

CALL FOR PAPERS

IEEE Internet of Things Journal Special Issue on Cloud Computing for IoT

Over recent past years there has been a growing interest in the ability of embedded devices, sensors, actuators to communicate and create a ubiquitous cyber-physical world. The growth of the notion of the Internet of Things (IoT) and the rapid development of technologies such as short range mobile communication and improved energy-efficiency is expected to create a pervasive connection of “things”. This will inevitably result in the generation of enormous amount of data, which have to be stored, processed and accessed. Cloud computing has long been recognized as a paradigm for big data storage and analytics. The combination of cloud computing and IoT can enable ubiquitous sensing services and powerful processing of sensing data streams beyond the capability of individual “things”, thus stimulating innovations in both fields. For example, cloud platforms allow the sensing data to be stored and used intelligently for smart monitoring and actuation with the smart devices. Novel data fusion algorithms, machine learning methods, and artificial intelligence techniques can be implemented and run centralized or distributed on the cloud to achieve automated decision making. These will boost the development of new applications such as smart cities, grids, and transportation systems. New challenges however arise when IoT meets cloud – there is an urgent need for novel network architectures that seamlessly integrate them, and protocols that facilitate big data streaming from IoT to the cloud. QoS and QoE, as well as data security, privacy, and reliability, are critical concerns during the integration.

This special issue solicits high-quality original research papers which focuses on the integration of cloud computing and IoT. We encourage submissions on theoretical, practical, as well as experimental studies, from both academia and industry, related to all aspects of Cloud Computing for IoT. High-quality survey papers that review the cutting edge research in this field would also be considered. Topics of interests include (but are not limited to) the following categories:

- Network architecture for cloud and IoT integration
- IoT and cloud data management
- Cloud computing for large-scale sensor data stream processing
- Cloud-assisted machine to machine communication
- Innovative applications of cloud-based sensing architecture, e.g., smart cities, smart grids, transportation
- Protocol design and modification for cloud and IoT integration (e.g., CoAP, IPv6)
- Data security, privacy and reliability for cloud and IoT integration
- Cloud-assisted IoT mobility management and QoE/QoS enhancement
- Cloud-assisted ubiquitous sensing services and applications

Important Dates

Submission Deadline: **December 1st 2014**

Revision Due: May 1st 2014

Final Manuscript Due: July 20th 2015

First Reviews Due: March 31st 2014

Second Reviews Due/Notification: June 20st 2015

Publication Date: August 2015

Submission

The special issue seeks submission of papers that present novel original results and findings on Cloud Computing for IoT. 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>.

Guest Editors

- Chuang Lin, Tsinghua University, China
Email: chlin@tsinghua.edu.cn
- Jiangchuan Liu, Simon Fraser University, Canada
Email: jcliu@cs.sfu.ca
- K. K. Ramakrishnan, AT&T Fellow, USA
Email: kkramakrishnan@yahoo.com
- Edith C.-H. Ngai, Uppsala University, Sweden
Email: edith.ngai@it.uu.se