
Subject: [patch 17/20] [Network namespace] For debug purpose only. Add
/sys/kernel/debug/net_ns. Creation of
Posted by [Daniel Lezcano](#) on Sun, 10 Dec 2006 21:58:34 GMT
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echo <level> > /sys/kernel/debug/net_ns/start

Signed-off-by: Daniel Lezcano <dlezcano@fr.ibm.com>

```
fs/debugfs/Makefile | 2
fs/debugfs/net_ns.c | 153 +++++
net/Kconfig         | 4 +
3 files changed, 158 insertions(+), 1 deletion(-)
```

Index: 2.6.19-rc6-mm2/fs/debugfs/Makefile

=====

--- 2.6.19-rc6-mm2.orig/fs/debugfs/Makefile

+++ 2.6.19-rc6-mm2/fs/debugfs/Makefile

@@ -1,4 +1,4 @@

debugfs-objs := inode.o file.o

obj-\$(CONFIG_DEBUG_FS) += debugfs.o

-

+obj-\$(CONFIG_NET_NS_DEBUG) += net_ns.o

Index: 2.6.19-rc6-mm2/fs/debugfs/net_ns.c

=====

--- /dev/null

+++ 2.6.19-rc6-mm2/fs/debugfs/net_ns.c

@@ -0,0 +1,153 @@

+/*

+ * net_ns.c - adds a net_ns/ directory to debug NET namespaces

+ *

+ * Author: Daniel Lezcano <dlezcano@fr.ibm.com>

+ *

+ * This program is free software; you can redistribute it and/or
+ * modify it under the terms of the GNU General Public License as
+ * published by the Free Software Foundation, version 2 of the
+ * License.

+ */

+

+#include <linux/module.h>

+#include <linux/kernel.h>

+#include <linux/pagemap.h>

+#include <linux/debugfs.h>

+#include <linux/sched.h>

+#include <linux/netdevice.h>

```

#include <linux/syscalls.h>
#include <linux/net_namespace.h>
+
+static struct dentry *net_ns_dentry;
+static struct dentry *net_ns_dentry_dev;
+static struct dentry *net_ns_dentry_start;
+
+static ssize_t net_ns_dev_read_file(struct file *file, char __user *user_buf,
+    size_t count, loff_t *ppos)
+{
+ return 0;
+}
+
+static ssize_t net_ns_dev_write_file(struct file *file,
+    const char __user *user_buf,
+    size_t count, loff_t *ppos)
+{
+ return 0;
+}
+
+static int net_ns_dev_open_file(struct inode *inode, struct file *file)
+{
+ return 0;
+}
+
+static int net_ns_start_open_file(struct inode *inode, struct file *file)
+{
+ return 0;
+}
+
+static ssize_t net_ns_start_read_file(struct file *file, char __user *user_buf,
+    size_t count, loff_t *ppos)
+{
+ char c;
+
+ if (*ppos < 0)
+ return -EINVAL;
+ if (*ppos >= count)
+ return 0;
+ if (!count)
+ return 0;
+
+ c = (current_net_ns == &init_net_ns)?'0':'1';
+
+ if (copy_to_user(user_buf, &c, sizeof(c)))
+ return -EINVAL;
+
+ *ppos += count;

```

```

+
+ return count;
+}
+
+int net_ns_start(void);
+
+static ssize_t net_ns_start_write_file(struct file *file,
+    const char __user *user_buf,
+    size_t count, loff_t *ppos)
+{
+ int err;
+ size_t len;
+ const char __user *p;
+ char c;
+ unsigned long flags;
+
+ if (current_net_ns != &init_net_ns)
+ return -EBUSY;
+
+ len = 0;
+ p = user_buf;
+ while (len < count) {
+ if (get_user(c, p++))
+ return -EFAULT;
+ if (c == 0 || c == '\n')
+ break;
+ len++;
+ }
+
+ if (len > 1)
+ return -EINVAL;
+
+ if (copy_from_user(&c, user_buf, sizeof(c)))
+ return -EFAULT;
+
+ if (c != '2' && c != '3')
+ return -EINVAL;
+
+ flags = (c=='2'?NS_NET2:NS_NET3);
+ err = sys_unshare_ns(flags);
+ if (err)
+ return err;
+
+ return count;
+}
+
+static struct file_operations net_ns_dev_fops = {
+ .read = net_ns_dev_read_file,

```

```

+   .write =    net_ns_dev_write_file,
+   .open =     net_ns_dev_open_file,
+};
+
+static struct file_operations net_ns_start_fops = {
+   .read =      net_ns_start_read_file,
+   .write =     net_ns_start_write_file,
+   .open =      net_ns_start_open_file,
+};
+
+static int __init net_ns_init(void)
+{
+   net_ns_dentry = debugfs_create_dir("net_ns", NULL);
+
+   net_ns_dentry_dev = debugfs_create_file("dev", 0666,
+      net_ns_dentry,
+      NULL,
+      &net_ns_dev_fops);
+
+   net_ns_dentry_start = debugfs_create_file("start", 0666,
+      net_ns_dentry,
+      NULL,
+      &net_ns_start_fops);
+
+   return 0;
+}
+
+static void __exit net_ns_exit(void)
+{
+   debugfs_remove(net_ns_dentry_start);
+   debugfs_remove(net_ns_dentry_dev);
+   debugfs_remove(net_ns_dentry);
+}
+
+module_init(net_ns_init);
+module_exit(net_ns_exit);
+
+MODULE_DESCRIPTION("NET namespace debugfs");
+MODULE_AUTHOR("Daniel Lezcano <dlezcano@fr.ibm.com>");
+MODULE_LICENSE("GPL");
Index: 2.6.19-rc6-mm2/net/Kconfig
=====
--- 2.6.19-rc6-mm2.orig/net/Kconfig
+++ 2.6.19-rc6-mm2/net/Kconfig
@@ -60,6 +60,10 @@ config_INET

```

Short answer: say Y.

```
+config NET_NS_DEBUG
+ bool "Debug fs for network namespace"
+ depends on DEBUG_FS && NET_NS
+
if INET
source "net/ipv4/Kconfig"
source "net/ipv6/Kconfig"
```

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