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HIPERCOM project, INRIA

OLSR Update

Plan

- changes to OLSR draft
- projects on implementation and study:
  - at INRIA Rocquencourt
  - at Aalborg University, Denmark
  - PRIMA project
  - COMPAS project

Changes to OLSR draft

from version 00 −> 01

- Neighbor sensing mechanism added
  - uses periodic HELLO messages, containing one−hop neighbors with their link status
- Multipoint relay forwarding added
  - MPR selection based on information received in HELLO messages
  - flooding of broadcast messages (e.g. TC packet) through MPRs

Changes to OLSR draft − 2

- Some changes in contents and generation of TC packet
- Power conservation mode added for one−time or intermittent sleep periods
  - PC message to negotiate with MPRs which can keep the packets during sleep period

Implementation by HIPERCOM

- a MAC level implementation (HIPERLAN) for INRIA Rocquencourt site containing 60−65 nodes
- uses WaveLAN 802.11 network interfaces of 10Mbps, operating on 2.4 GHz
- also contains some fixed routers (PCs) in each building supporting mobile routers and some mobile non−routers too !!!

Implementation by HIPERCOM –2

- already functional with 20 nodes on Linux kernel 2.2.12, FreeBSD version 3.3 and Windows NT/98
- tunneling implemented to access nodes of same network via cable
- gateway router implemented to access Internet
  - results in two separate IP networks at INRIA

Implementation at Aalborg University, Denmark

- an IP level implementation of OLSR, "probably" be performed by a user level process
- will use WaveLAN 802.11 network interfaces (10Mbps)
- for research and experimentation purposes with limited number of nodes

PRIMA project

- principally for long range, slow speed networks
- will use networks cards by SATEL, modified by COMATIS, operating at 400MHz with radio range 1−2 km and speed 19 kbps
- implementation of OLSR protocol at IP level, on Linux operating system
- simulations of some MANET protocols with NS or OPNET

COMPAS project

- Study of multicast, QoS, efficient bandwidth utilization, etc.
- MOLSR is under work which will provide multicast functionality to OLSR protocol

For more information and details:

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