DeTAS: a Decentralized Traffic Aware Scheduling technique enabling IoT-compliant Multi-hop Low-power and Lossy Networks

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Communication stack for the Internet of Things

- Low Power Communication Stack
- Internet-Enabled Communication Stack

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- IEEE 802.15.4e TSCH, minimizing idle listening and overhearing, and improving both reliability and energy efficiency
- IETF RPL, optimizing multihop paths in Low-power and Lossy Networks (LLNs)
Decentralized Traffic Aware Scheduling (DeTAS) algorithm

- Construction of optimum collision-free schedules for multi-hop RPL-enabled IEEE802.15.4e TSCH networks
- Distributed computation of such schedule
- Low amount of signaling messages exchanged among neighbor nodes
- Queue level management for traffic congestion avoidance
- Several transmissions at the same time
- Reduction of the network duty cycle
- Suitable for complex topologies