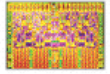




# intel Resource Center

Intelligent Performance, Virtualization and Energy Efficiency: The Intel® Xeon® Processor 5500 Series



› Servers › Mobility › Virtualization › Clients

## Google Search Appliance 6.0 Now Available: A Brilliant Innovation that Showcases Intel's Platform Intelligence

Google Inc. today announced its next-generation Google Search Appliance (GSA) 6.0, which delivers extraordinary search power for the enterprise, powered by the Intel® Xeon® processor 5500 series. Building on the capabilities of its predecessors, this appliance allows enterprises to search billions of documents. »

### ROI CALCULATOR

New: Try Intel's Virtualization ROI calculator on Facebook. See how much you can save with virtualization and compare with friends and colleagues. [Try it now!](#) »

### INTEL NEWS

**Nehalem Launch Resets Performance Bar**  
New servers, blades and

### TOP INTEL CONTENT

- ›› First the Tick, Now the Tock: Next Generation Intel® Microarchitecture Nehalem
- ›› Intel Xeon Processor 5500 Series Product Brief
- ›› Intel and Microsoft Complementary Virtualization Technologies

### INTEL PREMIER IT PROFESSIONAL PROGRAM

Roadmap, best practices and technology insights for the IT community. Stay up-to-date via online publications and local events. It's free. [Join now!](#)

#### Explore. Learn. Connect

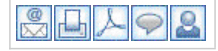
Get started today activating Intel® vPro Technology based PCs. [Join now!](#)

### HOTLIST

**New Intel® Xeon® Processor Increases Server Efficiency and Capabilities**

## Intel Touts Nehalem as 'A Cash Machine for IT'

**The Xeon 5500 lets IT consolidate as many as nine single-core servers down to one. But is an eight-month payback realistic?**



By David Needle

SANTA CLARA, Calif. -- Moving to a new server architecture isn't easy. Heck, Intel (NASDAQ: INTC) says the chip development behind its new "Nehalem" design alone was a four-year process. But now it's pitching servers based on its Xeon 5500 as a no-brainer IT purchase despite the rough economy and tight budgets.

"Literally, after eight months, it becomes a cash machine for IT that frees up resources to focus on innovation," said Pat Gelsinger, senior vice president and general manager of Intel's Digital Enterprise Group, at the Nehalem launch event here at Intel headquarters yesterday.

Well, maybe. Gelsinger was basing his remarks on the idea that an IT department would replace or consolidate its older single and dual-core servers with new ones based on quad-core Nehalem (Xeon 5500) processors.

Certainly, there is no lack of equipment ripe for upgrading in most datacenters: IDC estimates about 40 percent of the installed base of Intel servers run on single-core processors, while another 40 percent on dual-core. And that's where the projected savings comes in.

"You can consolidate nine single core Xeons onto one single 5500 machine," Gelsinger said -- a move that reduces cooling, power and real estate considerations.

But the eight-month payback he described from such a move doesn't begin when the box arrives with your shiny new servers. For one thing, there are testing and deployment issues to consider.

Intel said it's already shipped over 200,000 Nehalem processors, which can be found in systems from the likes of Cisco, Dell, HP, IBM, and Sun. At the launch event, IT executives from five blue-chip companies said they are still evaluating Nehalem servers and blade systems, though they were uniformly enthusiastic about eventual deployment.

"Clearly, the payback Intel is talking about is based on lower operating costs in terms of things like power and cooling and even lower software licensing costs," Nathan Brookwood, research fellow at Insight64, told *InternetNews.com*. "But you have to make the investment first to evaluate and deploy."

"Right now, these companies are enthusiastic, but they're still kicking the tires," he added. "This is a more complex process than just upgrading a processor for them -- it's a whole new system."

In other words, that theoretical eight-month cash-out clock doesn't start ticking until the systems are deployed and doing real-world work. "What Intel is saying is if you put these Nehalem servers in, you will eventually save a lot of money compared to doing nothing and staying with what you already have installed," Brookwood said.

IDC analyst Jean Bozman said the new Nehalem-based systems offer both compelling performance and energy savings, but that doesn't mean every business is going to run out to buy them.

"When times are tough, some companies simply aren't going to buy anything at all and just stick with what they have," Bozman said. "Demands on the infrastructure would be one reason where companies are going to be more motivated to buy."

That's exactly the issue facing Humana. The health care provider has over 10 million customers and the amount of data it has to process has increased ten times over the past three years. In the process, its infrastructure had hit the wall: Paul Ratner, Humana's vice president of IT operations, said during a panel discussion that at least one of its datacenters had run out of square footage to house servers, "and we ran out of energy."

To cope, a new datacenter in the works will leverage Nehalem-based blade servers, he said, indicating that blades would grow from 3 percent to 42 percent of Humana's servers, "which is going to reduce the physical footprint by half [and] require a lot less electricity and cooling."

#### Shrinking the datacenter's footprint

Online auction giant eBay (NASDAQ: EBAY) was another big customer at the Nehalem launch. Over a million people run a business on eBay, according to Mazen Rawashdeh, the company's senior director of operations infrastructure and site capacity.

"We're constantly reevaluating our technology," he said. "We're going to take advantage of Nehalem's improved memory latency, improve our datacenter's footprint and power consumption while improving performance. It's going to help us control growth and restructure our infrastructure costs."

Mazen also said his goal is savings of between 30 to 40 percent on energy, and early testing indicates the new Nehalem servers

will deliver just that.

And what about the next round of upgrades when even this current round of super servers start to show their age?

Gelsinger claimed such a move won't be nearly as disruptive. What Intel and its partners showed Monday "is future proof," he said.

"Coming next is our [six-core Westmere processor](#) based on 32-nanometer technology that will drop directly into the existing systems as a replacement."

