

Re: Aperture memory hole on x86_64

Source: <http://linux.derkeiler.com/Mailing-Lists/Kernel/2008-04/msg08467.html>

- *From:* "Alan" <alan@xxxxxxxxxxxxxxxx>
 - *Date:* Mon, 21 Apr 2008 13:42:22 -0700 (PDT)
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On Mon, Apr 21, 2008 at 12:13 PM, Alan <alan@xxxxxxxxxxxxxxxx> wrote:

Something I noticed on my new AMD64 laptop with 4 gigs of RAM and a 256meg video card.

I am running 2.6.25 from Fedora 9 beta.

When i boot, I get the following messages:

```
Checking aperture...
Node 0: aperture @ 981600000 size 32 MB
Aperture beyond 4GB. Ignoring.
No AGP bridge found
Your BIOS doesn't leave a aperture memory hole
Please enable the IOMMU option in the bios setup
Mapping aperture over 65536 KB of RAM @ c000000
```

Is this a bug or is the x86_64 supposed to map the video aperture into something that is 32bit addressable?

Also, there is no video settings at all on this particular laptop in bios.
(It is an HP dv6700 with almost everything maxed out.)

Just curious if this is correct behavior or not. (Since I am using the xorg nv driver, it may not make any difference.)

you have 4G ram installed, and hw mem hole is enabled, so you memory top is above 4g.
and kernel need to use gart for iommu.

and you bios didn't setup your gart because you didn't have agp..

please check if you BIOS have setup for gart, and you can set size to 64M, and then you could get 64M ram back.

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There is no memory or video related setting options in the bios at all.
It is about as barebones as you can get.

If you want, I can send the output of dmesg or other diagnostics for this machine.

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