MOTIVE

GOALS

Enhance Unmanned Vehicles (UVs) missions enabling:

- low-latency information delivery
- better quality of service
- resource conservation
- reduced **RTL** (**R**eturn **T**o **L**aunch mode) probability

CHALLENGES

Ensuring continuous operation in adverse network conditions due to:

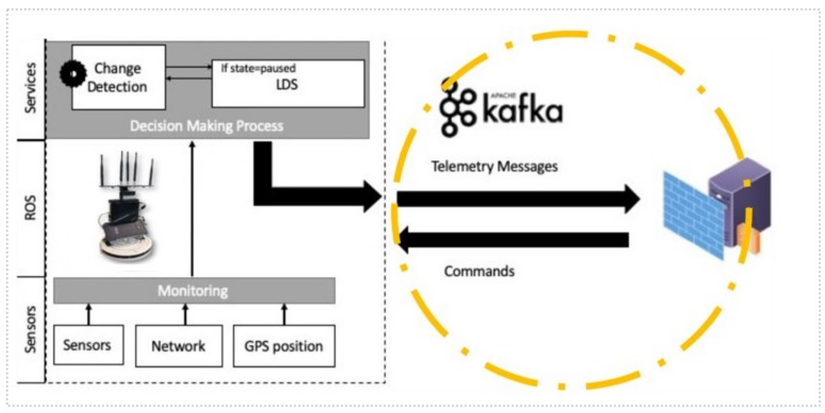
- limited bandwidth,
- high traffic,
- natural obstacles,

Operation **B**eyond the **V**isual **L**ine **O**f **S**ight (**BVLOS**)

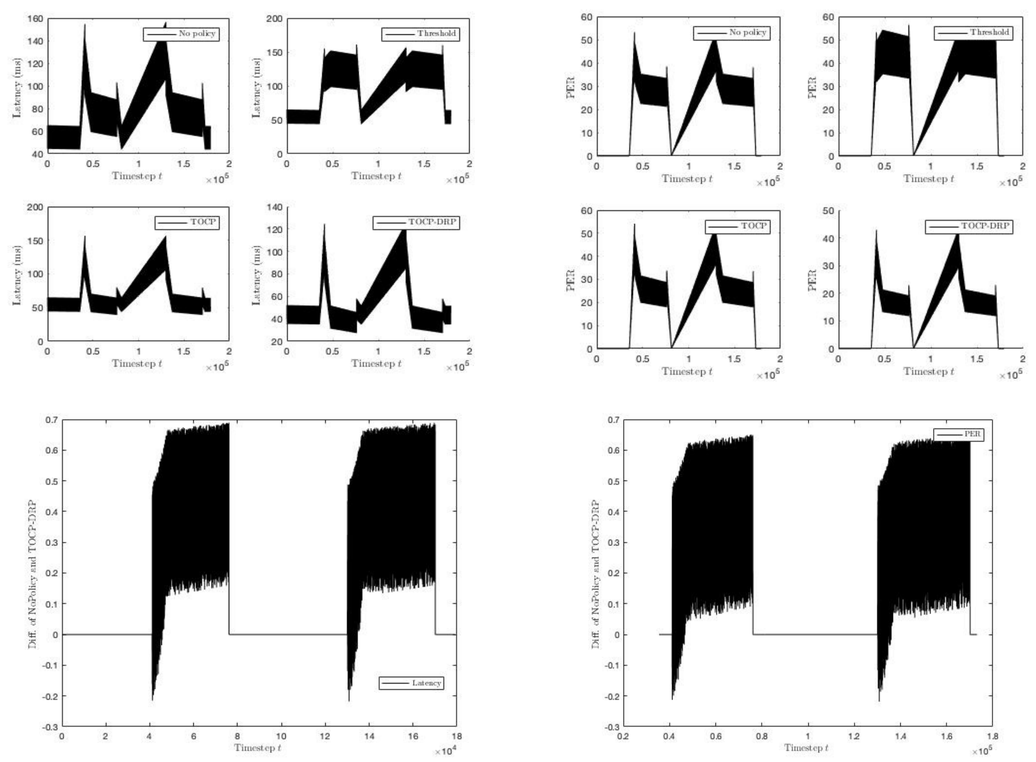
DEMO SETUP

MOTIVE experiment requirements:

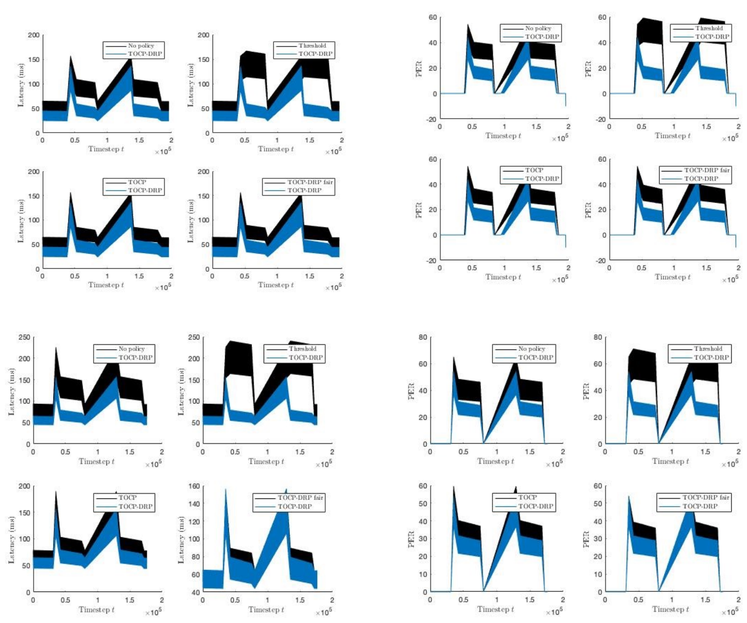
1) Mobile nodes with a planed path
2) Saturated network conditions in specific areas
3) Local and cloud servers running Apache Kafka

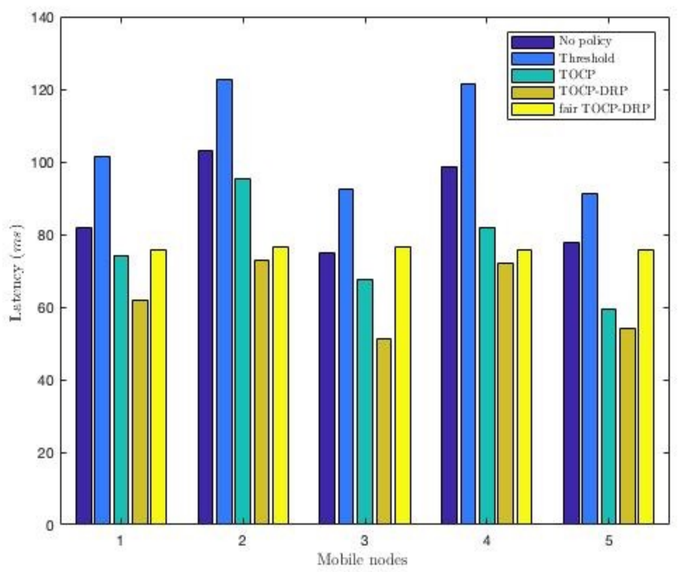


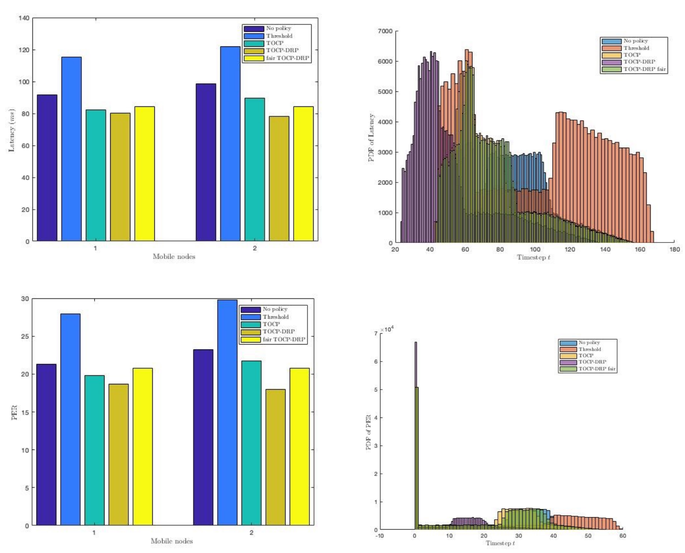
RESULTS



MORE RESULTS







CONCLUSIONS

- ✓ TOCP-DRP in poor network conditions outperforms the rest four policies.
- ✓ TOCP-DRP has better performance as expected than the TOCP policy as long as TOCP overviews the network only in active mode and the last is network agnostic in pausing mode.
- ✓ The fair TOCP-DRP ensures the fairness in bandwidth between nodes where the nodes are deactivated from a global worst QNI metric. This ensures that nodes in poor circumstances will deactivated in parallel and the mean value of latency will be equal to all nodes

POST MORTEM

- Validated our solution in a real life scenario under controlled conditions
- Extending of solution for for further static IoT nodes
- Experiment and validate results in the open
- Re-evaluate user requirements and identify market share