

Special Issue on Mobile Edge Computing

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The advent of mobile cloud computing has increased expectations for optimal and reliable services and support for mobile users. The large pool of cloud resources and services has enabled the emergence of many novel applications for smart environments. However, the state-of-the-art mobile cloud computing turns into a problem for communication-intensive applications, which need to meet the delay requirements. The problem becomes more intense in smart cities or Internet of Things. Current cloud computing paradigm is unable to meet the requirements of low latency, location awareness, and mobility support.

Mobile Edge Computing (MEC) is emerging as very promising computation architecture by pushing computation and storage closer to end-users with both strategically deployed and opportunistic processing and storage resources. Such mechanism is essentially different from the traditional cloud computing. MEC aims to enable the millions of connected mobile devices to execute the real-time applications directly at the network edge. The distinguishing features of MEC are its closeness to end-users, mobility support, and dense geographical deployment of the MEC servers. Driven by this insight, this special issue aims at presenting the current state-of-the-art research and future trends on various aspects of mobile edge computing techniques for cloud-based IoT applications and attempts towards building highly adaptive smart environments that can automatically adapt behaviors to the amount of available resources. The major subjects cover methodologies, modeling, analysis, and newly introduced applications. Besides the latest research achievements, this special issue also covers innovative commercial management systems, innovative commercial applications of MEC technology, and experience in applying recent research advances to real-world problems. The papers will be peer reviewed and selected on the basis of both their quality and their relevance to the theme of this special issue.

Potential topics include but are not limited to the following:

- ▶ MEC architecture: peculiar features and evolution
- ▶ User transparent application execution frameworks for MEC
- ▶ Real-time communication between MEC clients/servers
- ▶ Smart MEC scheduling that enhances reliability and scalability
- ▶ Resource monitoring mechanism and utilization measuring mechanism
- ▶ MEC resources allocation and management
- ▶ Real-time load prediction model to optimize the user satisfaction
- ▶ MEC functionalities virtualization
- ▶ Data storage, processing, and management at MEC platform
- ▶ Recovery scheme of failed mobile edge computing
- ▶ Applications of mobile edge computing in IoT and connected vehicles
- ▶ Security and privacy issues for MEC
- ▶ MEC based data analytics
- ▶ Simulation models for MEC
- ▶ Performance evaluation of MEC simulators, platforms, and/or architectures
- ▶ Deployment strategies of MEC servers
- ▶ Admission control for MEC
- ▶ Pricing and billing models for MEC
- ▶ Lightweight authentication mechanisms on resource constrained devices
- ▶ Open issues, challenges, and future perspective for MEC
- ▶ Novel applications and services that make use of MEC

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Papers are published upon acceptance, regardless of the Special Issue publication date.

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