COSC 6397 Research Methods in Computer Science

Fall 2013

Dataset for Assignment 2

Bursty traffic over bursty links

- Authors: Muhammad Hamad Alizai; Olaf Landsiedel; Jó Ágila Bitsch Link; Stefan Götz; Klaus Wehrle
- Conference: SenSys
- Year: 2009
- Scenario 1: -19% Transmission Cost; +21% maximum Throughput; no affect Reliability; +5% transmission efficiency;

Surviving wi-fi interference in low power ZigBee networks

- Authors: Chieh-Jan Mike Liang; Nissanka Bodhi Priyantha; Jie Liu; Andreas Terzis
- Conference: SenSys
- Year: 2010
- Scenario 1: 71% Packet Delivery; -50% number of packets not acknowledged; 22.39% decrease in 802.11g throughput;

Broadcast-free collection protocol

- Authors: Daniele Puccinelli; Silvia Giordano; Marco Zuniga; Pedro José Marrón
- Conference: SenSys
- Year: 2012
- With respect to the performance of CTP: 80% Duty Cycle improvement;
- With respect to the optimal duty cycle in CTP: 75% Duty Cycle improvement;

Low-Power Wireless Bus

- Authors: Federico Ferrari; Marco Zimmerling; Luca Mottola; Lothar Thiele
- Conference: SenSys
- Year: 2012
- Bootstrapping, the first 30min of operation, nodes have an average radio on-time: LWB has 79.2% improvement over CTP+A-MAC, 79.3% of CTP+LPL.
- Bootstrapping, After 30min 30min of operation, nodes have an average radio on-time: less than LWB has 85.9% improvement over CTP.
- WiFi interference: Data yield: Radio Cycle: LWB has 75~85% improvement over CTP+A-MAC, 87.5~90% improvement over CTP+LPL;
- Mobile sink: Data yield: LWB has 11% improvement over CTP+CSMA; Radio cycle: LWB has 94.4% improvement over CTP+CSMA;
- Mobile source and mobile sink: LWB has 9.86% improvement over CTP+CSMA; Radio cycle: LWB has 99.14% improvement over CTP+CSMA;

Routing Without Routes: The Backpressure Collection Protocol

- Authors: Scott Moeller, Avinash Sridharan, Bhaskar Krishnamachari, Omprakash Gnawali
- Conference: IPSN
- Year 2010
- In static network settings: +60% in max-min rate;
- In low traffic tests: -30% average packet transmission;

Low Power, Low Delay: Opportunistic Routing meets Duty Cycling

- Authors: Olaf Landsiedel, Euhanna Ghadimi, Simon Duquennoy, Mikael Johansson
- Conference: IPSN
- Year 2012
- Average duty cycles -50% (Up to -90% on individual nodes)
- Delays -30% ~ -90%
- Slightly higher transmission count than CTP

Opportunistic, Receiver-Initiated Data-Collection Protocol

- Authors: Stefan Unterschutz, Christian Renner, and Volker Turau
- Conference: EWSN
- Year: 2012
- Scenario: -50% energy(40-200 nodes); -38%~-61% 1-hop delay(40-200 nodes); -36%~-56% end-to-end delay(40-200 nodes)

TARF: A Trust-Aware Routing Framework for Wireless Sensor Networks

- Authors: Guoxing Zhan, Weisong Shi, and Julia Deng
- Conference: EWSN
- Year: 2010
- Scenario: At least +30% throughput.

Dataset collected by Dong Han, Qiang Li, Shengrong Yin
August 2013