

I-CReST 2021:071-056 – Enhanced Design Consideration for Mobility Support in IoT

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ABSTRACT

Various IoT applications (such as real-time patient monitoring, and vehicle tracking systems) require mobility support. Unfortunately, the standard RPL proposed only considers static wireless sensor network (WSN). A reliable mobility support for RPL is important to guarantee continuous connectivity among devices. Poor mobility support also leads to data loss, more consumed energy, increased delay and degradation of application performance. Various solutions have been proposed to tackle the mobility issues but lack to consider different mobility models with respect to appropriate factors. This paper presents several mobility models to be implemented in different IoT mobile applications. Knowing the details mechanism with respect to different mobility models allows a better implementation of application specific RPL mobility support. Mobility models is much related with the mobility patterns, which are the actual movement behaviour of the moving objects. Several factors that determine the movement behaviour are velocity, obstacles, whether it is individual or group-based movements, and so on. Considering all the factors and different mobility models, the enhanced design of mobility support for RPL is proposed in this paper.

Keywords: Internet-of-Things (IoT); mobility model; RPL

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