

# Siemens Brings GPS to the Cell Phone Network

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Siemens has developed a solution that's making it easier for mobile phone companies to offer their customers virtual guided tours and other positioning services. This is possible thanks to A-GPS (Assisted Global Positioning System), which Siemens is integrating into cell phone networks. Initial tests of the new positioning system at the Czech cell phone operator T-Mobile in Prague were successful, and Siemens Communications intends to market the system beginning this autumn. Since there currently are no handsets for this technology on the market, a Siemens SX1 cell phone equipped with an A-GPS chip was used in the test phase.

In A-GPS, the handsets — cell phones or hand-held computers — receive additional data via a special location server in the mobile phone network. For one thing, they learn the exact transmission frequency of each satellite with which they have contact. This changes, depending on whether the satellite is moving toward or away from the receiving device.

The additional information is used to accelerate the positioning computation. And the server also completely or partially takes over the position determination, which increases the sensitivity. This prolongs the life of the cell phone battery. What's more, this means positioning is possible in enclosed spaces or narrow areas between tall buildings — which is not the case with the Global Positioning System (GPS), where a receiving device requires contact to multiple satellites and relies on a certain signal strength.

As a transmission channel, the solution from Siemens uses Internet connections, which are already used by modern cell phones for WAP communication or downloading e-mail, for example. This eliminates the need for costly modifications of the mobile phone network, since no changes are required to the existing infrastructure.

A-GPS applications include virtual guided tours of cities via cell phone, and the tour users can opt to be directed to any location in real time. The A-GPS solution is also being considered for use in the event of traffic accidents: It makes it possible to quickly communicate the positions of accident victims to rescue centers.

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