kref = {

```

>>> + .refcount = ATOMIC_INIT(2),
>>> + },
>>> + .allocated_ptys = IDR_INIT(init_pts_ns.allocated_ptys),
>>> + .mnt = NULL,
>>> +};
>>>
>>> static inline struct idr *current_pts_ns_allocated_ptys(void)
>>> {
>>> - return &allocated_ptys;
>>> + return &current->nsproxy->pts_ns->allocated_ptys;
>>> }
>>>
>>> -static struct vfsmount *devpts_mnt;
>>> static inline struct vfsmount *current_pts_ns_mnt(void)
>>> {
>>> - return devpts_mnt;
>>> + return current->nsproxy->pts_ns->mnt;
>>> }
>>>
>>> static struct {
>>> @@ -59,6 +66,42 @@ static match_table_t tokens = {
>>> {Opt_err, NULL}
>>> };
>>>
>>> +struct pts_namespace *new_pts_ns(void)
>>> +{
>>> + struct pts_namespace *ns;
>>> +
>>> + ns = kmalloc(sizeof(*ns), GFP_KERNEL);
>>> + if (!ns)
>>> + return ERR_PTR(-ENOMEM);
>>> +
>>> + ns->mnt = kern_mount_data(&devpts_fs_type, ns);
>> You create a circular references here - the namespace
>> holds the vfsmnt, the vfsmnt holds a superblock, a superblock
>> holds the namespace.
>>
>> Hmm, yeah, good point. That was probably in my original version last
>> year, so my fault not Suka's. Suka, would it work to have the
>> sb->s_info point to the namespace but not grab a reference, than have
>
> If you don't then you may be in situation, when this devpts
> is mounted from userspace and in case the namespace is dead
> superblock will point to garbage... Superblock MUST hold the
> namespace :)

```

But when the ns is freed sb->s_info would be NULL. Surely the helpers can be made to handle that safely?

```

>
> > free_pts_ns() null out its sb->s_info, i.e. something like
> >
> > void free_pts_ns(struct kref *ns_kref)
> > {
> >     struct pts_namespace *ns;
> >     struct super_block *sb;
> >
> >     ns = container_of(ns_kref, struct pts_namespace, kref);
> >     BUG_ON(ns == &init_pts_ns);
> >     sb = ns->mnt->mnt_sb;
> >
> >     mntput(ns->mnt);
> >     sb->s_info = NULL;
> >
> >     /*
> >      * TODO:
> >      *     idr_remove_all(&ns->allocated_ptys); introduced in
> > .6.23
> >      */
> >     idr_destroy(&ns->allocated_ptys);
> >     kfree(ns);
> > }
> >
> >

```

Containers mailing list
Containers@lists.linux-foundation.org
<https://lists.linux-foundation.org/mailman/listinfo/containers>
