Sun™ SPOT – A Sun Labs research project for wireless sensors and networking

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Abstract: The possibilities for wireless sensors have generated widespread interest among research communities in industry and academia. The Sun™ Small Programmable Object Technology (SPOT) system is geared to simplify the development of wireless applications using JAVA as a language in the embedded system.

Applications of sensor networks and awareness of the need for new architecture and protocols for low-power, low-capability devices have challenged the networking research community. With today's available sensor development environments, often working with an embedded sensor platform for the development of new applications is challenging. The demo will showcase a prototype platform that can be used for research and development for sensor network applications and network layer protocols. The device contains an ARM7 processor , a IEEE802.15.4 radio and runs a Java VM with a tiny footprint. A JAVA based sensor platform enables the software development with an easy to use API for sensor controls. The demos will show the programming environment, sample networking applications using cross-layer design, and multihop networking.
Our system implements an architecture where new network protocols or applications can be plugged on top of the IEEE802.15.4 link-layer stack. These sensor devices and operating environment may act as fully functional sensor devices and gateways.

For more information on the Sun™ SPOT, please try
http://research.sun.com/spotlight/SunSPOTSJune30.pdf