

SunSPOTs and Wireless Reprogramming Protocols in Sensor Networks

Speaker: Pradip De, Security and Sensor Networking Group, CReWMaN

Date: Friday, March 23, 2007

Time: 10am - 12 noon

Venue: Woolf Hall 413 (CReWMaN Lab)

Abstract:

With wireless sensor networks seeing the light of day in several real world applications, post deployment issues have been one of the major areas of focus of recent research. One such important issue is the design of wireless multihop reprogramming protocols for update propagation, bug fixes and maintenance. Several factors ranging from the stringent resource constraints of wireless sensors to the scale in which they are deployed demand that these protocols meet specific requirements of reliability, energy efficiency, security, etc. In this talk, we will discuss the design of these protocols and their implementation on a new sensor device called SunSPOT (Sun's Small Programmable Object Technology) developed at Sun Microsystems Research Labs. These devices are much more powerful in both their storage and computing capacities in comparison to other contemporary sensor devices. Moreover, they are Java programmable which gives these devices an edge on usability. The work on which the presentation is based, was done by the speaker during his internship in the Secure Ad Hoc Communications group at Sun Labs in Fall 2006.

Biography:

Pradip De is a PhD student in the Security and Sensor Networking Group at the Center for Research in Wireless Mobility and Networking (CReWMaN). His primary research interests lie in modeling and designing data dissemination protocols in wireless sensor networks. His other interests include modeling RFID based smart systems.