
Subject: [patch 16/20] [Network namespace] Add loopback isolation.

Posted by [Daniel Lezcano](#) on Sun, 10 Dec 2006 21:58:33 GMT

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```
include/linux/net_namespace.h | 7 +++++--
include/linux/skbuff.h        | 5 ++++-
net/core/net_namespace.c      | 13 ++++++++----
net/ipv4/ip_input.c           | 4 ++--
net/ipv4/ip_output.c          | 2 ++
5 files changed, 23 insertions(+), 8 deletions(-)
```

Index: 2.6.19-rc6-mm2/include/linux/skbuff.h

=====

--- 2.6.19-rc6-mm2.orig/include/linux/skbuff.h

+++ 2.6.19-rc6-mm2/include/linux/skbuff.h

@@ -227,6 +227,7 @@ enum {

* @dma_cookie: a cookie to one of several possible DMA operations

* done by skb DMA functions

* @secmark: security marking

+ * @net_ns: namespace destination

*/

struct sk_buff {

@@ -311,7 +312,9 @@ struct sk_buff {

#ifdef CONFIG_NETWORK_SECMARK

__u32 secmark;

#endif

-

+ #ifdef CONFIG_NET_NS

+ struct net_namespace *net_ns;

+ #endif

__u32 mark;

/* These elements must be at the end, see alloc_skb() for details. */

Index: 2.6.19-rc6-mm2/net/ipv4/ip_input.c

=====

--- 2.6.19-rc6-mm2.orig/net/ipv4/ip_input.c

+++ 2.6.19-rc6-mm2/net/ipv4/ip_input.c

@@ -399,9 +399,9 @@ int ip_rcv(struct sk_buff *skb, struct n

iph = skb->nh.iph;

#ifdef CONFIG_NET_NS

- dst_net_ns = net_ns_find_from_dest_addr(iph->daddr);

+ dst_net_ns = net_ns_find_from_dest_addr(skb);

```

    if (dst_net_ns && net_ns != dst_net_ns)
-   push_net_ns(dst_net_ns, net_ns);
+   net_ns = push_net_ns(dst_net_ns);
#endif
/*
 * RFC1122: 3.1.2.2 MUST silently discard any IP frame that fails the checksum.
Index: 2.6.19-rc6-mm2/net/ipv4/ip_output.c
=====
--- 2.6.19-rc6-mm2.orig/net/ipv4/ip_output.c
+++ 2.6.19-rc6-mm2/net/ipv4/ip_output.c
@@ -277,9 +277,11 @@ int ip_mc_output(struct sk_buff *skb)
int ip_output(struct sk_buff *skb)
{
    struct net_device *dev = skb->dst->dev;
+   struct net_namespace *net_ns = current_net_ns;

    IP_INC_STATS(IPSTATS_MIB_OUTREQUESTS);

+   skb->net_ns = net_ns;
    skb->dev = dev;
    skb->protocol = htons(ETH_P_IP);

Index: 2.6.19-rc6-mm2/include/linux/net_namespace.h
=====
--- 2.6.19-rc6-mm2.orig/include/linux/net_namespace.h
+++ 2.6.19-rc6-mm2/include/linux/net_namespace.h
@@ -7,6 +7,7 @@
#include <linux/types.h>

struct in_ifaddr;
+struct sk_buff;

struct net_ns_net_device {
    struct hlist_head *name_head;
@@ -96,7 +97,8 @@ extern int net_ns_check_bind(int addr_ty
extern __be32 net_ns_select_source_address(const struct net_device *dev,
    u32 dst, int scope);

-extern struct net_namespace *net_ns_find_from_dest_addr(u32 daddr);
+extern struct net_namespace
+*net_ns_find_from_dest_addr(const struct sk_buff *skb);

extern int net_ns_ifa_is_visible(const struct in_ifaddr *ifa);

@@ -164,7 +166,8 @@ static inline __be32 net_ns_select_sourc
    return 0;
}

```

```
-static inline struct net_namespace *net_ns_find_from_dest_addr(u32 daddr)
+static inline struct net_namespace
+*net_ns_find_from_dest_addr(const struct sk_buff *skb)
{
    return current_net_ns;
}
```

Index: 2.6.19-rc6-mm2/net/core/net_namespace.c

```
-----
--- 2.6.19-rc6-mm2.orig/net/core/net_namespace.c
```

```
+++ 2.6.19-rc6-mm2/net/core/net_namespace.c
```

```
@@ -14,6 +14,8 @@
```

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

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

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

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

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

```
static spinlock_t net_ns_list_lock = SPIN_LOCK_UNLOCKED;
```

```
@@ -376,14 +378,19 @@ out:
```

```
    return addr;
```

```
}
```

```
-struct net_namespace *net_ns_find_from_dest_addr(u32 daddr)
```

```
+struct net_namespace *net_ns_find_from_dest_addr(const struct sk_buff *skb)
```

```
{
    struct net_namespace *net_ns = NULL;
```

```
    struct net_device *dev;
```

```
    struct in_device *in_dev;
```

```
+ struct iphdr *iph;
```

```
+ __be32 daddr;
```

```
- if (LOOPBACK(daddr))
```

```
- return current_net_ns;
```

```
+ iph = skb->nh.iph;
```

```
+ daddr = iph->daddr;
```

```
+
```

```
+ if (LOOPBACK(daddr))
```

```
+ return skb->net_ns;
```

```
    read_lock(&dev_base_lock);
```

```
    rcu_read_lock();
```

```
--
```

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