
Subject: [PATCH RFC 22/31] net: Add network namespace clone support.

Posted by [ebiederm](#) on Thu, 25 Jan 2007 19:00:24 GMT

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This patch allows you to create a new network namespace
using sys_clone(...).

Signed-off-by: Eric W. Biederman <ebiederm@xmission.com>

```
include/linux/sched.h |  1 +
kernel/nsproxy.c     | 11 ++++++++
net/core/net_namespace.c | 38 ++++++++++++++++++++++++++++++
3 files changed, 50 insertions(+), 0 deletions(-)
```

```
diff --git a/include/linux/sched.h b/include/linux/sched.h
index 4463735..9e0f91a 100644
--- a/include/linux/sched.h
+++ b/include/linux/sched.h
@@ -26,6 +26,7 @@
#define CLONE_STOPPED 0x02000000 /* Start in stopped state */
#define CLONE_NEWUTS 0x04000000 /* New utsname group? */
#define CLONE_NEWIPC 0x08000000 /* New ipcs */
+#define CLONE_NEWNET 0x20000000 /* New network namespace */
```

```
/*
 * Scheduling policies
diff --git a/kernel/nsproxy.c b/kernel/nsproxy.c
index 4f3c95a..7861c4c 100644
--- a/kernel/nsproxy.c
+++ b/kernel/nsproxy.c
@@ -20,6 +20,7 @@
#include <linux/mnt_namespace.h>
#include <linux/utsname.h>
#include <linux/pid_namespace.h>
+#include <net/net_namespace.h>
```

```
struct nsproxy init_nsproxy = INIT_NSPROXY(init_nsproxy);
EXPORT_SYMBOL_GPL(init_nsproxy);
@@ -70,6 +71,7 @@
 struct nsproxy *dup_namespaces(struct nsproxy *orig)
 {
     get_ipc_ns(ns->ipc_ns);
     if (ns->pid_ns)
         get_pid_ns(ns->pid_ns);
+    get_net(ns->net_ns);
 }

 return ns;
```

```

@@ -117,10 +119,18 @@ int copy_namespaces(int flags, struct task_struct *tsk)
if (err)
    goto out_pid;

+ err = copy_net(flags, tsk);
+ if (err)
+     goto out_net;
+
out:
put_nsproxy(old_ns);
return err;

+out_net:
+ if (new_ns->pid_ns)
+     put_pid_ns(new_ns->pid_ns);
+
out_pid:
if (new_ns->ipc_ns)
    put_ipc_ns(new_ns->ipc_ns);
@@ -146,5 +156,6 @@ void free_nsproxy(struct nsproxy *ns)
    put_ipc_ns(ns->ipc_ns);
if (ns->pid_ns)
    put_pid_ns(ns->pid_ns);
+ put_net(ns->net_ns);
kfree(ns);
}

diff --git a/net/core/net_namespace.c b/net/core/net_namespace.c
index 93e3879..cc56105 100644
--- a/net/core/net_namespace.c
+++ b/net/core/net_namespace.c
@@ -175,6 +175,44 @@ out_undo:
    goto out;
}

+int copy_net(int flags, struct task_struct *tsk)
+{
+    net_t old_net = tsk->nsproxy->net_ns;
+    net_t new_net;
+    int err;
+
+    get_net(old_net);
+
+    if (!(flags & CLONE_NEWNET))
+        return 0;
+
+    err = -EPERM;
+    if (!capable(CAP_SYS_ADMIN))
+        goto out;

```

```
+  
+ err = -ENOMEM;  
+ new_net = net_alloc();  
+ if (null_net(new_net))  
+     goto out;  
+  
+ mutex_lock(&net_mutex);  
+ err = setup_net(new_net);  
+ if (err)  
+     goto out_unlock;  
+  
+ net_lock();  
+ net_list_append(new_net);  
+ net_unlock();  
+  
+ tsk->nsproxy->net_ns = new_net;  
+  
+out_unlock:  
+ mutex_unlock(&net_mutex);  
+out:  
+ put_net(old_net);  
+ return err;  
+}  
+  
void pernet_modcopy(void *pnetdst, const void *src, unsigned long size)  
{  
    net_t net;  
--  
1.4.4.1.g278f
```

Containers mailing list
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