

## **Intel Makes a Push Into Pocket-Size Internet Devices**

*John Markoff*

Intel plans to proclaim Wednesday in Shanghai that the next big thing in consumer gadgets will be the "Internet in your pocket."

The challenge for the giant chip maker will be to prove that it is not too late to a market that has rapidly become the hottest spot in the consumer electronics business in a post-PC era.

At a developer event in China, the company, based in Santa Clara, Calif., will display a range of wireless Internet devices that Intel believes will fill a gap between smartphones and laptops. The company is hoping to capitalize on the success that Apple has had with its iPhone, which is one of the most popular mobile Web smartphones.

Intel is calling the new computers Mobile Internet Devices, or MIDs, and claims that it will have a significant advantage over makers of chips for cellphones because the Intel version will be highly compatible with the company's laptop and desktop processors for which most Web software is written today.

The first generation of Intel's MID technology will be aimed at data, not voice communications, leaving the company out of the market for smartphones. That has not damped the enthusiasm of Intel executives who foresee a proliferation of devices ranging from advanced ultracompact laptops to small, tablet-size devices that will be used for browsing the Web, navigation and Internet chat, rather than voice communications.

"What enables the innovation is the ability to bring over all the existing PC applications," said Anand Chandrasekher, general manager of the company's Ultra Mobility Group.

The weak link in the Intel strategy is that voice communication remains a significant factor for consumers choosing to buy hand-held devices.

Intel backed out of the cellphone market two years ago when it sold its Xscale microprocessor business to the Marvell Technology Group. Intel then set out on an ambitious redesign project for ultralow-power versions of its PC-oriented X86 chips. The current system requires two chips, one for the processor and one for peripherals. It will take the company another technology generation to place everything on a single chip.

That leads some analysts to believe that the company's real breakthrough will not come until 2009 or 2010, when a new processor, now code-named Moorestown, arrives.

"We're pretty bullish on it with some qualifications," said Van L. Baker, a research vice president at the Gartner Group, a market research firm. "We don't believe they get there in a significant way until the next generation of technology."

Meanwhile, Intel's strategy is moving the company toward a direct confrontation with Qualcomm, the San Diego-based chip maker that is also trying to deliver the wireless Internet on hand-held devices. The company, which refers to its strategy as "pocketable computing," is offering a competing chip that offers lower power consumption and which is aimed for devices that blend voice and Internet data.

"We need to deliver an Internet experience that is like the desktop," said Sanjay Jha, Qualcomm's chief operating officer. "People are used to the Internet, and you can't shortchange them."

The new Intel mobile Internet strategy takes advantage of the company's Atom microprocessor, which was announced in early March. The Atom will have performance roughly equivalent to laptop computers introduced four years ago, but will use little more than a half-a-watt to two-and-a-half watts of battery power. That is significantly lower than the 35 watts of power consumed by the company's state-of-the-art microprocessors in today's laptops.

The new MIDs, which are scheduled to begin showing up in consumer electronics outlets in June, are the clearest evidence to date of the effort that Intel has made since its chief executive, Paul Otellini, set the company on a low-power strategy in 2005. In interviews, Intel executives said that the company was slightly ahead of the commitment Mr. Otellini made to bring out a line of lower-power processors before the end of the decade.

Complicating life for Intel is the fact that the chip maker is locked out of the low-power cellphone and smartphone marketplace, which today is entirely based on microprocessor chips made by designs licensed from the British design firm ARM Ltd. to companies like Qualcomm.

More than 10 billion ARM chips have been sold by more than 200 licensees, and ARM now says that more than eight million chips a day are being used in cellphones, smartphones and a wide range of hand-held consumer products.

Until recently, early efforts by the PC industry to create so-called palmtop PCs, such as the Microsoft-inspired Ultra-Mobile PCs, have failed to find a broad consumer audience. Indeed, the entire P.D.A., or personal digital assistant, market is all but dead as many of its functions were overtaken by the smartphone.

However, the category showed renewed signs of life last year when Asus, a Taiwanese equipment maker, made a name for itself by introducing the Eee PC, a two-pound Linux-based laptop that sells for \$400.

Now many of the mainstream PC makers are rushing to introduce similar laptops that fall well below the traditional PC laptop price, but allow Web surfing and many basic computing tasks. There is also renewed interest among consumer electronics makers in devices that are neither laptops or cellphones.

Introducing products at the Intel event in Shanghai will be Asus, BenQ, Clarion, Fujitsu, Gigabyte, Lenovo, LG-E, NEC, Panasonic, Samsung, Sharp, Toshiba, WiBrain and Usi. Intel has also distanced itself from its traditionally close relationship with Microsoft and Windows by striking up a new partnership with Ubuntu and Red Flag, two distributors of Linux software for consumer markets.

"Think of it as, 'honey I shrunk the PC,' " said Richard Doherty, president of Envisioneering, a consumer electronics market research and consulting firm. "Intel is betting that this will be a win in China, which already has the world's largest mobile phone market and therefore influences the rest of the world market."

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