



Method for Reducing Power Consumption of Mobile Devices

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a method to improve energy efficiency of mobile devices involved in communication over computer networks.

Overview

Mobile devices such as cell phones are used increasingly to connect to computer networks such as the Internet for Web browsing, email communication, voice-over-IP (VoIP) telephone and other Internet services. Standard wireless network protocols are relatively energy-inefficient, and use of these wireless connections significantly reduces device operating time on a single battery charge. A method of improving the energy efficiency of wireless network communications over mobile devices is needed.

The Invention

UW-Madison researchers have developed a technique to increase energy efficiency of network communications by determining an "energy profile" of the transmitting device that models energy consumption at different transmission rates and powers. The energy profile is used to adjust operating conditions of a digital radio transmitter to reduce energy consumption during transmission. The profiling technique may be enhanced by using a modified communication protocol that reduces the amount of data that must be transmitted by using data compression and/or a remote proxy device to handle network protocol data not required by the mobile device. By reducing the amount of data sent through transmission control, data compression and utilization of remote devices, the energy efficiency of wireless devices may be improved dramatically.

Applications

- Wireless communication devices including cell phones, PDAs and handhelds that are used to access computer networks

Key Benefits

- Reduces energy use of mobile wireless devices by as much as 48 percent

Additional Information

For More Information About the Inventors

- [Suman Banerjee](#)

Tech Fields

- [Information Technology : Networking & telecommunications](#)

For current licensing status, please contact Emily Bauer at emily@warf.org or 608-960-9842



