Subject: Re: L2 network namespace benchmarking
Posted by Daniel Lezcano on Wed, 28 Mar 2007 07:07:56 GMT
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Herbert Poetzl wrote:
> On Wed, Mar 28, 2007 at 12:16:34AM +0200, Daniel Lezcano wrote:
>> Hi,

[cut]

>> 3. General observations
>> -----------------------
>>
>> The objective to have no performances degrations, when the network
>> namespace is off in the kernel, is reached in both solutions.
>>
>> When the network is used outside the container and the network
>> namespace are compiled in, there is no performance degradations.
>>
>> Eric's patchset allows to move network devices between namespaces and
>> this is clearly a good feature, missing in the Dmitry's patchset. This
>> feature helps us to see that the network namespace code does not add
>> overhead when using directly the physical network device into the
>> container.
>>
>> The loss of performances is very noticeable inside the container and
>> seems to be directly related to the usage of the pair device and the
>> specific network configuration needed for the container. When the
>> packets are sent by the container, the mac address is for the pair
>> device but the IP address is not owned by the host. That directly
>> implies to have the host to act as a router and the packets to be
>> forwarded. That adds a lot of overhead.
>>
>> A hack has been made in the ip_forward function to avoid useless
>> skb_cow when using the pair device/tunnel device and the overhead
>> is reduced by the half.
>
> would it be possible to do some tests regarding scalability?
>
> i.e. I would be interested how the following would look like:
>
> 10 connections on a single host (in parallel, overall performance)
> 10 connections from the same net space
> 10 connections from 10 different net spaces
>   (i.e. one connection from each space)
>
> we can assume that L3 isolation will give similar results to
> the first case, but if needed, we can provide a patch to

> test this too ...
>

Ok. Assuming, Eric's and Dmitry's patchset are very similar, I will
focus on the Eric's patchset because it is more mature and more easy to
setup. I will have a look on the bridge optimization before doing that.

>
> PS: great work! tx!
>

Thanks.

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