

# Forthcoming Dual-Core Intel Itanium Processor Achieves Fastest Four-Way Floating Point Benchmark

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Based on internal testing by Intel Corporation, a system based on the forthcoming dual-core Intel Itanium processor codenamed "Montecito" demonstrated a 60 percent performance increase over a previous technical computing benchmark posted by a four-way RISC-based system.<sup>1</sup>

Using the LINPACK benchmark, which measures floating point performance, a system with four dual-core Itanium processors exceeded 45 GFLOPs (gigaflops), a measure of computer speed where a gigaflop is 1 billion floating-point operations per second. The previous record was 27.5 GFLOPs.<sup>1</sup>

“This performance result gives a peek into the advantage Montecito is expected to have over previous generations of the Itanium architecture for high-performance computing applications,” said Phil Brace, general manager of Intel’s Server Platform Group. “Three years ago we showed a four-processor Itanium-based system at 11.43 GFLOPs, and two years ago we hit 22.7 GFLOPs.<sup>2</sup> We are approaching the ability to reach a TeraFlop in as few as a 20-server system cluster and helping to dramatically increase the affordability to the scientific community.”

Platforms using Montecito are expected to deliver up to twice the performance, up to three times the system bandwidth, and over 2 1/2

times as much on-die cache as the current generation of Itanium processors. While boosting performance, Montecito is expected to also deliver more than 20 percent lower power than previous generations of Itanium processors through new technologies for power management. Montecito will also have Intel Hyper-Threading technology, enabling four times the threads as the current generation.

Notes:

1 Source: Intel Corporation, June 20, 2005. System Configuration: Intel Server Platform SR870BN4 using four Montecito Itanium 2 processors. Source: IBM Corporation, June 21, 2005: Best LINPACK based RISC result posted to [www-1.ibm.com/servers/eserver/.../ware/system\\_perf.pdf](http://www-1.ibm.com/servers/eserver/.../ware/system_perf.pdf)

2 Source: HP, July, 8 2002: HP server rx5670 result of 11.43 GFLOPS using four Itanium 2 processors at 1.0 GHz with 3 MB L3 cache, HP-UX 11i. Itanium 2 processor 6M result of 22.7GFLOPs measured by Intel on Intel Server Platform SR870BN4 using four Itanium 2 processors 6 MB L3 cache at 1.5 GHz.

Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance.

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