

# Intel says to prepare for 'thousands of cores'

by [Brooke Crothers](#)

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Intel is telling software developers to start thinking about not just tens but thousands of processing cores.

## Tera-scale Computing Research Program



Intel Tera-scale multicore research  
(Credit: Intel)

Intel currently offers quad-core processors and is expected to bring out a Nehalem processor in the fourth quarter that uses as many as eight cores.

But the chipmaker is now thinking well beyond the traditional processor in a PC or server. Jerry Bautista, the co-director of the Tera-scale Computing Research Program at Intel, [recently said](#) that in a graphics-intensive environment the more cores Intel can build the better. "The more cores we have the better. Provided that we can supply memory bandwidth to the device."

On Monday, an Intel engineer took this a step further. [Writing in a blog](#), Anwar Ghuloum, a principal engineer with Intel's Microprocessor Technology Lab, said: "Ultimately, the advice I'll offer is that...developers should start thinking about tens, hundreds, and thousands of cores now."

He said that Intel faces a challenge in "explaining how to tap into this performance." He continues: "Sometimes, the developers are trying to do the minimal amount of work they need to do to tap dual- and quad-core performance...I suppose this was the branch most discussions took a couple of years ago."

Now, however, Intel is increasingly "discussing how to scale performance to core counts that we aren't yet shipping...Dozens, hundreds, and even thousands of cores are not unusual design points around which the conversations meander," he said.

He says that the more radical programming path to tap into many processing cores "presents the 'opportunity' for a major refactoring of their code base, including changes in languages, libraries, and engineering methodologies and conventions they've adhered to for (often) most of the their software's existence."

"Eventually, developers realize that the end point is on the other side of a mountain of silicon innovations...Program for as many cores as possible, even if it is more cores than are currently in shipping products."



Brooke Crothers has served as an editor at large at CNET News, an editor at Dow Jones' Asian Wall Street Journal Weekly, and a senior editor at InfoWorld. His CNET blog covers chip technology and computer systems, and how they define the computing experience. He also contributes to The New York Times' Bits and Technology sections. He is a member of the CNET Blog Network and is not an employee of CNET. [Disclosure](#). Follow Brooke on Twitter

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