

## Computer Upgrade Question

Frustrated by slow computer. Considering adding RAM and SSD drive. Now have 4GB RAM using 3 of 4 slots. Considering 16GB (2GBx4). Does this make sense? Can Windows 7 even use 16GB? Or should I settle for 8GB?

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Depends on what your processor is. Upgrading a past-its-expiration date processor isn't worth it.

Miriam N. Jacobson, Pennsylvania

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I do not know much, except a friend had his HD fail so he replaced with a SSD. His computer was good as far as speed and RAM goes, and he was very impressed by the SSD performance. Made it boot SUPER fast.

Phil A. Taylor, Massachusetts

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Good point. I should have added that info. The processor is an Intel Celeron E3400 2.6GHz 32-bit system.

Yea, I'm pretty much sold on adding the SSD drive. Just puzzling the RAM.

Jon van Horne

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The SSD will give even an old computer a decent boost--and you can use it in a new computer if you decide to upgrade. You can get a 500 Gig SSD for under \$200 now.

Kevin W. Grierson, Virginia

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RAM is cheap as peanuts these days -- go with 16. Which is more likely to occur: "Damn, I wish I had put more RAM in." vs "Damn, I put too much RAM in."

SSD = yes yes yes and MORE YES. I run one on my home battlestation rig, however my computer at the office doesn't have one. To say that I notice the difference is an understatement. Once you switch to SSD, you'll wonder how you went so long without it. (hint: make sure to install your OS on the SSD)

Seth Combs

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EWW a Celeron??????? Burn it with fire! JK -- (sorta) =D

Seth Combs

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I built mine with an SSD drive for the operating system and programs, and a 1 TB regular drive for data. If the SSD drive fails, I have a mirrored backup on the data drive.

And I installed 16 GB of RAM for my Windows 7 Pro installation; runs just fine. (It must, of course, be 64-bit Windows to utilize the RAM. 32-bit cannot even utilize a full 4 GB.)

Michael Koenecke

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Not much you can do with a celery processor.

John Davidson

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If it is a 32 bit system, I think it is time to move up to a 64 bit.

Phil A. Taylor

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The main question to ask here is do you have Windows 7 32 bit or 64 bit? If you have Windows 7 32 bit, the system won't recognize more than 4GB of RAM.

The other questions to ask are 1) how old is the PC, 2) how large a hard drive do you have and how much space are you using, 3) have you done any cleanup on the PC - i.e. deletion of temp files, removal of unnecessary programs running in the background, registry cleanup, disk defragmentation, etc.

Susan H. Borgos

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After some searching, I relearned that with a 32-bit OS (the current system) I can only use 4GB. However, I also figured out that the CPU was

64-bit capable. Now I have to figure out how to migrate to a 64-bit Windows 7 (waiting for 10). I've done some reading on the Microsoft website, but it looks fairly complicated. I'm wondering if it might not be a bad idea to wait until I install a new SSD drive and reload the OS to that drive.

Jon van Horne

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When you add up the time that you will spend on this project, as well as the cost of the stuff you will have to buy, and compare it to the cost of a brand new computer (certainly under \$1000, probably under \$500, maybe even less depending on your choices), it's hard to justify upgrading the old box. You'll spend as much, but still have an old computer with some new stuff in it.

Patrick W. Begos, Connecticut

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You are way behind the times. It's time to get a new computer. Forget about the upgrade.

Miriam Jacobson

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I concur with Patrick. Celeron processors were crap. I remember not so long ago when a sub-\$1000 laptop was a new thing, but you had to make do with lousy technical specs. Now, though, the price point for a decent laptop (e.g. i7 processor, 8 GB of ram, etc) seems to be in the \$500-\$700 range).

Being cheap, I'm all over deal aggregation sites like slickdeals.net. I saw this Lenovo laptop on there yesterday for \$499. 15.6", i7, 8 GB Ram, 500 GB hard drive.

<http://slickdeals.net/f/7915181-lenovo-z50-laptop-15-6-i7-4510u-1920x1080-led-intel-i7-4510u-8gb-ram-499-free-shipping>

I actually went to Best Buy last night because I discovered (i.e. a friend with the same laptop found out and laughed at me) that my Samsung laptop from 2011 only came with 4 GB of ram and, furthermore, that that was one 4 GB stick versus two 2 GB sticks. I think my friend's words were 'a 4 GB ram stick is \$30. What the hell's wrong with you?'

\$30 later and I have 8 GB of ram and a friend who I owe lunch to. Sigh.

Andy I. Chen, California

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Miriam's right. That processor hasn't shipped in consumer units in several years and is substantially slower than a bottom of the line i3 processor.

Invest in a new computer.

Kevin W. Grierson

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Agree with the rest -- build a new rig.

<https://pcpartpicker.com/> is your friend -- #pcmasterrace!

Seth Combs

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I'd wait for Windows 10. For now, download, install, and run Adware from <http://www.bleepingcomputer.com>. It will clear

out more crap than you can imagine. Be aware that it will reboot your computer when it's done. Done leave any programs

open when you run it.

Mike Phillips, North Carolina

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I think you mean Ad-aware, right? That's offered by Lavasoft at [http://www.lavasoft.com/landing/free\\_pro.php?uid=1009709](http://www.lavasoft.com/landing/free_pro.php?uid=1009709).

I used to use Ad-aware, but I found SpyBot Search and Destroy to be more effective. I run that and Malware bytes once a week or so in addition to my antivirus program.

Kevin W. Grierson

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No, I was half right. It's ADWCleaner from <http://www.bleepingcomputer.com>. Sorry about that.

Mike Phillips

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First, given the age of your PC, I'd say it's worth it to just move on and get a new PC. Don't build your own unless you think it's fun. But, even if you do think it's fun, I'm still not sure I'd recommend it for a business computer. If it's your only office PC, buy one with a three year next business day onsite warranty so that you can minimize downtime. If it's not your only computer and you can run efficiently on an alternate PC, then get what you want.

Second, if you're going to try and hang onto this one a little longer, ADWCleaner won't clean everything you need to clean. It's great for cleaning adware, but many times a computer is slow because it has a lot of unnecessary things running in the background, and a lot of stuff like temp files clogging up disk space. Further, every time you remove software, pieces get left behind in the registry, which can also slow things down.

To get a computer to perform better, you need to periodically assess what's running in the background and decide if you need it or not and get rid of it if you don't need it. If you don't know what you need and what you don't, hire a professional to check. Second check what percentage of your hard drive is used. If it's more than 50%, it would be good to clean it out. Get rid of those files from 10 years ago or the old downloads you've been hanging on to. Third, run CCleaner to get rid of temp files and other miscellaneous junk that doesn't need to be stored in your computer and to clean up the registry. Fourth, run MalwareBytes or ADWCleaner, or both, to clean up other types of junk. Finally, if your disk hasn't been defragmented in a while run the defragmenter - or contig (<https://technet.microsoft.com/en-us/sysinternals/bb842062.aspx>) which is a free utility, to do this job.

Susan H. Borgos

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I have 16gb ram in this computer. Whether I really need it, I don't know, but it runs windows 7 and is never slow. It doesn't have an ssd, just regular old sata 7500rpm drives, but I'm sure you'd notice the difference with an ssd regardless of the amount of ram

Lesley Hoenig, Michigan

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I replaced the hard drive in a five year old laptop with an SSD drive. I had been ready to pitch the laptop. It is now like brand new. I think I have 4 gigs of RAM and it hums along quite nicely. It was a very good investment.

Michelle Kainen, Vermont

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Adding more than 3.2GB of memory to a 32-bit operating system will make no difference at all. The operating system cannot see any memory above that amount.

Mike Phillips

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The original later said the processor is 64 bit, so I'm not sure that is an issue.

Lesley Hoenig

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Having a 64-bit processor does not mean that a 64-bit operating system is installed.

Mike Phillips

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Here are some examples of HP refurb clearance boxes, which can be had w/ a 3 year warranty. These are workstations, which are nice than their normal desktops, but you can also get desktops:

\$562 gets you

HP z230 W7P-64 i7 4790 3.6GHz 500GB SATA 8GB No-Optical NIC Intel HD Rfrbd SFF WS

or, also \$562,

HP z230 W8.1P/W7P-64 i5 4670 3.4GHz 500GB SATA 8GB(2x4GB) DDR3 1600 DVDRW FirePro V3900 Rfrbd SFF WS

\$599 gets you

HP Z230 W8.1P/W7P-64 X E3-1225 V3 3.2GHz 500GB SATA 2-4GB ECC DVDRW Quadro K600 1GB Rfrbd SFF WS

And of course it goes up from there, i.e.

\$697 gets you HP z230 W8.1P/W7P-64 i7 4790 3.6GHz 1TB 8GB(2x4GB) DDR3 1600 DVDRW Quadro K420 Rfrbd SFF WS

and so on.

Erik Hammarlund, Massachusetts

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Seriously, get a new computer! I'd wait for a Dell Outlet sale (for refurbished systems) when there's a 35% or 40% off coupon. Join Slickdeals and set up an alert. I picked up a Dell XPS 13 (2015) with a list price of

\$1,900.00 for about \$1,200. I got my Dell Optiplex 3020 last year for \$420 including tax. If you buy the business line, they come with a one-year, same as new, next-business day warranty. I had a Celeron system, and it would lag while rendering a website. Get a Dell of some sort, put in an SSD, and use the hard drive that came with the computer as backup or data storage.

I'd get a system with TPM 2.0 and Windows 8 Pro so you can enable BitLocker encryption. (Note that this is controversial because it's widely believed that the NSA has a backdoor in Bitlocker.) A 64-bit processor will increase security for various technical reasons. (More space to hide programs in memory so hackers have a harder time to find them.)

Set up an administrator account, and a user account, and use the user account for day-to-day things. Only log into the administrator account when installing programs. And install AVG or Norton Internet Security preemptively.

Good luck!

William Chuang, New York

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We found a use for a four year old laptop with a Centrino chip. It became a test of how much we could pull apart and what it looked like inside.

Mitchell P. Goldstein

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Given age of equipment, I would not consider an upgrade. Buy a new machine with new software. The difference will be measured in light years.

Darrell G. Stewart, Texas

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