

# Intel Exec Guarantees Intel-Based Smartphone in 2010

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By [Mark Hachman](#), [ExtremeTech](#)

Will a smartphone shipped next year have [Intel](#) inside? Intel's chip chief guarantees it.

In an interview, Dadi Perlmutter, the executive vice president responsible for Intel's Architecture Group, stated flatly that in 2010 a high-end [smartphone](#) maker would ship a phone containing Intel's next-generation 32-nm "Moorestown" platform based on the Atom core.

Mainstream smartphone penetration, however, will have to wait for "Medfield," which most likely will emerge in 2011, and which analysts expect will be Intel's true smartphone product. "Moorestown looks like a transitional product," said Tony Massimini, an analyst with Semico Research.

Smartphones have long been the [great](#) white whale of Intel's product line, with the company making a run at the product segment with the StrongARM technology that Intel purchased from Digital Equipment Corp. in 1997 for \$700 million, as part of a settlement between the two companies. Intel later developed a followon core, the SA-2, which it later branded as the XScale. Neither chip went on to overwhelming success in the smartphone industry, although it formed the heart of the HP iPAQ PDA.

That, in part, has left many questioning whether Intel can actually ever design a chip to compete with ARM and other smartphone chip vendors. According to Perlmutter, such skepticism is warranted.

"I will not tell you that it's a slam dunk, nor would I have you tell your readers it's a slam dunk, because it's not," Perlmutter said in an interview at the Intel Developer Forum in San Francisco. "There's a lot of skepticism, and that skepticism is warranted." Even with those caveats, however, Perlmutter reiterated that a smartphone maker would ship a Moorestown phone in 2010.

Not surprisingly, Perlmutter said that Intel would have to compete on the strength of the product, and whether Intel could hit the power and performance targets it had set for itself. Perlmutter didn't reveal the names of the ODMs the company is talking to, nor what a Moorestown phone might look like. But he did use a reporter's BlackBerry as an example of the type of phone Moorestown might eventually fit into.

It's unlikely that Intel would be able to convince a top-tier phone manufacturer, especially a European one like Sony Ericsson, to adopt Moorestown, according to [PC](#) executives and analysts approached at the show. But Intel has traditionally enjoyed strong relationships with Asian OEMs and ODMs, and might be convinced to produce a Moorestown phone if Intel shouldered a great deal of the design work and costs.

But Perlmutter pointedly declined to answer when asked on stage at the Intel Developer Forum here whether Intel would in fact either design a phone or a reference design that it could pitch to ODMs. Perlmutter left the question to a co-presenter, Renee James, Intel's software chief, who claimed that Intel was trying to "create an ecosystem," presumably with the Moorestown [hardware](#) and the Moblin operating system, which so far has powered only netbooks.

"Intel does not spend millions of dollars on a product that they will end up selling into a market where they are fourth best," said Peter Glaskowsky, an analyst working with Envisioneering.

While Intel hasn't revealed specific performance numbers for Moorestown, Shreekant (Ticky) Thakkar, an Intel fellow and director of its mobility group, and other Intel executives have said that Moorestown will consume half the power of the current "Menlow" system-on-a-chip, halving the size of the motherboard as well. But the



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idle power will be reduced by 50 times versus Menlow, allowing what Thakkar called "all day computing".

The chip's speed is also unknown. However, it too contains a "turbo boost" like capability, a feature also included in Intel's desktop and mobile chips. With the Moorestown turbo boost derivative, it appears that the speed of the chip will be ramped up slightly higher than 1 GHz if the thermal envelope allows it, according to Thakkar's presentation.

Moorestown also contains phone-specific features, including the MAPI interface and low-power DDR-3 memory. Moorestown contains the 45-nm Lincroft CPU core, the 65-nm Langwell system controller, the "Evans Peak" 3G/Wi-Fi/WiMAX/Bluetooth chip, and a "Briertown" mixed-signal part that controls the battery recharging and other power functions.

The chip will also have a "bus turbo mode" that will raise the frequency as demands are put on the processor, Thakkar said.

More and more chips can turn off sections of the chip that are not in use. But Moorestown actively profiles the user and what he or she is doing, and allocates power accordingly. Profiles include Internet browsing, MP3 playback, video playback, voice calls, and video capture, Thakkar said. In the case of a user browsing the Web, the video engine is turned off, he said.

Although the chip contains a 2D/3D graphics core, Intel has not indicated its capabilities. Conceivably, rivals like Nvidia and its Tegra processor, or Qualcomm, could head Intel off at the pass with its own integrated chips, Massimini said.