Wireless Communications and Mobile Computing

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Special Issue on
Software-Defined Industrial Internet of Things

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Despite the progress of embedded systems and the development of information and communication technology in recent decades, the industrial systems are still expected to evolve due to the constant science advancement. As we know, Cyber-Physical Systems (CPS) are Industry 4.0 enablers. In the context of Industry 4.0, Industrial Internet of Things (IIoT) is promoting and advertising the industrial upgrading.

In order to implement the flexible, customizable, and efficient industrial systems, all related enabling technologies (e.g., industrial wireless networks, cloud computing, bigdata, and social networks) or devices (e.g., intelligent robots and flexible conveyors) must be developed as well for being integrated into IIoT systems. However, we still face some challenges: (1) how to realize the efficient interaction and coordination between IIoT for the Industry 4.0 production; (2) how to design a configurable data acquisition node in order to meet more application scenarios; and (3) how to fully utilize heterogeneous network to transfer all kinds of information. Fortunately, Software-Defined Networking (SDN) possesses the feature that can manage network services through abstraction of higher-level functionality. Therefore, enlightened by SDN, there is a new idea for the information interaction of industrial environment by introducing software-defined IIoT to make the network more elastic.

This special issue targets innovative and validated solutions for improving the information interaction of IIoT.

Potential topics include but are not limited to the following:

- ▶ Information interaction and coordination in IIoT
- ▶ Software-defined IIoT architecture
- ▶ Software-defined wireless and networked sensors
- ▶ Programmable control layer for sensors
- ▶ Software-defined controller for IIoT
- ▶ Software-defined data acquisition nodes for IIoT
- ▶ Novel hardware for software-defined IIoT
- ▶ Security for software-defined IIoT
- ▶ Performance assessment and simulations for software-defined IIoT
- ▶ Big sensory data storage, processing, and analysis in IIoT
- ▶ Technology standardization for IIoT
- ▶ Applications and test beds for software-defined IIoT

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Submission Deadline
Friday, 13 April 2018

Publication Date
August 2018