A proposed network management protocol for Cognitive Radio Sensor Networks

Abstract:

Running a Network Management Protocol is imperative to ensure network connectivity and stability especially in highly dynamic environment of future Cognitive Radio Sensor Networks. Such protocols have to be characterized by their light overhead in terms of energy, communication and implementation. A solution in this respect is hereby proposed to enable a node in a multichannel environment to quickly establish a control channel with neighboring nodes. The channel selection scheme leverages on the strength of both Dedicated Control Channel and Hopping schemes by implementing a simple weighting scheme and maximizing the use of idle listening periods. By identifying local minima nodes, it also has the potentiality of reducing route failure by 70% when utilized as a routing support.

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