

## Re: if\_tap unaligned access problem

**Source:** <http://unix.derkeiler.com/Mailing-Lists/FreeBSD/net/2005-04/0192.html>

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**From:** Julian Elischer ([julian\\_at\\_elischer.org](mailto:julian_at_elischer.org))

**Date:** 04/28/05

Date: Thu, 28 Apr 2005 11:30:02 -0700

To: Maksim Yevmenkin <[maksim.yevmenkin@savvis.net](mailto:maksim.yevmenkin@savvis.net)>

Maksim Yevmenkin wrote:

> *Hello,*

>

>> *A quick question about if\_tap, the tapwrite function*

>> *( which copies an ethernet frame into an mbuf using uiotombuf )*

>> *is broken on alpha and sparc64.*

>> *The 14 byte ethernet header causes the rest of the frame to*

>> *be misaligned on 4 byte boundaries. This causes crashes in*

>> *various other parts of the kernel. The solution would be to*

>> *shift the mbuf by two bytes, but I am not quite sure where*

>> *this should happen.*

>

>

> *i think we have few options here:*

>

> *1) revert back original tapwrite function that was changed in v. 1.48*

> *and set offset to 2 bytes in top mbuf*

>

> *2) change current version of tapwrite so it would m\_prepend and*

> *m\_pullup mbuf after m\_uiotombuf*

>

> *3) change m\_uiotombuf to accept one more parameter – mbuf offset at*

> *which data should be copied. there are not that many users of m\_uiotombuf*

>

> */sys/kern/uipc\_syscalls.c*

> */sys/net/if\_tap.c*

> */sys/net/if\_tun.c*

> */sys/netgraph/ng\_device.c*

I think we should define a MAC header that looks like:

```
char dummy[2]
```

```
char dest[6]
```

```
char src[6]
```

```
char type_len[2]
```

and make ether net cards start writing 2 bytes into the buffer :-)

freebsd-net: Re: if\_tap unaligned access problem

>  
>> *If\_tun which is almost the same code has no such problem because*  
>> *it lacks the 14 byte ethernet header. Openbsd has a combined*  
>> *tun/tap driver, with some alignment hacks to fix this.*  
>  
>  
> *yes, that is true.*  
>  
>> *Should I create a pr for this problem, or is there a simple*  
>> *quick fix possible ?*  
>  
>  
> *you probably should file pr. (1) and (2) above are quick fixes. (3) is*  
> *more complicated and, maybe, not desirable.*  
>  
> *max*  
>  
> \_\_\_\_\_  
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