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Subject: Re: [PATCH] Merge sys\_clone()/sys\_unshare() nsproxy and namespace handling

Posted by [serue](#) on Thu, 01 Mar 2007 19:30:32 GMT

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Quoting Badari Pulavarty (pbadari@us.ibm.com):

> Hi,  
>  
> sys\_clone() and sys\_clone() both makes copies of nsproxy  
> and its associated namespaces. But they have different  
> code paths.  
>  
> This patch merges all the nsproxy and its associated  
> namespace copy/clone handling (as much as possible).  
> Posted on container list earlier for feedback.  
>  
> Ran LTP and unshare tests fine.  
>  
> Andrew, can you include it in -mm ?  
>  
> Thanks,  
> Badari  
>  
>  
>  
> Merge sys\_clone/sys\_unshare nsproxy and namespace copy handling.  
>  
> - Create a new nsproxy and its associated namespaces and pass it  
> back to caller to attach it to right process.  
>  
> - Changed all copy\_\*\_ns() routines to return a new copy of namespace  
> instead of attaching it to task->nsproxy.  
>  
> - Moved the CAP\_SYS\_ADMIN checks out of copy\_\*\_ns() routines.  
>  
> - Removed unnecessary !ns checks from copy\_\*\_ns() and added BUG\_ON()  
> just incase.  
>  
> - Get rid of all individual unshare\_\*\_ns() routines and make  
> use of copy\_\*\_ns() instead.  
>  
>  
> Signed-off-by: Badari Pulavarty <pbadari@us.ibm.com>

Signed-off-by: Serge E. Hallyn <serue@us.ibm.com>

> Cc: Cedric Le Goater <clg@fr.ibm.com>

> Cc: Serge Hallyn <serue@us.ibm.com>

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> Cc: containers@lists.osdl.org
> ---
> fs/namespace.c          | 30 ++-----
> include/linux/ipc.h      | 9 +-
> include/linux/mnt_namespace.h | 5 -
> include/linux/nsproxy.h  | 2
> include/linux/pid_namespace.h | 2
> include/linux/utsname.h   | 17 -----
> ipc/util.c              | 47 ++-----
> kernel/fork.c            | 85 +-----
> kernel/nsproxy.c         | 139 ++++++-----
> kernel/pid.c             | 11 ---
> kernel/utsname.c         | 41 +-----
> 11 files changed, 125 insertions(+), 263 deletions(-)
>
> Index: linux-2.6.21-rc2/fs/namespace.c
> =====
> --- linux-2.6.21-rc2.orig/fs/namespace.c 2007-02-27 20:59:12.000000000 -0800
> +++ linux-2.6.21-rc2/fs/namespace.c 2007-03-01 08:29:15.000000000 -0800
> @@ -1441,10 +1441,9 @@ dput_out:
>  * Allocate a new namespace structure and populate it with contents
>  * copied from the namespace of the passed in task structure.
>  */
> -struct mnt_namespace *dup_mnt_ns(struct task_struct *tsk,
> +static struct mnt_namespace *dup_mnt_ns(struct mnt_namespace *mnt_ns,
>  struct fs_struct *fs)
> {
> - struct mnt_namespace *mnt_ns = tsk->nsproxy->mnt_ns;
>  struct mnt_namespace *new_ns;
>  struct vfsmount *rootmnt = NULL, *pwmnt = NULL, *altrootmnt = NULL;
>  struct vfsmount *p, *q;
> @@ -1509,36 +1508,21 @@ struct mnt_namespace *dup_mnt_ns(struct
>  return new_ns;
> }
>
> -int copy_mnt_ns(int flags, struct task_struct *tsk)
> +struct mnt_namespace *copy_mnt_ns(int flags, struct mnt_namespace *ns,
> + struct fs_struct *new_fs)
> {
> - struct mnt_namespace *ns = tsk->nsproxy->mnt_ns;
>  struct mnt_namespace *new_ns;
> - int err = 0;
> -
> - if (!ns)
> - return 0;
> + BUG_ON(!ns);
>  get_mnt_ns(ns);

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>
> if (!(flags & CLONE_NEWNS))
> - return 0;
> + return ns;
>
> - if (!capable(CAP_SYS_ADMIN)) {
> - err = -EPERM;
> - goto out;
> - }
> + new_ns = dup_mnt_ns(ns, new_fs);
>
> - new_ns = dup_mnt_ns(tsk, tsk->fs);
> - if (!new_ns) {
> - err = -ENOMEM;
> - goto out;
> - }
> -
> - tsk->nsproxy->mnt_ns = new_ns;
> -
> -out:
> put_mnt_ns(ns);
> - return err;
> + return new_ns;
> }
>
> asmlinkage long sys_mount(char __user * dev_name, char __user * dir_name,
> Index: linux-2.6.21-rc2/include/linux/mnt_namespace.h
> =====
> --- linux-2.6.21-rc2.orig/include/linux/mnt_namespace.h 2007-02-27 20:59:12.000000000 -0800
> +++ linux-2.6.21-rc2/include/linux/mnt_namespace.h 2007-03-01 08:29:15.000000000 -0800
> @@ -14,10 +14,9 @@ struct mnt_namespace {
> int event;
> };
>
> -extern int copy_mnt_ns(int, struct task_struct *);
> -extern void __put_mnt_ns(struct mnt_namespace *ns);
> -extern struct mnt_namespace *dup_mnt_ns(struct task_struct *,
> +extern struct mnt_namespace *copy_mnt_ns(int, struct mnt_namespace *,
> struct fs_struct *);
> +extern void __put_mnt_ns(struct mnt_namespace *ns);
>
> static inline void put_mnt_ns(struct mnt_namespace *ns)
> {
> Index: linux-2.6.21-rc2/kernel/nsproxy.c
> =====
> --- linux-2.6.21-rc2.orig/kernel/nsproxy.c 2007-02-27 20:59:12.000000000 -0800
> +++ linux-2.6.21-rc2/kernel/nsproxy.c 2007-03-01 08:29:15.000000000 -0800
> @@ -38,10 +38,8 @@ void get_task_namespaces(struct task_str

```

```

>
> /*
>  * creates a copy of "orig" with refcount 1.
> - * This does not grab references to the contained namespaces,
> - * so that needs to be done by dup_namespaces.
> */
> -static inline struct nsproxy *clone_namespaces(struct nsproxy *orig)
> +static inline struct nsproxy *clone_nsproxy(struct nsproxy *orig)
> {
>     struct nsproxy *ns;
>
> @@ -52,26 +50,49 @@ static inline struct nsproxy *clone_name
> }
>
> /*
> - * copies the nsproxy, setting refcount to 1, and grabbing a
> - * reference to all contained namespaces. Called from
> - * sys_unshare()
> + * Create new nsproxy and all of its the associated namespaces.
> + * Return the newly created nsproxy. Do not attach this to the task,
> + * leave it to the caller to do proper locking and attach it to task.
> */
> -struct nsproxy *dup_namespaces(struct nsproxy *orig)
> +static struct nsproxy *create_new_namespaces(int flags, struct task_struct *tsk,
> + struct fs_struct *new_fs)
> {
> - struct nsproxy *ns = clone_namespaces(orig);
> + struct nsproxy *new_nsp;
>
> - if (ns) {
> -     if (ns->mnt_ns)
> -         get_mnt_ns(ns->mnt_ns);
> -     if (ns->uts_ns)
> -         get_uts_ns(ns->uts_ns);
> -     if (ns->ipc_ns)
> -         get_ipc_ns(ns->ipc_ns);
> -     if (ns->pid_ns)
> -         get_pid_ns(ns->pid_ns);
> - }
> + new_nsp = clone_nsproxy(tsk->nsproxy);
> + if (!new_nsp)
> +     return ERR_PTR(-ENOMEM);
>
> - return ns;
> + new_nsp->mnt_ns = copy_mnt_ns(flags, tsk->nsproxy->mnt_ns, new_fs);
> + if (IS_ERR(new_nsp->mnt_ns))
> +     goto out_ns;
> +

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> + new_nsp->uts_ns = copy_utsname(flags, tsk->nsproxy->uts_ns);
> + if (IS_ERR(new_nsp->uts_ns))
> + goto out_uts;
> +
> + new_nsp->ipc_ns = copy_ipcs(flags, tsk->nsproxy->ipc_ns);
> + if (IS_ERR(new_nsp->ipc_ns))
> + goto out_ipc;
> +
> + new_nsp->pid_ns = copy_pid_ns(flags, tsk->nsproxy->pid_ns);
> + if (IS_ERR(new_nsp->pid_ns))
> + goto out_pid;
> +
> + return new_nsp;
> +
> +out_pid:
> + if (new_nsp->ipc_ns)
> + put_ipc_ns(new_nsp->ipc_ns);
> +out_ipc:
> + if (new_nsp->uts_ns)
> + put_uts_ns(new_nsp->uts_ns);
> +out_uts:
> + if (new_nsp->mnt_ns)
> + put_mnt_ns(new_nsp->mnt_ns);
> +out_ns:
> + kfree(new_nsp);
> + return ERR_PTR(-ENOMEM);
> }
>
> /*
> @@ -92,47 +113,21 @@ int copy_namespaces(int flags, struct ta
> if (!(flags & (CLONE_NEWNS | CLONE_NEWUTS | CLONE_NEWIPC)))
> return 0;
>
> - new_ns = clone_namespaces(old_ns);
> - if (!new_ns) {
> - err = -ENOMEM;
> + if (!capable(CAP_SYS_ADMIN)) {
> + err = -EPERM;
> goto out;
> }
>
> - tsk->nsproxy = new_ns;
> -
> - err = copy_mnt_ns(flags, tsk);
> - if (err)
> - goto out_ns;
> -
> - err = copy_utsname(flags, tsk);

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> - if (err)
> - goto out_uts;
> -
> - err = copy_ipcs(flags, tsk);
> - if (err)
> - goto out_ipc;
> -
> - err = copy_pid_ns(flags, tsk);
> - if (err)
> - goto out_pid;
> + new_ns = create_new_namespaces(flags, tsk, tsk->fs);
> + if (IS_ERR(new_ns)) {
> + err = PTR_ERR(new_ns);
> + goto out;
> + }
>
> + tsk->nsproxy = new_ns;
> out:
> put_nsproxy(old_ns);
> return err;
> -
> -out_pid:
> - if (new_ns->ipc_ns)
> - put_ipc_ns(new_ns->ipc_ns);
> -out_ipc:
> - if (new_ns->uts_ns)
> - put_uts_ns(new_ns->uts_ns);
> -out_uts:
> - if (new_ns->mnt_ns)
> - put_mnt_ns(new_ns->mnt_ns);
> -out_ns:
> - tsk->nsproxy = old_ns;
> - kfree(new_ns);
> - goto out;
> }
>
> void free_nsproxy(struct nsproxy *ns)
> @@ -147,3 +142,41 @@ void free_nsproxy(struct nsproxy *ns)
> put_pid_ns(ns->pid_ns);
> kfree(ns);
> }
> +
> +/*
> + * Called from unshare. Unshare all the namespaces part of nsproxy.
> + * On success, returns the new nsproxy and a reference to old nsproxy
> + * to make sure it stays around.
> + */
> +int unshare_nsproxy_namespaces(unsigned long unshare_flags,

```

```

> + struct nsproxy **new_nsp, struct fs_struct *new_fs)
> +{
> + struct nsproxy *old_ns = current->nsproxy;
> + int err = 0;
> +
> + if (!(unshare_flags & (CLONE_NEWNS | CLONE_NEWUTS | CLONE_NEWIPC)))
> + return 0;
> +
> + #ifndef CONFIG_IPC_NS
> + if (unshare_flags & CLONE_NEWIPC)
> + return -EINVAL;
> + #endif
> +
> + #ifndef CONFIG_UTS_NS
> + if (unshare_flags & CLONE_NEWUTS)
> + return -EINVAL;
> + #endif
> +
> + if (!capable(CAP_SYS_ADMIN))
> + return -EPERM;
> +
> + get_nsproxy(old_ns);
> +
> + *new_nsp = create_new_namespaces(unshare_flags, current,
> + new_fs ? new_fs : current->fs);
> + if (IS_ERR(*new_nsp)) {
> + err = PTR_ERR(*new_nsp);
> + put_nsproxy(old_ns);
> + }
> + return err;
> +}
> Index: linux-2.6.21-rc2/include/linux/utsname.h
> =====
> --- linux-2.6.21-rc2.orig/include/linux/utsname.h 2007-02-27 20:59:12.000000000 -0800
> +++ linux-2.6.21-rc2/include/linux/utsname.h 2007-03-01 08:29:15.000000000 -0800
> @@ -49,9 +49,7 @@ static inline void get_uts_ns(struct uts
> }
>
> #ifdef CONFIG_UTS_NS
> -extern int unshare_utsname(unsigned long unshare_flags,
> - struct uts_namespace **new_uts);
> -extern int copy_utsname(int flags, struct task_struct *tsk);
> +extern struct uts_namespace *copy_utsname(int flags, struct uts_namespace *ns);
> extern void free_uts_ns(struct kref *kref);
>
> static inline void put_uts_ns(struct uts_namespace *ns)
> @@ -59,18 +57,9 @@ static inline void put_uts_ns(struct uts
> kref_put(&ns->kref, free_uts_ns);

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> }
> #else
> -static inline int unshare_utsname(unsigned long unshare_flags,
> - struct uts_namespace **new_uts)
> +static inline int copy_utsname(int flags, struct uts_namespace *ns)
> {
> - if (unshare_flags & CLONE_NEWUTS)
> - return -EINVAL;
> -
> - return 0;
> -}
> -
> -static inline int copy_utsname(int flags, struct task_struct *tsk)
> -{
> - return 0;
> + return ns;
> }
> static inline void put_uts_ns(struct uts_namespace *ns)
> {
> Index: linux-2.6.21-rc2/kernel/utsname.c
> =====
> --- linux-2.6.21-rc2.orig/kernel/utsname.c 2007-02-27 20:59:12.000000000 -0800
> +++ linux-2.6.21-rc2/kernel/utsname.c 2007-03-01 08:29:15.000000000 -0800
> @@ -32,58 +32,25 @@ static struct uts_namespace *clone_uts_n
> }
>
> /*
> - * unshare the current process' utsname namespace.
> - * called only in sys_unshare()
> - */
> -int unshare_utsname(unsigned long unshare_flags, struct uts_namespace **new_uts)
> -{
> - if (unshare_flags & CLONE_NEWUTS) {
> - if (!capable(CAP_SYS_ADMIN))
> - return -EPERM;
> -
> - *new_uts = clone_uts_ns(current->nsproxy->uts_ns);
> - if (!*new_uts)
> - return -ENOMEM;
> - }
> -
> - return 0;
> -}
> -
> -/*
> * Copy task tsk's utsname namespace, or clone it if flags
> * specifies CLONE_NEWUTS. In latter case, changes to the
> * utsname of this process won't be seen by parent, and vice

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> * versa.
> */
> -int copy_utsname(int flags, struct task_struct *tsk)
> +struct uts_namespace *copy_utsname(int flags, struct uts_namespace *old_ns)
> {
> - struct uts_namespace *old_ns = tsk->nsproxy->uts_ns;
>   struct uts_namespace *new_ns;
> - int err = 0;
> -
> - if (!old_ns)
> -   return 0;
>
> + BUG_ON(!old_ns);
>   get_uts_ns(old_ns);
>
>   if (!(flags & CLONE_NEWUTS))
> -   return 0;
> -
> - if (!capable(CAP_SYS_ADMIN)) {
> -   err = -EPERM;
> -   goto out;
> - }
> + return old_ns;
>
>   new_ns = clone_uts_ns(old_ns);
> - if (!new_ns) {
> -   err = -ENOMEM;
> -   goto out;
> - }
> - tsk->nsproxy->uts_ns = new_ns;
>
> -out:
>   put_uts_ns(old_ns);
> - return err;
> + return new_ns;
> }
>
> void free_uts_ns(struct kref *kref)
> Index: linux-2.6.21-rc2/include/linux/ipc.h
> =====
> --- linux-2.6.21-rc2.orig/include/linux/ipc.h 2007-02-27 20:59:12.000000000 -0800
> +++ linux-2.6.21-rc2/include/linux/ipc.h 2007-03-01 08:29:15.000000000 -0800
> @@ -98,12 +98,13 @@ extern struct ipc_namespace init_ipc_ns;
>
> #ifdef CONFIG_IPC_NS
> extern void free_ipc_ns(struct kref *kref);
> -extern int copy_ipcs(unsigned long flags, struct task_struct *tsk);
> -extern int unshare_ipcs(unsigned long flags, struct ipc_namespace **ns);

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> +extern struct ipc_namespace *copy_ipcs(unsigned long flags,
> + struct ipc_namespace *ns);
> #else
> -static inline int copy_ipcs(unsigned long flags, struct task_struct *tsk)
> +static struct ipc_namespace *copy_ipcs(unsigned long flags,
> + struct ipc_namespace *ns)
> {
> - return 0;
> + return ns;
> }
> #endif
>
> Index: linux-2.6.21-rc2/ipc/util.c
> =====
> --- linux-2.6.21-rc2.orig/ipc/util.c 2007-02-27 20:59:12.000000000 -0800
> +++ linux-2.6.21-rc2/ipc/util.c 2007-03-01 08:29:15.000000000 -0800
> @@ -85,53 +85,20 @@ err_mem:
>   return ERR_PTR(err);
> }
>
> -int unshare_ipcs(unsigned long unshare_flags, struct ipc_namespace **new_ipc)
> +struct ipc_namespace *copy_ipcs(unsigned long flags, struct ipc_namespace *ns)
> {
> - struct ipc_namespace *new;
> -
> - if (unshare_flags & CLONE_NEWIPC) {
> -   if (!capable(CAP_SYS_ADMIN))
> -     return -EPERM;
> -
> -   new = clone_ipc_ns(current->nsproxy->ipc_ns);
> -   if (IS_ERR(new))
> -     return PTR_ERR(new);
> -
> -   *new_ipc = new;
> - }
> -
> - return 0;
> -}
> -
> -int copy_ipcs(unsigned long flags, struct task_struct *tsk)
> -{
> - struct ipc_namespace *old_ns = tsk->nsproxy->ipc_ns;
>   struct ipc_namespace *new_ns;
> - int err = 0;
> -
> - if (!old_ns)
> -   return 0;
> -

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> - get_ipc_ns(old_ns);
> + BUG_ON(!ns);
> + get_ipc_ns(ns);
>
> if (!(flags & CLONE_NEWIPC))
> - return 0;
> -
> - if (!capable(CAP_SYS_ADMIN)) {
> - err = -EPERM;
> - goto out;
> - }
> + return ns;
>
> - new_ns = clone_ipc_ns(old_ns);
> - if (!new_ns) {
> - err = -ENOMEM;
> - goto out;
> - }
> + new_ns = clone_ipc_ns(ns);
>
> - tsk->nsproxy->ipc_ns = new_ns;
> -out:
> - put_ipc_ns(old_ns);
> - return err;
> + put_ipc_ns(ns);
> + return new_ns;
> }
>
> void free_ipc_ns(struct kref *kref)
> Index: linux-2.6.21-rc2/include/linux/pid_namespace.h
> =====
> --- linux-2.6.21-rc2.orig/include/linux/pid_namespace.h 2007-02-27 20:59:12.000000000 -0800
> +++ linux-2.6.21-rc2/include/linux/pid_namespace.h 2007-03-01 08:29:15.000000000 -0800
> @@ -29,7 +29,7 @@ static inline void get_pid_ns(struct pid
> kref_get(&ns->kref);
> }
>
> -extern int copy_pid_ns(int flags, struct task_struct *tsk);
> +extern struct pid_namespace *copy_pid_ns(int flags, struct pid_namespace *ns);
> extern void free_pid_ns(struct kref *kref);
>
> static inline void put_pid_ns(struct pid_namespace *ns)
> Index: linux-2.6.21-rc2/kernel/pid.c
> =====
> --- linux-2.6.21-rc2.orig/kernel/pid.c 2007-02-27 20:59:12.000000000 -0800
> +++ linux-2.6.21-rc2/kernel/pid.c 2007-03-01 08:29:15.000000000 -0800
> @@ -360,16 +360,11 @@ struct pid *find_ge_pid(int nr)
> }

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```

> EXPORT_SYMBOL_GPL(find_get_pid);
>
> -int copy_pid_ns(int flags, struct task_struct *tsk)
> +struct pid_namespace *copy_pid_ns(int flags, struct pid_namespace *old_ns)
> {
> - struct pid_namespace *old_ns = tsk->nsproxy->pid_ns;
> - int err = 0;
> -
> - if (!old_ns)
> - return 0;
> -
> + BUG_ON(!old_ns);
> get_pid_ns(old_ns);
> - return err;
> + return old_ns;
> }
>
> void free_pid_ns(struct kref *kref)
> Index: linux-2.6.21-rc2/include/linux/nsproxy.h
> =====
> --- linux-2.6.21-rc2.orig/include/linux/nsproxy.h 2007-02-27 20:59:12.000000000 -0800
> +++ linux-2.6.21-rc2/include/linux/nsproxy.h 2007-03-01 08:29:15.000000000 -0800
> @@ -35,6 +35,8 @@ struct nsproxy *dup_namespaces(struct ns
> int copy_namespaces(int flags, struct task_struct *tsk);
> void get_task_namespaces(struct task_struct *tsk);
> void free_nsproxy(struct nsproxy *ns);
> +int unshare_nsproxy_namespaces(unsigned long, struct nsproxy **,
> + struct fs_struct *);
>
> static inline void put_nsproxy(struct nsproxy *ns)
> {
> Index: linux-2.6.21-rc2/kernel/fork.c
> =====
> --- linux-2.6.21-rc2.orig/kernel/fork.c 2007-02-27 20:59:12.000000000 -0800
> +++ linux-2.6.21-rc2/kernel/fork.c 2007-03-01 08:29:15.000000000 -0800
> @@ -1515,26 +1515,6 @@ static int unshare_fs(unsigned long unsh
> }
>
> /*
> - * Unshare the mnt_namespace structure if it is being shared
> - */
> -static int unshare_mnt_namespace(unsigned long unshare_flags,
> - struct mnt_namespace **new_nsp, struct fs_struct *new_fs)
> -{
> - struct mnt_namespace *ns = current->nsproxy->mnt_ns;
> -
> - if ((unshare_flags & CLONE_NEWNS) && ns) {
> - if (!capable(CAP_SYS_ADMIN))

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> - return -EPERM;
> -
> - *new_nsp = dup_mnt_ns(current, new_fs ? new_fs : current->fs);
> - if (!*new_nsp)
> - return -ENOMEM;
> - }
> -
> - return 0;
> -}
> -
> -/*
>  * Unsharing of sighand is not supported yet
>  */
> static int unshare_sighand(unsigned long unshare_flags, struct sighand_struct **new_sighp)
> @@ -1592,16 +1572,6 @@ static int unshare_semundo(unsigned long
> return 0;
> }
>
> -#ifndef CONFIG_IPC_NS
> -static inline int unshare_ipcs(unsigned long flags, struct ipc_namespace **ns)
> -{
> - if (flags & CLONE_NEWIPC)
> - return -EINVAL;
> -
> - return 0;
> -}
> -#endif
> -
> /*
>  * unshare allows a process to 'unshare' part of the process
>  * context which was originally shared using clone. copy_*
> @@ -1614,14 +1584,11 @@ asmlinkage long sys_unshare(unsigned lon
> {
> int err = 0;
> struct fs_struct *fs, *new_fs = NULL;
> - struct mnt_namespace *ns, *new_ns = NULL;
> struct sighand_struct *new_sigh = NULL;
> struct mm_struct *mm, *new_mm = NULL, *active_mm = NULL;
> struct files_struct *fd, *new_fd = NULL;
> struct sem_undo_list *new_ulist = NULL;
> struct nsproxy *new_nsproxy = NULL, *old_nsproxy = NULL;
> - struct uts_namespace *uts, *new_uts = NULL;
> - struct ipc_namespace *ipc, *new_ipc = NULL;
>
> check_unshare_flags(&unshare_flags);
>
> @@ -1636,36 +1603,24 @@ asmlinkage long sys_unshare(unsigned lon
> goto bad_unshare_out;

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> if ((err = unshare_fs(unshare_flags, &new_fs)))
> goto bad_unshare_cleanup_thread;
> - if ((err = unshare_mnt_namespace(unshare_flags, &new_ns, new_fs)))
> - goto bad_unshare_cleanup_fs;
> if ((err = unshare_sighand(unshare_flags, &new_sigh)))
> - goto bad_unshare_cleanup_ns;
> + goto bad_unshare_cleanup_fs;
> if ((err = unshare_vm(unshare_flags, &new_mm)))
> goto bad_unshare_cleanup_sigh;
> if ((err = unshare_fd(unshare_flags, &new_fd)))
> goto bad_unshare_cleanup_vm;
> if ((err = unshare_semundo(unshare_flags, &new_ulist)))
> goto bad_unshare_cleanup_fd;
> - if ((err = unshare_utsname(unshare_flags, &new_uts)))
> + if ((err = unshare_nsproxy_namespaces(unshare_flags, &new_nsproxy,
> + new_fs)))
> goto bad_unshare_cleanup_semundo;
> - if ((err = unshare_ipcs(unshare_flags, &new_ipc)))
> - goto bad_unshare_cleanup_uts;
>
> - if (new_ns || new_uts || new_ipc) {
> - old_nsproxy = current->nsproxy;
> - new_nsproxy = dup_namespaces(old_nsproxy);
> - if (!new_nsproxy) {
> - err = -ENOMEM;
> - goto bad_unshare_cleanup_ipc;
> - }
> - }
> -
> - if (new_fs || new_ns || new_mm || new_fd || new_ulist ||
> - new_uts || new_ipc) {
> + if (new_fs || new_mm || new_fd || new_ulist || new_nsproxy) {
>
> task_lock(current);
>
> if (new_nsproxy) {
> + old_nsproxy = current->nsproxy;
> current->nsproxy = new_nsproxy;
> new_nsproxy = old_nsproxy;
> }
> @@ -1676,12 +1631,6 @@ asmlinkage long sys_unshare(unsigned lon
> new_fs = fs;
> }
>
> - if (new_ns) {
> - ns = current->nsproxy->mnt_ns;
> - current->nsproxy->mnt_ns = new_ns;
> - new_ns = ns;

```

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> - }
> -
>   if (new_mm) {
>       mm = current->mm;
>       active_mm = current->active_mm;
> @@ -1697,32 +1646,12 @@ asmlinkage long sys_unshare(unsigned lon
>       new_fd = fd;
>   }
>
> - if (new_uts) {
> -     uts = current->nsproxy->uts_ns;
> -     current->nsproxy->uts_ns = new_uts;
> -     new_uts = uts;
> - }
> -
> - if (new_ipc) {
> -     ipc = current->nsproxy->ipc_ns;
> -     current->nsproxy->ipc_ns = new_ipc;
> -     new_ipc = ipc;
> - }
> -
>   task_unlock(current);
> }
>
>   if (new_nsproxy)
>       put_nsproxy(new_nsproxy);
>
> -bad_unshare_cleanup_ipc:
> - if (new_ipc)
> -     put_ipc_ns(new_ipc);
> -
> -bad_unshare_cleanup_uts:
> - if (new_uts)
> -     put_uts_ns(new_uts);
> -
>   bad_unshare_cleanup_semundo:
>   bad_unshare_cleanup_fd:
>   if (new_fd)
> @@ -1737,10 +1666,6 @@ bad_unshare_cleanup_sigh:
>   if (atomic_dec_and_test(&new_sigh->count))
>       kmem_cache_free(sighand_cachep, new_sigh);
>
> -bad_unshare_cleanup_ns:
> - if (new_ns)
> -     put_mnt_ns(new_ns);
> -
>   bad_unshare_cleanup_fs:
>   if (new_fs)

```

> put\_fs\_struct(new\_fs);

>

>

>

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