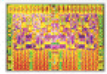




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HOTLIST

New Intel® Xeon® Processor Increases Server Efficiency and Capabilities

Nehalem Launch Resets Performance Bar

New servers, blades and workstations are on tap from a gaggle of Intel partners, including Dell, HP, IBM and Cisco.



By David Needle

Today is D-Day for Intel. Er, make that N-Day -- "N" as in Nehalem.

The chip giant will be joined by major computer vendors for the rollout of its latest processor, the Xeon 5500, code-named "Nehalem."

Systems based on Nehalem are targeted directly at enterprise and IT buyers. In the past, Intel (NASDAQ: INTC) and friends would tout the faster performance of systems based on the latest chips. There will be some of that performance chatter for sure.

"We're expecting to establish over 30 worldwide benchmarks with Nehalem," said Kirk Skaugen, who heads Intel's server platforms group, at a Dell (NASDAQ: DELL) event last week. "Work on this started four years ago and our engineers are really excited about the release."

That said, Intel and its system partners are spending as much time talking about server consolidation and power savings as much as its performance advantages. "We're accelerating enterprise energy efficiency," Steve Schuckenbrock, president of Dell's Large Enterprise group, said last week when the company [previewed server and blade systems](#) based on Nehalem.

IBM (NYSE: IBM) will be another of the high-profile companies at Intel's launch later today. Its new System x3650 M2 and x3650 M2 two-socket enterprise rack servers feature a new thermal design, new voltage regulators and higher integration on the board that IBM said simplifies power distribution and reduces energy loss.

Specifically, IBM said it can offer up to a 60 percent reduction in power when these systems are idle and up to 25 percent reduction when fully utilized. That power reduction can go right to the bottom line: IBM estimates a yearly cost savings of up to \$100 per server versus earlier models.

The biggest savings on Nehalem-based servers will be for those companies upgrading from earlier single-core servers. Industry estimates are that about 40 percent of installed servers are single-core systems while another 40 percent are dual-core. Intel's Skaugen said a conservative estimate is that companies that consolidate eight single-core servers to one quad-core Nehalem-based server could expect a payback within eight months, thanks to energy savings and other efficiencies.

And while Nehalem represents the biggest performance increase from one to generation to the next in Intel's Xeon line, it also recognizes the limitations of multi-core architecture. With Nehalem, Intel introduces a turbo mode that accelerates performance when all the cores aren't being utilized.

"The earlier view was that more cores are better, but the software hasn't been written to take advantage of that," analyst Rob Enderle told *InternetNews.com*. "The turbo mode lets a single thread gain performance if the others aren't heavily utilized."

"Intel's gone from being absolutely performance-driven to being about performance within a certain thermal envelope," he added. "And when you look at the constraints datacenters are facing, Nehalem is one of the bigger releases to address energy use."

What about AMD?

Intel's main competitor, AMD (NYSE: AMD), has its own quad-core line, and while it may be far from the spotlight this week, Enderle, who heads the Enderle Group tech consultancy, expects the smaller chip maker to stay competitive and maintain most, if not all, of the same major server partners Intel has.

"I'm not at all convinced AMD is going to be left out," Enderle said. "AMD's road map shows they can perform very well at the low and mid-range with Intel taking the high end. Where AMD has an advantage is it plays better with OEM partners, letting them do custom work that Intel doesn't allow them to.

"The OEMs like that," he said. "I think AMD will continue to offer a price-point advantage and more tunable products. And the hardware vendors like having a competitor to Intel because it gives them leverage. They don't want to lose that."

