IETF Hackathon: OpenWSN Project

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What we planned to do

• OpenWSN Project
  • Open source
  • Implementation of 6TiSCH stack
    • Firmware: openwsn-fw
    • Software: openvisualizer, coap

• OpenBenchmark Project
  • Open source
  • benchmark 6TiSCH stack in a reproducible manner
    • Front end: web interface to monitor experiment
    • Back end: interact with motes in the testbed

www.openwsn.org

https://benchmark.6tis.ch
What got done (1/2)

- Benchmarking server is able to configure the motes in the testbed to
  - Set Tx power
  - Set DAG root
  - Send packet
  - ...
What got done (2/2)

- draft-ietf-6tisch-msf version 02 is implemented and optimized
  - An OpenWSN performance dashboard available at:
    - https://openwsn-dashboard.eu-gb.mybluemix.net/ui
avg end-to-end latency (in seconds)

avg end-to-end reliability

avg msf cell usage

Number of motes found

39
Links

• Code available at:
  • https://github.com/openwsn-berkeley/openwsn-fw/
  • https://github.com/openwsn-berkeley/openvisualizer
  • https://github.com/openwsn-berkeley/openbenchmark

• activity available at GitHub and JIRA system:
  • https://github.com/malishav/openwsn-fw/commits/develop_FW-808
  • https://github.com/malishav/openvisualizer/commits/OV-7
  • https://github.com/malishav/openbenchmark/tree/ietf104/hackathon
  • https://github.com/openwsn-berkeley/openwsn-fw/commits/develop
  • https://github.com/openwsn-berkeley/openvisualizer/commits/develop
  • https://openwsn.atlassian.net/secure/Dashboard.jspa#Activity-Stream/10206