

## Re: amd athlon 64 and linux ?

**Source:** <http://linux.derkeiler.com/Newsgroups/comp.os.linux.hardware/2004-04/0384.html>

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**From:** Rod Smith ([rodsmith\\_at\\_nessus.rodsbooks.com](mailto:rodsmith_at_nessus.rodsbooks.com))

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In article <4079cb6f@e-post.inode.at>,  
peter pilsl <pilsl@goldfisch.at> writes:

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> *acer has new laptops with the amd athlon 64. Does this cpu works perfect  
> with linux ? Do I need special distros or will any tool run without  
> problems ? (Maybe with a recompiled kernel)*

The Athlon 64 will run ordinary x86 distributions just fine. (I've tried Fedora Core 1 and Mandrake 10.0RC1 on my desktop system.) No changes are required; however, you'll get better performance if you switch to a 64-bit distribution. In my experience, Fedora Core 1 and Gentoo work very well indeed, and SuSE 9.0 is also pretty good, but Mandrake 9.2 is distinctly shaky (lots of programs I've tried segfault rather than run). SuSE 9.1 should be out in a month or so, and will probably improve some of SuSE 9.0's weak points.

One caveat, though: AMD64 chipsets are still pretty new, and support for some hardware devices is a bit on the weak side. I couldn't find the Athlon 64 notebook on Acer's site (it's *\*SLOW\**, and the thing uses some system to open pages when selecting options on the notebook page that's not working for me), so I can't check to see what chipset their motherboard uses. Chances are you'll be fine, but you might run into minor or major problems with sound support. If for some reason they use SATA hard disks, check on what chipset is controlling the drives. (I'd expect notebooks to all be using PATA hard disks, though.) Also check on what video chipset the computer uses. Note that this caveat applies to both 32- and 64-bit Linux distributions; with the exception of a couple of proprietary manufacturer-supplied drivers, driver support is identical whether you run a 32-bit or 64-bit distribution.

> *What a about performance ? Will this things rock ? Or only on special  
> applications ?*

AMD assigns model numbers to its recent Athlon and Athlon 64 CPUs based on their performance running 32-bit code relative to an Intel Pentium 4. Thus, an Athlon 64 3000+ (for example) is roughly as fast as a 3000MHz (3.0GHz) Pentium 4 when running 32-bit code. AMD improved the architecture for 64-bit mode, so you'll get a speed boost when running

it. Some simple tests I've run (using gzip, oggenc, and other CPU-intensive programs) suggest that this boost will be in the 10–30% range, with 15% being fairly typical. In other words, an Athlon 64 3000+ running a 64-bit Linux distribution and 64-bit programs will perform something like a 3.4GHz Pentium 4 running an equivalent 32-bit distribution. Of course, your 64-bit performance boost will vary with the applications you run, and factors like disk speed and the video hardware and drivers are likely to be as or more important than the CPU for some tasks.

A typical 64-bit Linux distribution includes mostly 64-bit binaries, so you'll see the speed boost for most programs. A few programs don't compile in 64-bit form yet. OpenOffice.org is one big exception. Commercial binary-only programs are also mostly available only in 32-bit form. These can usually be run in 32-bit mode with the help of 32-bit support libraries. There's no speed penalty for doing so, vs. running a fully 32-bit distribution, but of course you won't get the 64-bit speed boost. Sometimes running 32-bit binaries can be tricky, but it's usually possible. I see the most complaints about 32-bit games and multimedia tools. If you care about Flash plugins, you'll have to use a 32-bit Web browser. Personally, the only 32-bit program I've been unable to run is Acrobat Reader for Linux — but I'm not a big gamer, so I've not tried many games (only Civilization: Call to Power, which runs fine, with the exception of some audio glitches related to the VIA VT8237 sound support).

FWIW, Gentoo maintains some forums (<http://forums.gentoo.org>), one of which is devoted to Gentoo on the AMD64 platform. There's lots of good general information there, even if you intend to run Fedora or SuSE on your system. The support there is good enough that, IMHO, it counts as a plus in the Gentoo column when you're considering distributions for an AMD64 system.

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Rod Smith, [rodsmith@rodsbooks.com](mailto:rodsmith@rodsbooks.com)  
<http://www.rodsbooks.com>  
Author of books on Linux, FreeBSD, and networking