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Subject: Re: Network namespaces a path to mergable code.

Posted by [ebiederm](#) on Thu, 29 Jun 2006 00:25:40 GMT

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Daniel Lezcano <dlezcano@fr.ibm.com> writes:

> Andrey Savochkin wrote:

>

>> Ok, fine.

>> Now I'm working on socket code.

>> We still have a question about implicit vs explicit function parameters.

>> This question becomes more important for sockets: if we want to allow to use

>> sockets belonging to namespaces other than the current one, we need to do

>> something about it.

>> One possible option to resolve this question is to show 2 relatively short

>> patches just introducing namespaces for sockets in 2 ways: with explicit

>> function parameters and using implicit current context.

>> Then people can compare them and vote.

>> Do you think it's worth the effort?

>>

>

> The attached patch can have some part interesting for you for the socket

> tagging. It is in the IPV4 isolation (part 5/6). With this and the private

> routing table you will probably have a good IPV4 isolation.

> This patch partially isolates ipv4 by adding the network namespace

> structure in the structure sock, bind bucket and skbuf.

Ugh. skbuf sounds very wrong. Per packet overhead?

> When a socket

> is created, the pointer to the network namespace is stored in the

> struct sock and the socket belongs to the namespace by this way. That

> allows to identify sockets related to a namespace for lookup and

> procfs.

>

> The lookup is extended with a network namespace pointer, in

> order to identify listen points binded to the same port. That allows

> to have several applications binded to INADDR\_ANY:port in different

> network namespace without conflicting. The bind is checked against

> port and network namespace.

Yes. If we don't duplicate the hash table we need to extend the lookup.

> When an outgoing packet has the loopback destination address, the

> skbuff is filled with the network namespace. So the loopback packets

> never go outside the namespace. This approach facilitate the migration

> of loopback because identification is done by network namespace and

> not by address. The loopback has been benchmarked by tbench and the

> overhead is roughly 1.5 %

Ugh. 1.5% is noticeable.

I think it is cheaper to have one loopback device per namespace.  
Which removes the need for a skbuff tag.

Eric

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