

Speedware and 64-bit Computing

*Speedware's support for the 64-bit PA-RISC and Itanium processors from Hewlett-Packard
October 20, 2004*

Some Speedware customers are in the process of evaluating and/or purchasing the 64-bit servers from Hewlett-Packard — machines based on either the 64-bit PA-RISC processor or the Itanium processor — and have asked us to confirm that their Speedware software will continue to run as before on these new platforms.

The short answer is: Yes, Speedware software will run, with much the same performance as in the past, on both 64-bit servers from HP. The software will, however, retain its original 32-bit addressing, as there is little advantage at this time to be gained by converting to 64-bit addressing.

For a longer answer on these questions, we have prepared the following information. Please note that our position on the 64-bit machines is derived directly from documentation and advice from HP (see “[What does HP say?](#)” on page 3) as well as from our knowledge of our customers’ applications and requirements.

Which Speedware software is involved?

When we say *Speedware software*, we mean the entire range of Speedware products, including Speedware/4GL, Speedware/Designer, the Catalog Utility, the Profile Utility and the Config Utility. These are character-based applications written in C that were designed with 32-bit addressing for 32-bit machines.

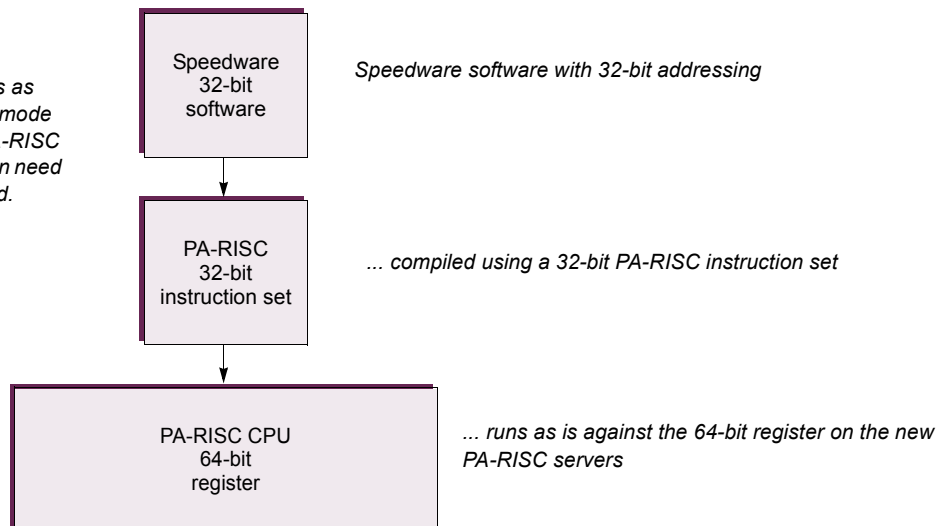
Does Speedware support the 64-bit PA-RISC processor?

Yes, without anyone doing anything. HP’s new 64-bit PA-RISC processor is available in the HP 9000 servers running HP-UX 11i. According to HP, existing software such as Speedware should not be recompiled to run on the 64-bit PA-RISC system. This type of software can use the PA-RISC 32-bit instruction set and 32-bit addressing to run against the machine’s native 64-bit register.

Therefore, if you have a 64-bit PA-RISC server, you do not need a new version of Speedware to run on the new machine.

64-bit PA-RISC

Speedware runs as before in 32-bit mode on the 64-bit PA-RISC — it doesn’t even need to be recompiled.

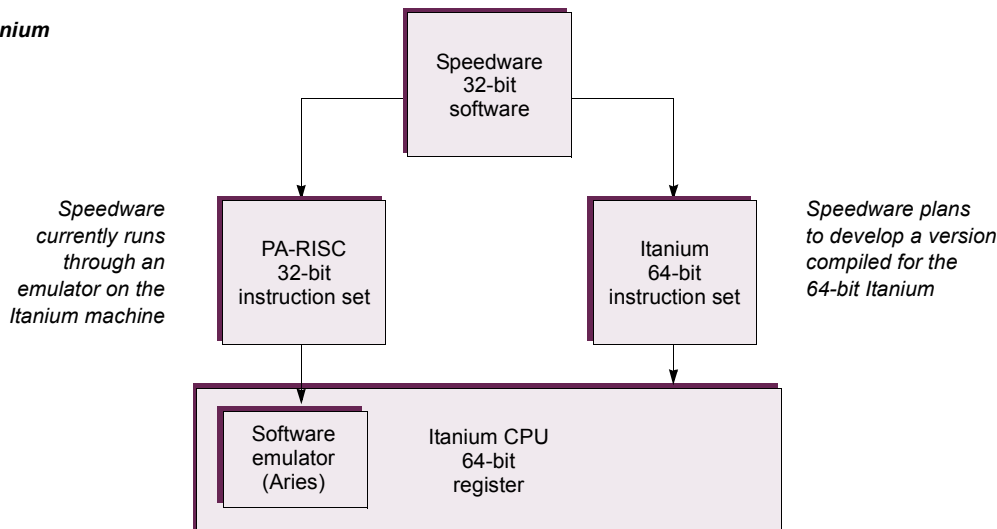


Does Speedware support the Itanium processor?

Yes, either through Itanium’s emulator or, in the future, with a native 64-bit version of Speedware software that retains 32-bit addressing.

Itanium does not provide the same compatibility features as the 64-bit PA-RISC system. Existing PA-RISC 32-bit software such as Speedware can run through a software emulator (codenamed Aries) provided on the Itanium-based HP-UX platform, although performance may be slightly affected. Speedware does, however, plan to develop a 64-bit version of our run-time environment for the Itanium platform. It will keep 32-bit addressing but will run with a native 64-bit Itanium instruction set against the 64-bit register.

64-bit Itanium



What about performance?

The 64-bit processors were designed to provide outstanding performance that will let customers handle demanding workloads on UNIX and Windows platforms. They offer the promise of stability, efficiency and ability within IT infrastructures. Most people are aware, however, that a 64-bit machine does not imply better performance in all situations. Other factors that affect performance include memory, clock speed and instructions per clock cycle. HP recommends that their 64-bit servers be equipped with at least 4GB of memory (see “What does HP say?” on page 3).

Does Speedware support 64-bit addressing?

No, not for the foreseeable future. HP tells us that typical software — including Speedware — does not usually require 64-bit addressing unless it accesses data sets greater than 4GB. In fact, HP states that if this software is recompiled for 64 bits it will likely perform more poorly than if it is left in 32-bit addressing mode.

HP recommends that we recompile our software for the 64-bit machines but leave it in 32-bit addressing mode. See “What does HP say?” on page 3 for HP's actual words and a link to more information.

Aren't there advantages to 64-bit addressing?

Certainly there are, but currently these advantages are most significant for software that manipulates huge data tables, or that performs complex scientific calculations. With 32-bit addressing, an application can hold up to 4GB of data in memory at once, which is usually adequate for most business applications. And don't forget that a 64-bit machine must be equipped with at least 4GB of memory and swap space to take advantage of these performance enhancements. As for the calculation advantages of being able to use true 8-byte integers and larger floating-point numbers, these benefits are seen more in scientific applications than in business applications.

Note as well that a software environment cannot mix 32- and 64-bit addressing. In the case of Speedware, this means that, if Speedware were to use 64-bit addressing, all third-party calls (to COBOL, C, Oracle, Omnidex and so on) would have to be 64-bit as well. We cannot reasonably expect that all our third-party products will be able to provide us with 64-bit versions in the near future, so we must continue to maintain Speedware as 32-bit software.

Based on HP's recommendations and what we know about our customers' applications today, Speedware feels that the lengthy process of reworking our software for 64-bit addressing would not give you any performance advantage.

What does HP say?

HP's Web site describes in detail the features and benefits of their 64-bit computers, and provides information and recommendations on compatibility and performance issues. For example:

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| <p>HP-UX 64-bit performance considerations</p> <p>Most applications can remain in 32-bit mode on HP-UX 64-bit systems. However, some applications, which manipulate very large data sets, are constrained by the 4GB address space limit in 32-bit mode. These applications can take advantage of the larger address space and larger physical memory of 64-bit systems.</p> <p>what impacts performance in 64-bit mode</p> <p>Typical applications do not require more virtual memory than what is available in 32-bit mode. When compiled in 32-bit mode on HP-UX 64-bit platforms, these applications usually perform better than when recompiled in 64-bit mode on the same 64-bit platform. Some of the reasons for this include: ... http://devresource.hp.com/STK/docs/refs/64concepts.jsp</p> |
| <p>Q: What is the minimum memory required for a 64-bit server? In general, how much memory growth should I expect for a server moving from 10.20 to 64-bit 11.00?</p> <p>A: The 64-bit server is best utilized when more than 4 GB of memory is installed.</p> <p>http://docs.hp.com/hpux/onlinedocs/os/osfaq.html</p> |

And, of course, the main HP Web site at www.hp.com contains information on all their products.

Can Speedware be contacted directly?

Of course. Speedware is always glad to answer your questions. You can contact us by email at speedwareinfo@activant.com or at (514) 747-7007. Alternately, supported customers can email us at support@activant.com or phone us at 1-800-361-6782 from the US or Canada, 0.800.96.77.14 from the UK or (514) 747-9494.