

Call for Papers

Springer Cluster Computing

Special Issue on

Convergence of Internet of Things and Cloud Computing:

Recent Advances and Future Trends

The Internet of Things (IoT) has emerged as a revolutionary technology that promises to offer a fully connected “smart” world. It enables billions of everyday objects such as consumer goods, enduring products, vehicles, utility components, sensors, and other physical devices to be connected with global internet that aims to transform the way we live, work, and play. However, a wide-scale realization of IoT is hindered due to the significant constraints of IoT devices in terms of memory, processing resources, energy, or communication bandwidth. The rise of cloud computing is seen as an enabler to solve many of these issues as it offers networked and remote computing resources to process, manage, store and share huge volume of IoT data. Furthermore, cloud computing allows small and scattered IoT devices to interact with its powerful back-end capabilities related to data analytics and control.

Therefore, the convergence of IoT and cloud computing (IoT-Cloud or Cloud of Things) can push IoT paradigm closer to widespread reality with huge technical, social and economic significance. The potential of this outcome is the development of new horizon of ubiquitous sensing, computing and interaction services such as Things-as-a-Service and Sensing-as-a- Service to support better communication and collaboration among people and things. Such a paradigm also offers users to build applications that can use and handle a set of smart physical objects interconnected and controlled through software services using cloud infrastructure. Thus, the IoT-Cloud integration can stimulate the development of new innovative applications and services in various areas such as smart cities, smart home, smart grids, transportation, healthcare etc. to improve all aspects of people’s life.

While researchers and practitioners have been making progress in the area of IoT-Cloud domain, still there exists several issues that need to be addressed. Some of these issues are: novel network architecture and middleware platform considering emerging technologies such as 5G wireless networks, software defined network and semantic computing; effective data collection and big data analytics; novel data security and privacy methods; social relationship exploration and evaluation among IoT objects; and context-aware service management with effective quality of service support and other issues.

Topics of Interest:

This special issue targets a mixed audience of researchers, academics and investigators from different communities to share and exchange new ideas, approaches, theories and practice to resolve the challenging issues in the cross-section of IoT and Cloud paradigm. Therefore, the suggested topics of interest for this special issue include, but are not limited to:

- Middleware design for IoT-Cloud systems
- 5G network architecture and protocols for Cloud of Things ecosystem
- Semantic, cognitive, and perceptual computing in IoT-Cloud domain
- Service discovery and selection in IoT-Cloud environment
- Security, privacy and reliability of IoT-Cloud systems
- Software defined IoT-Cloud platform
- Resource, service and context management
- Simulation platform for IoT-Cloud systems
- Quality of Service in the Cloud of Things ecosystem
- Interoperability, mobility and data management

- Social aspects in IoT-Cloud platform
- Big data analytics in IoT-Cloud paradigm
- Emerging IoT-Cloud services and applications

Submission Deadline

Paper submission due: **October 30, 2016**

First-round acceptance notification: December 30, 2016

Revision submission: January 30, 2017

Notification of final decision: February 30, 2017

Submission of final paper: March 30, 2017

Publication date: April 30, 2017

Author Guideline's

All the papers should be full journal length versions (not exceed 20 pages) and follow the guidelines set out by Cluster Computing (<http://www.springer.com/computer/communication+networks/journal/10586>). Manuscripts should be submitted online at <https://www.editorialmanager.com/clus/> by choosing “**SI: Convergence of Internet of Things and Cloud Computing**” as article type. All the papers will be peer reviewed following the Cluster Computing reviewing procedure. The submitted papers must be original and must not be under consideration in any other venue.

Guest Editors

Mohammad Mehedi Hassan, King Saud University, Riyadh, Saudi Arabia

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