

Communication in a Heterogeneous Ad Hoc Network

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Abstract : Wireless networks are getting more and more used in every new technology or feature, especially those without infrastructure (Ad hoc mode) which provide a low cost alternative to the infrastructure mode wireless networks and a great flexibility for application domains such as environmental monitoring, smart cities, precision agriculture, and so on. These application domains present a common characteristic which is the need of coexistence and intercommunication between modules belonging to different types of ad hoc networks like wireless sensor networks, mesh networks, mobile ad hoc networks, vehicular ad hoc networks, etc. This vision to bring to life such heterogeneous networks will make humanity duties easier but its development path is full of challenges. One of these challenges is the communication complexity between its components due to the lack of common or compatible protocols standard. This article proposes a new patented routing protocol based on the OLSR standard in order to resolve the heterogeneous ad hoc networks communication issue. This new protocol is applied on a specific network architecture composed of MANET, VANET, and FANET.

Keywords : Ad hoc, heterogeneous, ID-Node, OLSR

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