Demonstration of a library prototype to build LoRa mesh networks for the IoT

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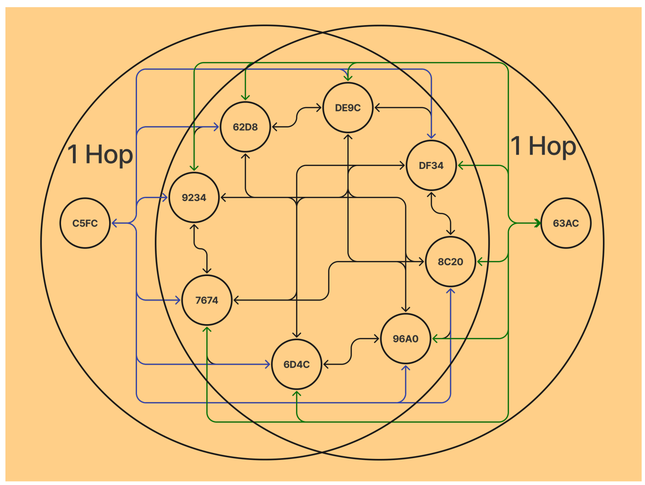
ABSTRACT

LoRa has become popular in the Internet of Things (IoT) domain as a Low Power, Wide Area Network (LPWAN) radio technology providing low-power and long-range communication. In a typical IoT application, the LoRaWAN architecture is applied, where LoRa end nodes communicate their data to a gateway, which then over the Internet sends these data to a cloud-based service for further processing.

However, LoRa can also be used standalone for the communication between LoRa nodes forming a mesh network.

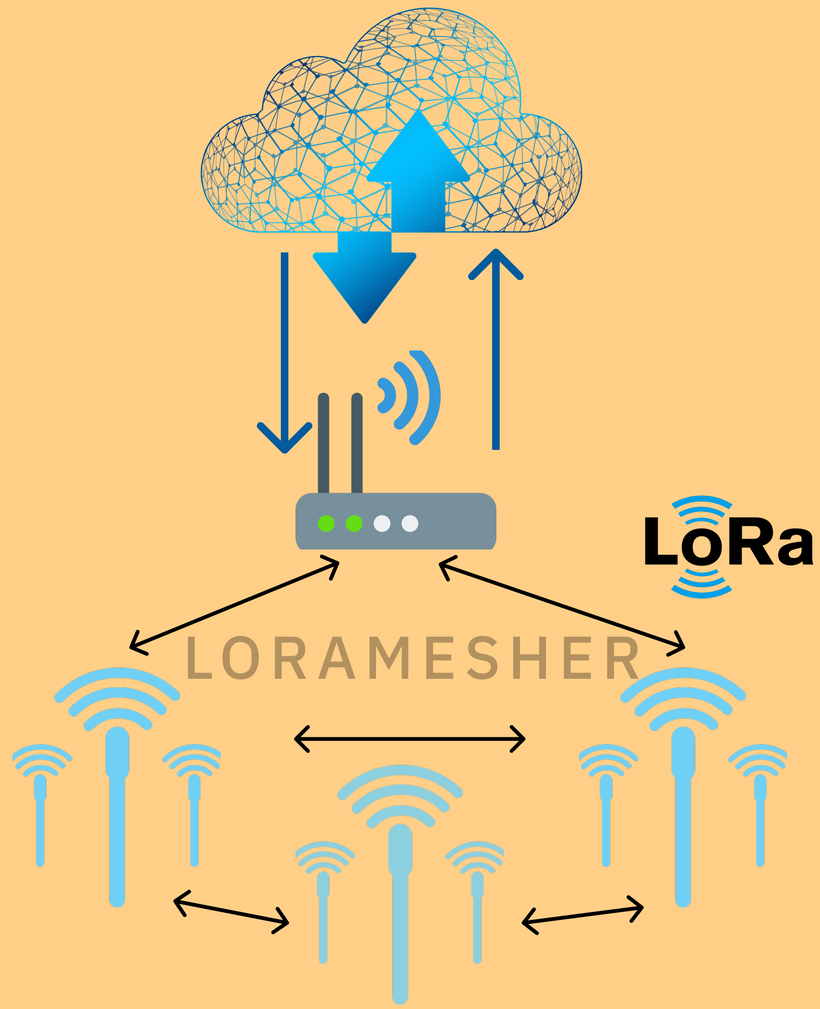
In this demo paper we present a library called LoRaMesher, which runs on LoRa nodes and forms a mesh network among these nodes.

By implementing a distance vector routing protocol, LoRaMesher enables two nodes to communicate data packets with each other while the other nodes in the mesh network operate as routers. LoRaMesher can open the possibility for new distributed applications hosted only on such tiny IoT nodes.



TOPOLOGY OF THE EXPERIMENTAL LORA MESH NETWORK. THERE ARE TWO NODES, 0XC5FC AND 0X63AC, THAT DO NOT HAVE A DIRECT LINK AND DATA PACKETS NEED TO BE ROUTED THROUGH ONE OF THE OTHER 8 NODES.

LORAWAN → LORA MESH NETWORK



CONTENT OF THE DEMONSTRATION OF LORAMESHER

LORAMESHER LIBRARY OPERATIONS
USING LORAMESHER BY APPLICATIONS
DEVELOPMENT ROADMAP

DOWNLOAD LORAMESHER AT HTTPS://GITHUB.COM/LORAMESHER

PLAY WITH THE MESH

You can send messages to an specific node or to all the nodes.

Download a Serial Bluethooth Terminal and connect to one of the devices. The name of a device is their ID.

Write /help to print the commands!

GET IT ON Google Play

Download on the App Store

DON'T BE SHY! ASK ME ANYTHING

CONTACTS

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