
Subject: Re: [RFC] L3 network isolation : broadcast
Posted by [Vlad Yasevich](#) on Wed, 13 Dec 2006 21:41:46 GMT
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Daniel Lezcano wrote:

```
> Hi all,
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> I am trying to find a solution to handle the broadcast traffic on the I3
> namespace.
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> The broadcast issue comes from the I2 isolation:
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> in udp.c
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> static inline struct sock *udp_v4_mcast_next(struct sock *sk,
>   __be16 loc_port,
>   __be32 loc_addr,
>   __be16 rmt_port,
>   __be32 rmt_addr,
>   int dif)
> {
>   struct hlist_node *node;
>   struct sock *s = sk;
>   struct net_namespace *ns = current_net_ns;
>   unsigned short hnum = ntohs(loc_port);
>
>   sk_for_each_from(s, node) {
>     struct inet_sock *inet = inet_sk(s);
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>     if (inet->num != hnum    ||
>         (inet->daddr && inet->daddr != rmt_addr) ||
>         (inet->dport != rmt_port && inet->dport) ||
>         (inet->rcv_saddr && inet->rcv_saddr != loc_addr) ||
>         ipv6_only_sock(s)    ||
>         !net_ns_match(sk->sk_net_ns, ns) ||
>         (s->sk_bound_dev_if && s->sk_bound_dev_if != dif))
>       continue;
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> socket hash table. But that is not correct for I3 namespaces because we

> want to deliver the packet to each I3 namespaces which have binded to
> the broadcast address, so we should avoid checking net_ns_match if we
> are in a layer 3 namespace. Doing that we will break the I2 isolation
> because an another I2 namespace could have binded to the same broadcast
> address.

A question, if you will... I am still digesting the I2 changes, and I can't remember/find if the broadcasts will be replicated across multiple I2 or not.

Example:

A system has 2 interfaces eth0 and eth1 connected to the same lan/link. Each NIC was isolated to it's own L2 space. Each L2 space configures the its nic with unique IP but in the same subnet. Will both L2s receive a subnet broadcast packet?

If yes, then below approach will work. If no, then we'll need something else since both L2s should get the packet in their own right.

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> The registered network namespace is a list shared between brothers I3
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-vlad

Containers mailing list
Containers@lists.osdl.org
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Subject: Re: [RFC] L3 network isolation : broadcast
Posted by [Daniel Lezcano](#) on Wed, 13 Dec 2006 23:08:11 GMT
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Vlad Yasevich wrote:

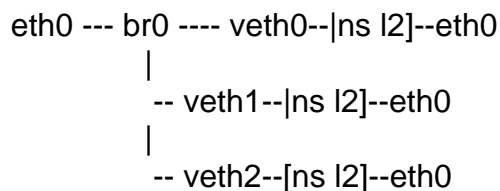
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Well ... I am not sure (never tested it) but as far as I remember, it is the bridge which should duplicate the packets because it acts as a "hub".



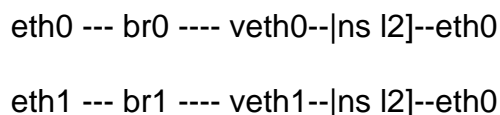
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Dmitry can give more information on that I think.

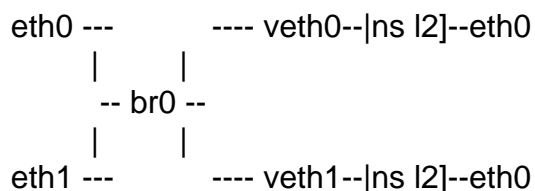
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- > a subnet broadcast packet?

Depending on the bridge configuration, I am inclined to say yes if eth0 and eth1 are attached to the bridge, no if they are not attached.

Not attached



Attached



But again, I am not sure.

- >
- > If yes, then below approach will work. If no, then we'll need something else

> since both L2s should get the packet in their own right.

It is a critical path for broadcast and multicast incoming traffic,
should I implement this approach and we try to optimize that later ?

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Subject: Re: [RFC] L3 network isolation : broadcast

Posted by [Daniel Lezcano](#) on Wed, 13 Dec 2006 23:16:21 GMT

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Daniel Lezcano wrote:

> Vlad Yasevich wrote:

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> Well ... I am not sure (never tested it) but as far as I remember, it is
> the bridge which should duplicate the packets because it acts as a "hub".
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> eth0 --- br0 ---- veth0--[ns I2]--eth0
>         |
>         -- veth1--[ns I2]--eth0
>         |
>         -- veth2--[ns I2]--eth0

```

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> and eth1 are attached to the bridge, no if they are not attached.

Sorry I missed "eth0 and eth1 connected to the ****same**** lan/link"

So yes, each l2 namespace should receive the broadcast packets.

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Subject: Re: [RFC] L3 network isolation : broadcast
Posted by [Vlad Yasevich](#) on Thu, 14 Dec 2006 15:14:32 GMT
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Daniel

Thanks. I think I just now found all this in the code (too much code to look at :)

Daniel Lezcano wrote:

[snip]

>
>>
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```

In the above solution, you'll need to account for wildcard binds as well.

So, for l3, a match is (!rcv_saddr || rcv_saddr == loc_addr).

Should be easy enough with the right arguments. My suggestion is to make broadcast case use a different match macro/function.

-vlad

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