

# Summary of the recent spate of /3GB articles

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 [devblogs.microsoft.com/oldnewthing/20040822-00](http://devblogs.microsoft.com/oldnewthing/20040822-00)

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A table of contents now that the whole thing is over. I hope.

- [The oft-misunderstood /3GB switch](#). It's simple to explain what it does, but people often misunderstand.
- [Kernel address space consequences of the /3GB switch](#). An adverse consequence of the /3GB switch.
- [Myth: Without /3GB the total amount of memory that can be allocated across all programs is 2GB](#). Virtual memory is not virtual address space (part 1).
- [Myth: Without /3GB a single program can't allocate more than 2GB of virtual memory](#). Virtual memory is not virtual address space (part 2).
- [Myth: You need /3GB if you have more than 2GB of physical memory](#). Virtual address space is not physical memory.
- [Myth: The /3GB switch expands the user-mode address space of all programs](#). A program must request it before it gets it.
- [Why does Exchange recommend /3GB if you have more than 1GB of physical memory?](#) Bologna and cheese sandwiches.
- [Myth: The /3GB switch lets me map one giant 3GB block of memory](#). There are still holes in the virtual address space.
- [Why is the virtual address space 4GB anyway?](#) That's what happens when you have 32-bit pointers.
- [Myth: PAE increases the virtual address space beyond 4GB](#). PAE is an extension for physical address, not virtual addresses.
- [Myth: In order to use AWE, you must enable PAE](#). The two are independent. AWE is how programs access physical memory. PAE is how the CPU accesses physical memory.
- [The curious interaction between PAE and NX](#). NX uses a feature available only in PAE mode.

I'm not sure how successful this series has been, though, for it appears that even people who have read the articles [continue to confuse virtual address space with physical address space](#). (Or maybe this person is merely mocking a faulty argument? I can't tell for sure.)

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