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Subject: Re: [patch 2/3][NETNS45][V2] make timewait unhash lock free  
Posted by [den](#) on Thu, 27 Sep 2007 12:46:28 GMT

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Sorry for a delay in answer. A was ill last three days.  
Some stylistic comments inside

Daniel Lezcano wrote:

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

>

> The network namespace cleanup will remove all timewait sockets  
> related to it because there are pointless.

>

> The problem is we need to browse the established hash table and  
> for that we need to take the lock. For each timesocket we call  
> inet\_deschedule and this one take the established hash table lock  
> too.

>

> The following patchset split the removing of the established hash  
> into two parts, one removing the node from the hash and another  
> taking the lock and calling the first one.

>

> The network namespace cleanup can be done calling the lock free  
> function.

>

> Signed-off-by: Daniel Lezcano <dlezcano@fr.ibm.com>

> ---

> include/net/inet\_timewait\_sock.h | 13 ++++++

> net/ipv4/inet\_timewait\_sock.c | 40 ++++++-----

> 2 files changed, 41 insertions(+), 12 deletions(-)

>

> Index: linux-2.6-netns/net/ipv4/inet\_timewait\_sock.c

> =====

> --- linux-2.6-netns.orig/net/ipv4/inet\_timewait\_sock.c

> +++ linux-2.6-netns/net/ipv4/inet\_timewait\_sock.c

> @@ -13,25 +13,28 @@

> #include <net/inet\_timewait\_sock.h>

> #include <net/ip.h>

>

> -/\* Must be called with locally disabled BHs. \*/

> -static void \_\_inet\_twsk\_kill(struct inet\_timewait\_sock \*tw,

> - struct inet\_hashinfo \*hashinfo)

> +static inline int inet\_twsk\_unhash(struct inet\_timewait\_sock \*tw,

> + struct inet\_hashinfo \*hashinfo)

> {

> - struct inet\_bind\_hashbucket \*bhead;

> - struct inet\_bind\_bucket \*tb;

> - /\* Unlink from established hashes. \*/

```

> - struct inet_eshash_bucket *ehead = inet_eshash_bucket(hashinfo, tw->tw_hash);
> + struct inet_eshash_bucket *ehead =
> + inet_eshash_bucket(hashinfo, tw->tw_hash);
>
> write_lock(&ehead->lock);
> - if (hlist_unhashed(&tw->tw_node)) {
> + if (__inet_twsb_unhash(tw)) {
> write_unlock(&ehead->lock);
> - return;
> + return 1;
> }
> - __hlist_del(&tw->tw_node);
> - sk_node_init(&tw->tw_node);
> write_unlock(&ehead->lock);
>
> - /* Disassociate with bind bucket. */
> + return 0;
> +}

```

as far as I can understand the code, it will look better as below

```

struct inet_eshash_bucket *ehead =
    inet_eshash_bucket(hashinfo, tw->tw_hash);
int ret;

```

```

write_lock(&ehead->lock);
ret = __inet_twsb_unhash(tw);
write_unlock(&ehead->lock);
return ret;

```

```

> +
> +void inet_twsb_unhash(struct inet_timewait_sock *tw,
> + struct inet_hashinfo *hashinfo)
> +{
> + struct inet_bind_hashbucket *bhead;
> + struct inet_bind_bucket *tb;
> +
> bhead = &hashinfo->bhash[inet_bhashfn(tw->tw_net, tw->tw_num, hashinfo->bhash_size)];
> spin_lock(&bhead->lock);
> tb = tw->tw_tb;
> @@ -39,6 +42,19 @@ static void __inet_twsb_kill(struct inet
> tw->tw_tb = NULL;
> inet_bind_bucket_destroy(hashinfo->bind_bucket_cache, tb);
> spin_unlock(&bhead->lock);
> +}
> +
> +/* Must be called with locally disabled BHs. */
> +static void __inet_twsb_kill(struct inet_timewait_sock *tw,

```

```

> + struct inet_hashinfo *hashinfo)
> +{
> + /* Unlink from established hashes. */
> + if (inet_twsk_unehash(tw, hashinfo))
> + return;
> +
> + /* Disassociate with bind bucket. */
> + inet_twsk_unbhash(tw, hashinfo);
> +
> #ifdef SOCK_REFCNT_DEBUG
> if (atomic_read(&tw->tw_refcnt) != 1) {
> printk(KERN_DEBUG "%s timewait_sock %p refcnt=%d\n",
> Index: linux-2.6-netns/include/net/inet_timewait_sock.h
> =====
> --- linux-2.6-netns.orig/include/net/inet_timewait_sock.h
> +++ linux-2.6-netns/include/net/inet_timewait_sock.h
> @@ -173,6 +173,19 @@ static inline int inet_twsk_del_dead_nod
> return 0;
> }
>
> +static inline int __inet_twsk_unehash(struct inet_timewait_sock *tw)
> +{
> + if (hlist_unhashed(&tw->tw_node))
> + return 1;
> + __hlist_del(&tw->tw_node);
> + sk_node_init(&tw->tw_node);
> +
>> see above about inet_twsk_unehash. We should insert
>> /* Disassociate with bind bucket. */
>> here
> + return 0;
> +}
> +
> +extern void inet_twsk_unbhash(struct inet_timewait_sock *tw,
> + struct inet_hashinfo *hashinfo);
> +
> #define inet_twsk_for_each(tw, node, head) \
> hlist_for_each_entry(tw, node, head, tw_node)
>
>

```

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Containers mailing list  
Containers@lists.linux-foundation.org  
<https://lists.linux-foundation.org/mailman/listinfo/containers>

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