

Simulation Working Group

TinyOS Technology Exchange IV
4/28/2007

Overview

- Started after discussions at Sensys 06
- Charter:
 - Define models used in TinyOS
 - Establish cross-simulator data formats for interoperability
 - Develop reference implementations

Membership

- Chad Metcalf - Colorado School of Mines
- Dr. Phil Levis - Stanford
- HyungJune Lee - Stanford
- Venkatesh S - CEDT, Indian Institute of Science
- Elaine Cheong - Berkeley
- Junzhao Du - Xidian University
- Konrad Iwanicki - Vrije University

Overall Status

- Of to a slow start
- Three active projects
- Looking for people interested in working a project
- Wish-list:
 - Telosb support for TOSSIM
 - Non TOSSIM membership

Project Status - CPM

- Name: Improving wireless simulation through noise modeling
- Developers: HyungJune Lee and Phil Levis
- Motivation: In a shared spectrum WSNs deal with external RF energy
- Status: Implemented and available in TinyOS 2.0.1

Project Status - Power

- Name: Power extensions for TOSSIM
- Developer: Venkatesh S
- Motivation: Energy Monitoring for Mica platforms
- Status:
 - MCU (Various power states)
 - Leds
 - Flash/EPR0M
 - Radio (CC1000, Rx/Tx, Power Levels)
 - Shooting for a 2.0.2 release

Project Status - Tiered

- Name: Hybrid simulation
- Developer: Chad Metcalf
- Motivation: Framework for simulation of tiered networks w/ live testbeds
- Status:
 - TOSSIM extensions complete
 - Tiered sim framework identified
 - Shooting for a 2.0.2 release