

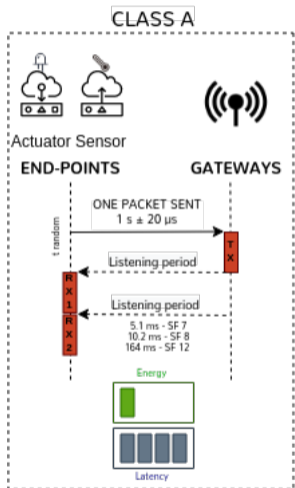
Long-Range IoT: Is LoRaWAN an option for ICN?


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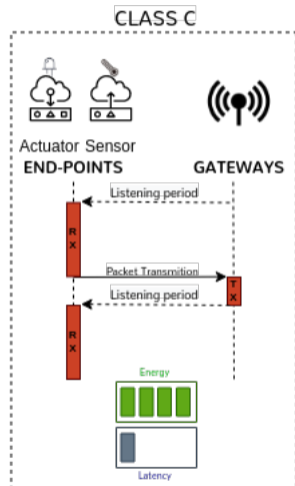
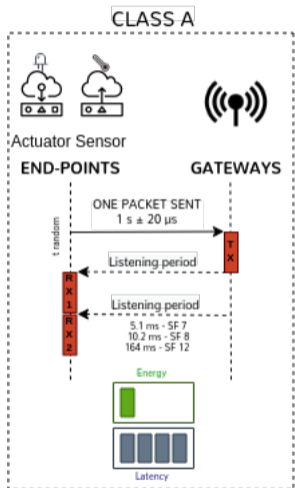
7th ACM Conference on Information-Centric Networking (ICN 2020)


LoRaWAN Operation Modes



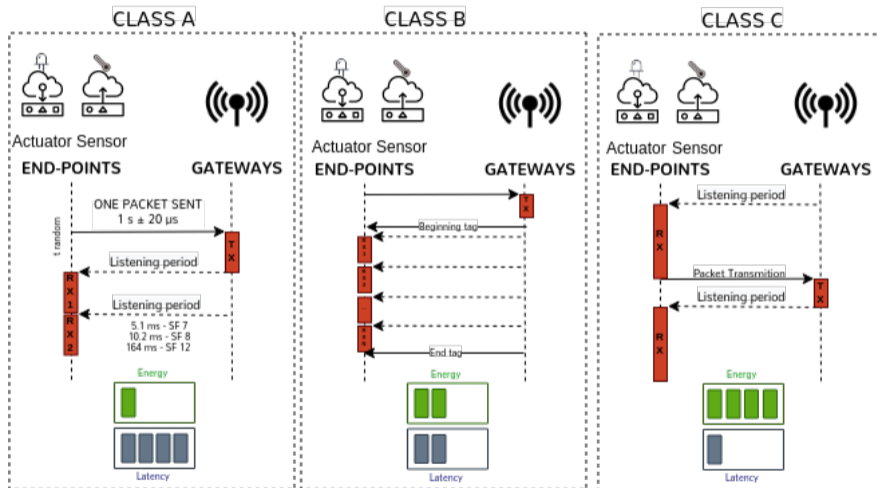
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LoRaWAN Operation Modes



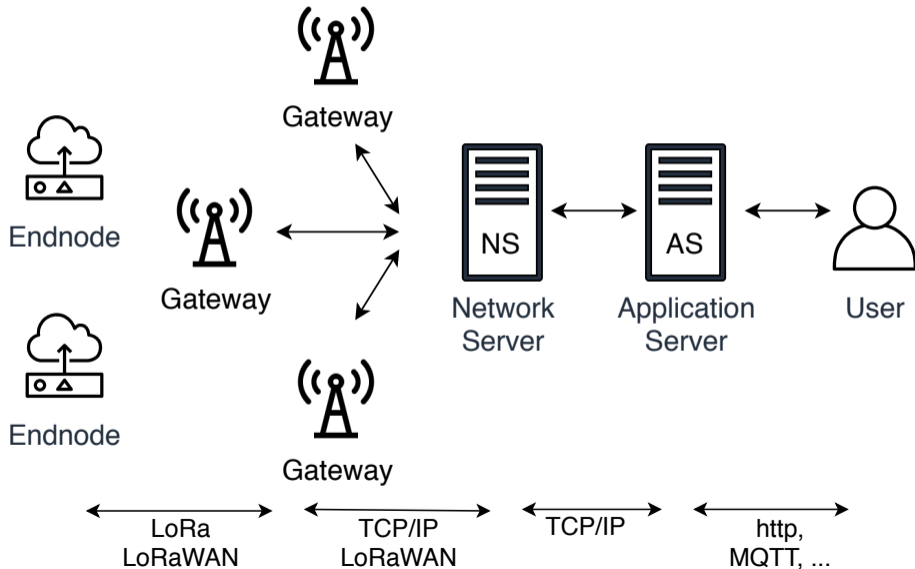
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LoRaWAN Operation Modes

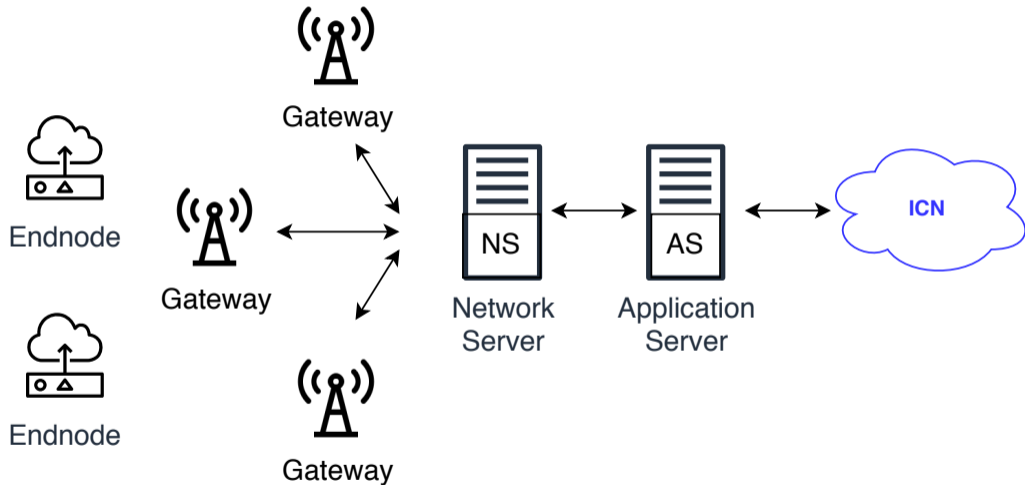


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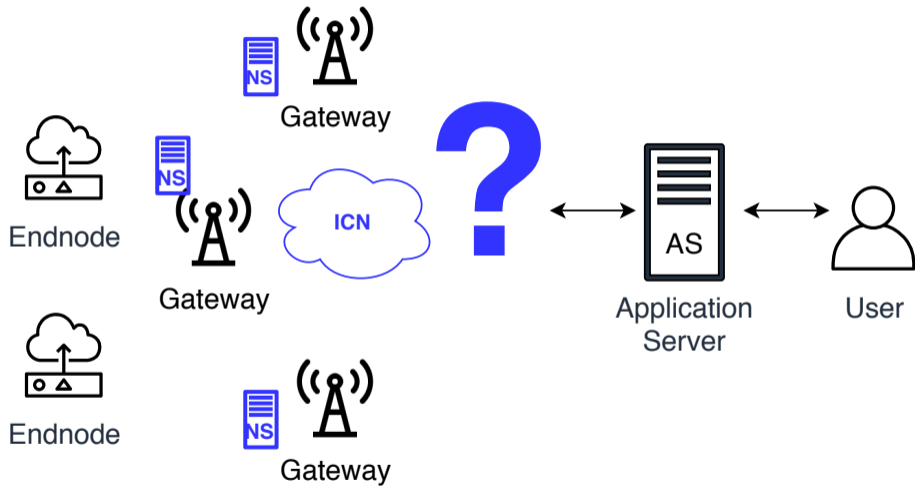
LoRaWAN Architecture Overview



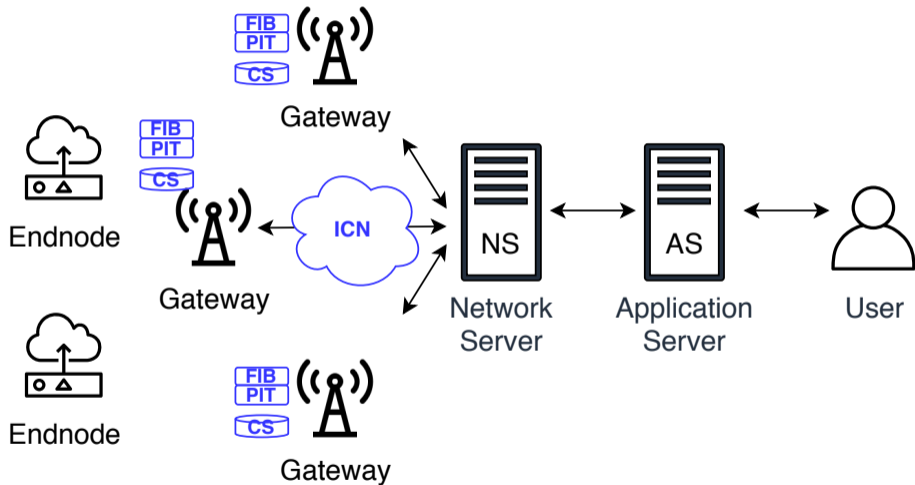
Application Server ICN (unmodified LoRaWAN)



Network Server ICN (modified LoRaWAN)



Gateway ICN (modified LoRaWAN)



Conclusion

- ▶ LoRaWAN conflicts with core ICN principles.
- ▶ MAC should enable ICN over LoRa radios directly.
- ▶ MAC must handle wireless interference and device sleep.
- ▶ Native ICN leverages multi-hop with forwarding and caching.
- ▶ Transparent network layer allows forwarding without custom gateways.