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Portable Modular Node Mesh Network Distribution System

Karl Reynolds

PORTABLE MODULAR NODE MESH NETWORK DISTRIBUTION SYSTEM

ABSTRACT

Devices, systems and methods for fast deployment and maintenance of a wide area network are disclosed. The device is a portable wireless router and repeater powered by a rechargeable battery deployed by aerial drones at desired locations. The system uses drones to remove and replace the router when nearing the end of battery life. The routers are portable modules that can be deployed by aerial drones onto rooftops, light posts, lamp posts or other accessible areas to distribute wifi signals, receive and transmit LTE data that connect to a mesh network. The main module will include a lithium battery and a wifi repeater/hotspot, that would be similar to a mobile phone with the hotspot turned on. The system proposes a scalable solution for rapidly expanding network connectivity beyond wired areas.

BACKGROUND

Providing network coverage to unwired locations is a challenge, as is deploying such a network quickly in a reliable way. A further challenge is to maintain network installations at inaccessible locations such as atop towers or buildings.

DESCRIPTION

This disclosure presents devices, systems and methods for fast deployment and maintenance of a wide area network. The device is a portable wireless router and repeater powered by a rechargeable battery deployed by aerial drones at desired locations. The system, as shown in FIG. 1, uses drones to remove and replace the router when nearing the end of battery life. The routers are portable modules that can be deployed by aerial drones onto rooftops, light posts, lamp posts or other accessible areas to distribute wifi signals, receive and transmit LTE data, that connect to a mesh network. The main module will

include a lithium battery and a wifi repeater/hotspot, that would be similar to a mobile phone with the hotspot turned on.

The routers could be deployed on roof tops and lamp posts near to a fixed fiber line distribution point to extend wifi coverage and create a mesh network connecting fixed distribution points together. When battery runs low for the repeater, the aerial drone can replace the location with another charged repeater. Additional modules for the distributed system can be solar powered charging stations which drones can distribute at optimum locations as the network expands. The router modules can be deployed in various ways. They could either be dropped onto roof tops, hooked onto lamp posts or clamped onto buildings. The system proposes a scalable solution for rapidly expanding network connectivity.

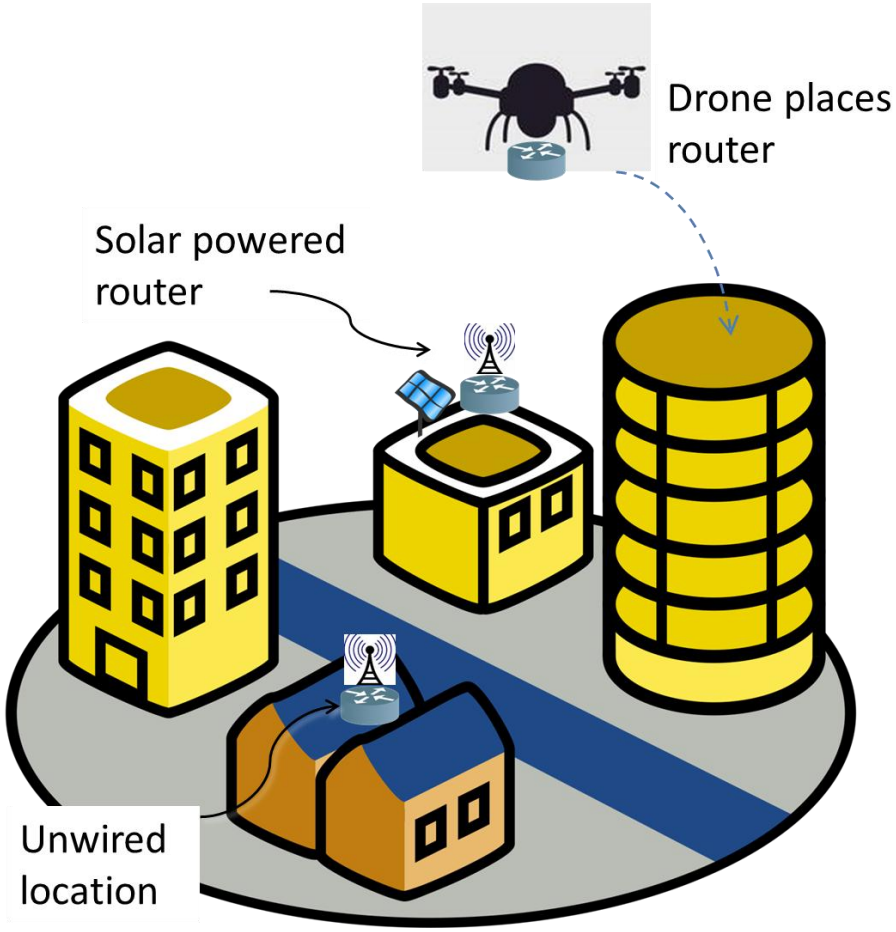

FIG. 1: System for extending internet access via fast deployable portable routers