

By [Bogdan Botezatu](#), Hardware Editor

[Intel Introduces Five New Chips in the Atom Family](#)

The new processors will reach clock speeds from 800 MHz to 1.8 GHz

The first batch of Atom processors has been finally unveiled during yesterday's Internet Developer Forum conference. Previously showcased earlier last month, the new Atom and Atom Centrino chips come in a 13 x 14-millimeter package size and will power the next generation of mobile Internet devices. The five new additions to the Atom family are built on Intel's 45-nanometer process node with High-K infusion technology. The chips come with 512 KB of L2 cache and cover a wide range of speeds, that would allow them to be integrated in specific devices. The lowest parts in the Atom family are the Z500 and Z510 processors, that come with stock clock speeds of 800MHz and 1.1GHz respectively. Both chips feature the same 512 KB of cache and support front side bus frequencies of 400MHz. The Z520, Z530, and Z540 cover the mid-range sector and deliver clock speeds of 1.33GHz, 1.6GHz, and 1.86GHz respectively. Although they pack the same amount of L2 cache, these processors come with Intel's HyperThreading technology, primarily used in the Pentium 4 family. The latest chip in the series is in fact a SKU for the Z540, which supports FSB speeds of 533 MHz. The Atom chips are extremely energy-efficient, with thermal design powers in the 0.65 to 2.4 watts range. They are estimated to take up between 160 and 200 mW during normal operation and only 80 to 100 mW when in idle mode. "It's not just the 1 billion people that have access to the Internet now. It's the next 2 billion people. It's not just about selling more PCs, but bringing new devices and new price points to bring those people onto the Internet," said Intel CEO Paul Otellini in March. "We are not talking about repurposing old silicon, but designing new silicon for each of these different areas." The chip manufacturer plans to achieve about [\\$40 billion from selling its Atom chips](#). Depending on their performance, the chips will sell for between \$45 for the Z500 to \$160 for the Z540 in 1000-unit trays.