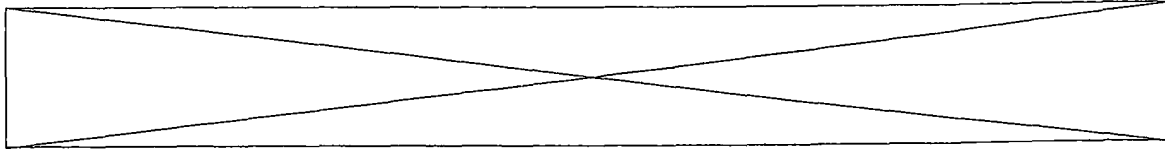


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McKinley is the one to watch

By the time McKinley is commercially available in the country, there will be more business applications, and that's when IA-64 sales will really take off

The Itanium processor (launched on May 29, 2001) was Intel's foray into the 64-bit space, and it's aimed at the high-end server segment. This segment has long been dominated by Sun Microsystems, IBM, and Hewlett-Packard, who make systems that are considered "proprietary." Their hardware (servers powered by RISC processors) are closely tied in with their own operating systems (Unix variants), and ISVs (Independent Software Vendors) develop applications that are exclusive to those platforms. Intel on the other hand, is known for its mass-market products that are driven by price/performance.

Itanium has received mixed reactions from the industry. Some considered it a cost-effective route to the 64-bit platform. Traditional 64-bit players say they do not feel "threatened" yet, as there are other factors (apart from processor) that determine overall system performance. Analysts say Itanium is really a "test processor" or a "test bed," and that the real one to watch is McKinley. Market Research bodies pull out figures indicating that initial Itanium sales are slow. Numerous media reports pronounce Itanium "a threat to" traditional 64-bit server vendors, and that it has given these vendors "nightmares" or "sleepless nights." And what do we say?

Based on our research and discussions with industry analysts, server vendors and some MIS personnel, we feel it's too early to comment. If at all there is a "threat," it will come later when Intel launches subsequent versions of Itanium code named McKinley, Madison, and Deerfield. Sales of the Intel 64-bit processor will pick up next year when more applications are available for this platform. Of course, greater acceptance for this chip also depends on factors like backward compatibility with the 32-bit platform and co-existence with present infrastructure. The RISC/Unix players who have a stronghold on the 64-bit arena will eventually relent to market pressure and make their products compatible with IA-64 (Intel Architecture for 64-bit computing) so that both environments can co-exist in the enterprise.

Now here's evidence to support our statements.

Market researchers say initial sales of the Itanium processor are slow. Says Avneesh Saxena, Director-Computing Systems, IDC Asia-Pacific, "Very few IA-64's (Itanium servers) have been

shipped as of date. In Q3 2001, a total of five units for \$0.21 million were shipped in the entire Asia-Pacific (excluding Japan), out of which just one was sold in India. Compare this to the roughly 12,000 RISC servers for \$770 million sold in this region during the same period."

IDC pegs global sales for Itanium servers in Q3 2001 at just \$13.7 million (or 500 servers).

Poor initial response can be attributed to lack of business applications for IA-64.

Applications

Vinod Nair, Research Analyst, Gartner India confirms this and says the development community will drive initial demand. "Market acceptance of Itanium will largely depend on applications becoming available for this architecture. The current emphasis by vendors of this product is on developer education and early corporate adoption."

Nair says customers are awaiting the commercial launch of the McKinley processor (in the second half of this year). "It is expected that this new member of the Itanium Processor Family (IPF) will have greater market acceptance than the initial Itanium processor releases. Further, volume availability will come as ISV solutions become widely available."

The Itanium processor (co-developed with Hewlett Packard) has an entirely new architecture called EPIC (Explicitly Parallel Instruction Computing). Whereas applications running on IA-32 are based on the x86 instruction set, that's more than a decade old. The same problem exists for legacy applications running on 64-bit RISC servers. So enterprises who want to use the Itanium processor will have to either port existing business applications to the IA-64 platform or invest in new 64-bit applications for EPIC (that are now non-existent or scarce). Also, investment in new 64-bit hardware (like Itanium servers) means additional investment in a 64-bit operating system.

Intel has tried to create workarounds to this problem by making the Itanium compatible with 32-bit applications that run on its Xeon systems. However, the performance of applications running in "compatibility mode" does not match up to that of applications running in a true 64-bit environment.

And so, Itanium is not expected to be widely deployed yet.

McKinley

The McKinley processor (now in final stages of testing), will offer twice the performance of its predecessor (at a lower price), with triple the memory speed. McKinley has major design improvements and that's why Itanium has come to be regarded as a "test processor." By the time McKinley is commercially available in the country, there will be more business applications (compiled for EPIC), and that's when IA-64 sales will really take off. By then, several vendors will offer McKinley servers. Deerfield, a low-cost version of Itanium, will further boost sales of IA-64 servers. That's going to be in the 2003-2004 timeframe. And beyond that, Intel may phase out its Xeon processor family.

Dual strategy

Some RISC server vendors have anticipated all this and have plotted a dual-track strategy. They have pledged support to Intel by either porting their Unix variants to IA-64 or by transferring processor technology to Itanium.

HP for instance has worked with Intel right from the beginning to co-develop EPIC and Itanium. It has also ported its HP-UX operating system to IA-64 (HP-UX 11i applications run on Itanium servers). HP is developing a chipset (code named Pluto) that will enable its PA-RISC servers to work with McKinley. HP also sells Itanium servers (rx series) with a choice of operating systems

HP-UX, Linux or 64-bit Windows.



IBM too is selling Itanium servers and workstations. Its Summit chipset has been selected by Intel for McKinley and standard 32-bit Xeon processors.

Compaq has entered into an agreement with Intel for transferring its Alpha chip technology to Itanium architecture.

All this will make future versions of Itanium a technologically superior chip and give it market clout just the ingredients that Intel needs to gain market share in the high-end server pie.

Brian Pereira can be reached at
brianp@networkmagazineindia.com

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