

Re: How many IP address aliases can practically be used on one physical Ethernet interface?

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Source: <http://unix.derkeiler.com/Mailing-Lists/FreeBSD/questions/2006-01/msg02638.html>

- *From:* Fabian Keil <freebsd-listen@xxxxxxxxxxxxxx>
 - *Date:* Tue, 31 Jan 2006 16:38:02 +0100
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tomasflyer@xxxxxxxxxxxxxx wrote:

- > I am implementing and using a test bed simulating a huge amount of IP
- > clients, each preferable having a unique IP address. There is no, no
- > way to have an individual physical interface for each simulated
- > client so I use IP aliases. Currently it runs on Linux and there is a
- > limit of 256 IP addresses per interface, among other things due to a
- > hard array limit in Linux net-tools ifconfig. There also seems to be
- > other limitations like linear searches in net-tools as well as in
- > kernel networking code. Just changing the array limit changed the
- > problem to being one of stability and performance.
- >
- > So I became quite optimistic reading about Virtual Hosts and IP
- > aliases in the FreeBSD handbook chapter 11.9:
- >
- > [http://www.freebsd.org/doc/en_US.ISO8859-1/books/handbook/configuring-vi](http://www.freebsd.org/doc/en_US.ISO8859-1/books/handbook/configuring-virtual-hosts.html)
- > [rtual-hosts.html](http://www.freebsd.org/doc/en_US.ISO8859-1/books/handbook/configuring-virtual-hosts.html)
- >
- > "A given network interface has one "real" address, and may have any
- > number of "alias" addresses".
- >
- > So is this really true and where is the catch? Will a FreeBSD 6.0
- > accept for example 8190 IP address aliases each on say five physical
- > Ethernet interfaces? Will IP addresses be manageable to add, list and
- > delete? And how much will networking performance degrade compared to
- > using just a few aliases?

After a short test I don't think 8190 aliases will be a problem.

```
root@africanqueen ~ #ifconfig re0| grep inet | wc -l
18008
root@africanqueen ~ #ifconfig re0 -alias 192.168.10.100
root@africanqueen ~ #ifconfig re0| grep inet | wc -l
18007
root@africanqueen ~ #ifconfig re0 alias 192.168.10.100
root@africanqueen ~ #ifconfig re0| grep inet | wc -l
18008
```

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I don't know if there is a performance degradation on better hardware, but for my re0 the ftp performance seems to be the same as with only one IP.

The only "catch" I can see is that it takes a while to create a few thousand aliases ;-)
On my AMD Athlon(tm) XP 1900+ (1578.59-MHz 686-class CPU) I get about five aliases per second.

Fabian

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