

# Re: Does Vista Home Premium Play Nice With 4GB Memory?

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- *From:* "Ken Blake, MVP" <kblake@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>
  - *Date:* Wed, 13 Aug 2008 15:22:25 -0700
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On Wed, 13 Aug 2008 12:40:01 -0700, Five By Five <5x5@xxxxxxx> wrote:

I am hearing some talk----urban legends?----and reading on the web that 32-bit Vista does not know how to manage 4 GB memory, which is odd, since 2<sup>^</sup>32 addressable spaces----namely 4GB----are all about that.

It's not just Vista, it's *\*all\** 32-bit client versions of Windows. And it's not that it "does not know how to manage 4 GB memory." Here's the situation:

All 32-bit client versions of Windows (not just Vista/XP) have a 4GB address space. That's the theoretical upper limit beyond which you can not go.

But you can't use the entire 4GB of address space. Even though you have a 4GB address space, you can only use *\*around\** 3.1GB of RAM. That's because some of that space is used by hardware and is not available to the operating system and applications. The amount you can use varies, depending on what hardware you have installed, but can range from as little as 2GB to as much as 3.5GB. It's usually around 3.1GB.

Note that the hardware is using the address *\*space\**, not the actual RAM itself. The rest of the RAM goes unused because there is no address space to map it too.

I have a 1-year old notebook that came with 2GB memory standard with VHP, and I am thinking that the hard drive is working WAY TOO HARD as part of the Virtual Mem.

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What makes you suspect \*that\* in particular? There are many reasons why a computer can be slow. That's probably not the most likely one.

What apps do you run? For most people running ordinary business applications under Vista, 2G is sufficient for good performance.

Screen/application updates are SUPER slow, and I really don't have many tasks running (see OTHER BACKGROUND INFO below).

What protection against malware (viruses, trojans, worms, spyware, etc.) do you run? Is it kept up to date? These days, malware infection is one of most common causes of poor performance.

Am I wasting my money and time upgrading to 4 GB from 2 GB?

If you upgraded, you wouldn't get 4GB usable, but you'd get around 3.1GB usable—more than you have now. Would that give you a performance improvement or is a waste of money? Probably the latter. Most people won't see any substantial improvement by going above 2GB, but as I said above, it depends on what apps you run.

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OTHER BACKGROUND INFO:

I don't have really a lot of startup programs and am careful to keep them to a minimum.

I rely on (reputedly memory hog) Firefox for the browser (TBird for the mail client), and may have as many as 11–15 tabs open at a time; I access Netflix on FF running an IE browser object inside (same with Hulu), and I have a radio station stream playing often when I don't have a movie/TV content running. I am careful to close browser pages running scripted ads which suck up processor time. Office 2007 products seem well-behaved (Word, PP) so I really don't worry about closing them when I have a few of them open.

I have a lot of PDFs open, but they have never been much trouble. Adobe

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Acrobat 8.x Pro was behaving badly in a super slow way, and with a system reboot, it was still behaving badly. I did an application repair and it seemed to sort itself out.

I am hearing from posts and reading from the Web that memory upgrades are not helpful with Vista from the 2GB standard.

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Ken Blake, Microsoft MVP – Windows Desktop Experience  
Please Reply to the Newsgroup

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