

## McKinley Servers Will Improve on Itanium in Two Major Areas

John Enck, Andrew Butler

Servers based on Intel's McKinley processor will offer higher performance when they appear in the second half of 2002. But most enterprises shouldn't abandon their RISC or IA-32 investments for McKinley anytime soon.

## NEWS ANALYSIS

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### Event

On 17 January 2002, Hewlett-Packard announced the development of a new chipset for McKinley servers.

### Analysis

McKinley, the second generation in the Itanium processor family (IPF), offers important improvements over the first generation (Itanium) in raw processor power and adoption by original equipment manufacturers (OEMs). McKinley's frequency (MHz) will increase, while the processor cache will increase in size and move onto the processor die. McKinley employs a 128-bit front-side bus offering an input/output performance advantage over Itanium. These solid engineering improvements will give McKinley a significant performance boost over Itanium.

OEMs will provide innovations in the traditional Intel server product lines. Intel will support up to eight processors in its 870 chipset, which has an interconnect design that can adapt to 16-way symmetric multiprocessing (SMP) configurations. Intel partners, such as Compaq Computer, Hewlett-Packard and IBM, will also design proprietary chipsets to support McKinley in various SMP and loosely interconnected server designs. These designs also include improvements in the areas of memory handling and hardware failure recovery. Thus, servers designed around McKinley will be more advanced and feature-rich than those designed around Itanium. Furthermore, software is two-way compatible between Itanium, McKinley and later IPF generations, so development investments carry forward (although in some cases enterprises can maximize performance gains by recompiling the software).

Two other processors, code-named "Madison" and "Deerfield," will follow McKinley, both scheduled for mid-2003 availability and will be architecturally compatible with McKinley in their 128-bit front-side bus and chipset designs. These processors will also mark the transition from 0.18-micron to 0.13-micron fabrication. Since enterprises can upgrade to future platforms, McKinley servers start to offer them greater value. However, enterprises should remain loyal to their RISC or IA-32 investments until one of the following two phenomena justify deployment of IPF, neither of which will likely happen until Madison arrives:

- Proven performance gains over RISC or IA-32 designs
- Evidence of porting by independent software vendors and development preference shifting from established technologies to IPF

**Analytical Sources:** John Enck, NT Strategies, and Andrew Butler, Unix & Midrange Strategies

### Need to Know: Reference Material and Recommended Reading

- "Itanium Signals the Start of a New Computing Era" (T-14-9162) The unique characteristics of Itanium and the future prospects for this new processor family. **By Andrew Butler**
- "Vendors' Responses to Itanium" (T-14-9762) A detailed outline of the major PC hardware vendors' plans to embrace or forgo building systems based on IPF. **By Andrew Butler**

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