Subject: [PATCH 1/2][INET] (resend) Fix potential kfree on vmalloc-ed area of request_sock_queue

Posted by Pavel Emelianov on Thu, 15 Nov 2007 08:41:37 GMT

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The request_sock_queue's listen_opt is either vmalloc-ed or kmalloc-ed depending on the number of table entries. Thus it is expected to be handled properly on free, which is done in the reqsk_queue_destroy().

```
However the error path in inet_csk_listen_start() calls the lite version of reqsk_queue_destroy, called __reqsk_queue_destroy, which calls the kfree unconditionally.
```

Fix this and move the __reqsk_queue_destroy into a .c file as it looks too big to be inline.

As David also noticed, this is an error recovery path only, so no locking is required and the lopt is known to be not NULL.

Signed-off-by: Pavel Emelyanov <xemul@openvz.org>

```
diff --git a/include/net/request_sock.h b/include/net/request_sock.h
index 7aed02c..0a954ee 100644
--- a/include/net/request_sock.h
+++ b/include/net/request sock.h
@@ -136.11 +136.7 @@ static inline struct listen_sock *reqsk_queue_yank_listen_sk(struct
request sock
 return lopt;
}
-static inline void __reqsk_queue_destroy(struct request_sock_queue *queue)
-{
- kfree(regsk gueue vank listen sk(gueue));
-}
+extern void __reqsk_queue_destroy(struct request_sock_queue *queue);
extern void regsk queue destroy(struct request sock queue *queue);
static inline struct request_sock *
diff --git a/net/core/request sock.c b/net/core/request sock.c
index 5f0818d..dd78b85 100644
--- a/net/core/request sock.c
+++ b/net/core/request_sock.c
@@ -71,6 +71,28 @@ int regsk queue alloc(struct request sock queue *queue,
```

EXPORT_SYMBOL(regsk_queue_alloc); +void __regsk_queue_destroy(struct request_sock_queue *queue) +{ + struct listen_sock *lopt; + size_t lopt_size; + /* + * this is an error recovery path only + * no locking needed and the lopt is not NULL + lopt = queue->listen_opt; + lopt size = sizeof(struct listen sock) + + lopt->nr_table_entries * sizeof(struct request_sock *); + if (lopt_size > PAGE_SIZE) + vfree(lopt); + else + kfree(lopt); +} +EXPORT_SYMBOL(__regsk_queue_destroy); void regsk_queue_destroy(struct request_sock_queue *queue)

Subject: Re: [PATCH 1/2][INET] (resend) Fix potential kfree on vmalloc-ed area of request_sock_queue
Posted by Eric Dumazet on Thu, 15 Nov 2007 09:21:01 GMT

On Thu, 15 Nov 2007 11:41:37 +0300

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/* make all the listen_opt local to us */

1.5.3.4

Pavel Emelyanov <xemul@openvz.org> wrote:

```
> The request_sock_queue's listen_opt is either vmalloc-ed or
> kmalloc-ed depending on the number of table entries. Thus it
> is expected to be handled properly on free, which is done in
> the reqsk_queue_destroy().
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> it looks too big to be inline.
> As David also noticed, this is an error recovery path only,
> so no locking is required and the lopt is known to be not NULL.
> Signed-off-by: Pavel Emelyanov <xemul@openvz.org>

Acked-by: Eric Dumazet <dada1@cosmosbay.com>

Thank you for finding this bug Pavel

Subject: Re: [PATCH 1/2][INET] (resend) Fix potential kfree on vmalloc-ed area of request_sock_queue
Posted by davem on Thu, 15 Nov 2007 10:58:03 GMT

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```
From: Eric Dumazet <dada1@cosmosbay.com>
Date: Thu, 15 Nov 2007 10:21:01 +0100
> On Thu, 15 Nov 2007 11:41:37 +0300
> Pavel Emelyanov < xemul@openvz.org> wrote:
> > The request_sock_queue's listen_opt is either vmalloc-ed or
> > kmalloc-ed depending on the number of table entries. Thus it
> > is expected to be handled properly on free, which is done in
> > the regsk_queue_destroy().
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> > However the error path in inet_csk_listen_start() calls
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> > Signed-off-by: Pavel Emelyanov <xemul@openvz.org>
> >
> Acked-by: Eric Dumazet <dada1@cosmosbay.com>
> Thank you for finding this bug Pavel
```

Indeed.

I applied this, but what I did was I combined both changes into one because to me they logically belong together.

Thanks again Pavel!