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IEEE Internet of Things Journal Special Issue on Internet of Things over LTE/LTE-A Network: Theory, Methods, and Case Studies

With the global deployment in the fourth-generation (4G) cellular networks, long term evolution (LTE) and LTE-Advanced (LTE-A) have become key technologies to enable Internet of Things (IoT) applications. To accommodate various streaming data of IoT applications, LTE/LTE-A standards have defined several quality-of-service (QoS) classes for different traffic characteristics, in terms of traffic bit-rate, tolerable delay and packet loss rate. Moreover, to meet the stringent power-saving requirements for IoT devices, LTE/LTE-A standards also have defined the discontinuous reception/transmission (DRX/DTX) mechanism to allow devices to turn off their radio interfaces and go to sleep when no data need to be received or transmitted from/to the evolved Node B (eNB). Clearly, the convergence of IoT and 3GPP LTE network can considerably benefit both sides. IoT devices could efficiently transfer their data using LTE/LTE-A networks, while the LTE/LTE-A operators may develop more value-added IoT services. Despite such promising future, there are still many challenges for IoT over LTE/LTE-A network. This special issue aims to help both industry and academia research communities to better understand the recent progress and potential research directions on the path towards the future of IoT over LTE/LTE-A.

Topics of interests include (but are not limited to) the following categories:

- Future IoT concepts, applications and services for LTE/LTE-A networks
- Energy efficient IoT with LTE DRX/DTX fine tune
- QoS provisioning and cross-layer design for Internet of Things over 4G cellular network
- LTE Security and privacy enhancement for Internet of Things
- Hierarchical LTE IoT architectures and eNB IoT Gateway
- Novel traffic modeling and resource/mobility management for LTE/LTE-A IoT
- Commercial model and case study of LTE/LTE-A IoT System
- Data-centric, protocol-centric and technology-centric approaches for the design of IoT in LTE/LTE-A
- Data fusion and aggregation for IoT over LTE/LTE-A
- Novel pricing, billing and charging schemes for LTE/LTE-A IoT system
- Successful testbeds and trials of LTE/LTE-A IoT system
- Current and future standardization activities related to cellular IoT

Important Dates

Submissions Deadline: March 15, 2015
Revision Due: July 15, 2015
Final Manuscript Due: August 30, 2015
First Reviews Due: June 15, 2015
Second Reviews Due/Notification: August 15, 2015
Publication Date: October 2015

Submission

The special issue seeks submission of papers that present novel original results and findings on Internet of Things over LTE/LTE-A Network. Solicited original submissions must not be currently under consideration for publication in other venues. Author guidelines and submission information can be found at http://iot.ieee.org/journal. All manuscripts should be submitted through Manuscript Central: http://mc.manuscriptcentral.com/iot.

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