
Subject: [PATCH 1/14][NETNS]: Introduce the net-subsys id generator.

Posted by [Pavel Emelianov](#) on Thu, 10 Apr 2008 14:40:44 GMT

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To make some per-net generic pointers, we need some way to address them, i.e. - IDs. This is simple IDA-based IDs generator for pernet subsystems. They will be used in the next patches.

Since it will be used by devices only (tun and vlan), I make it resemble the register_pernet_device functionality.

The new ids is stored in the *id pointer _before_ calling the init callback to make this id available in this callback.

Signed-off-by: Pavel Emelyanov <xemul@openvz.org>

```
include/net/net_namespace.h | 2 ++
net/core/net_namespace.c    | 36 +++++
2 files changed, 38 insertions(+), 0 deletions(-)
```

```
diff --git a/include/net/net_namespace.h b/include/net/net_namespace.h
```

```
index 0ab62ed..6971fdb 100644
```

```
--- a/include/net/net_namespace.h
```

```
+++ b/include/net/net_namespace.h
```

```
@@ -181,6 +181,8 @@ extern int register_pernet_subsys(struct pernet_operations *);
extern void unregister_pernet_subsys(struct pernet_operations *);
extern int register_pernet_device(struct pernet_operations *);
extern void unregister_pernet_device(struct pernet_operations *);
+extern int register_pernet_gen_device(int *id, struct pernet_operations *);
+extern void unregister_pernet_gen_device(int id, struct pernet_operations *);
```

```
struct ctl_path;
```

```
struct ctl_table;
```

```
diff --git a/net/core/net_namespace.c b/net/core/net_namespace.c
```

```
index 7b66083..7ef3bac 100644
```

```
--- a/net/core/net_namespace.c
```

```
+++ b/net/core/net_namespace.c
```

```
@@ -5,6 +5,7 @@
```

```
#include <linux/list.h>
```

```
#include <linux/delay.h>
```

```
#include <linux/sched.h>
```

```
+#include <linux/idr.h>
```

```
#include <net/net_namespace.h>
```

```
/*
```

```
@@ -253,6 +254,8 @@ static void unregister_pernet_operations(struct pernet_operations *ops)
```

```

}
#endif

+static DEFINE_IDA(net_generic_ids);
+
+/**
+ * register_pernet_subsys - register a network namespace subsystem
+ * @ops: pernet operations structure for the subsystem
@@ -330,6 +333,28 @@ int register_pernet_device(struct pernet_operations *ops)
+ }
+ EXPORT_SYMBOL_GPL(register_pernet_device);

+int register_pernet_gen_device(int *id, struct pernet_operations *ops)
+{
+ int error;
+ mutex_lock(&net_mutex);
+again:
+ error = ida_get_new_above(&net_generic_ids, 1, id);
+ if (error) {
+ if (error == -EAGAIN) {
+ ida_pre_get(&net_generic_ids, GFP_KERNEL);
+ goto again;
+ }
+ }
+ error = register_pernet_operations(first_device, ops);
+ if (error)
+ ida_remove(&net_generic_ids, *id);
+ else if (first_device == &pernet_list)
+ first_device = &ops->list;
+ mutex_unlock(&net_mutex);
+ return error;
+}
+EXPORT_SYMBOL_GPL(register_pernet_gen_device);
+
+/**
+ * unregister_pernet_device - unregister a network namespace netdevice
+ * @ops: pernet operations structure to manipulate
@@ -348,3 +373,14 @@ void unregister_pernet_device(struct pernet_operations *ops)
+ mutex_unlock(&net_mutex);
+ }
+ EXPORT_SYMBOL_GPL(unregister_pernet_device);
+
+void unregister_pernet_gen_device(int id, struct pernet_operations *ops)
+{
+ mutex_lock(&net_mutex);
+ if (&ops->list == first_device)
+ first_device = first_device->next;
+ unregister_pernet_operations(ops);

```

```
+ ida_remove(&net_generic_ids, id);  
+ mutex_unlock(&net_mutex);  
+}  
+EXPORT_SYMBOL_GPL(unregister_pernet_gen_device);  
--  
1.5.3.4
```

Containers mailing list

Containers@lists.linux-foundation.org

<https://lists.linux-foundation.org/mailman/listinfo/containers>
