Wireless Communications and Mobile Computing

Special Issue on

Real-Time Communication in Wireless Sensor Networks

CALL FOR PAPERS

Wireless Sensor Networks (WSNs) have opened up many new possibilities to utilize useful environmental information. For instance, event information around sensor nodes can potentially be acquired through multihop communications. Unfortunately, most of the important metrics of sensing values are very sensitive to delay or latency. In fact, real-time applications are performance critical applications that require bounded service latency. In multihop wireless ad hoc and sensor networks, communication delays are dominant over processing delays. Therefore, to enable real-time applications in such networks, the communication latency must be bounded. Hence, it is strongly recommended to deliver data to sink nodes within some specified "deadlines" in order to maintain the validity of transmitted data. However, due to limited computing power and narrow bandwidth, it is often difficult to provide real-time communication in WSNs.

This special issue solicits the submission of high-quality and unpublished papers that aim to solve open technical problems and challenges typical of real-time communication in WSNs, integrating novel solutions efficiently, and focusing on the performance evaluation and comparison with existing standards. Both theoretical and experimental studies for typical real-time communication scenarios are encouraged. Furthermore, also high-quality research and review papers are welcomed.

Potential topics include but are not limited to the following:

- Real-time traffic model in WSNs
- Communication in Wireless Multimedia Sensor Networks (WMSNs)
- MAC, routing, and transport-layer protocols for real-time communications in WSNs
- Scheduling algorithms for real-time communication in WSNs
- Networks architecture for real-time communication in WSNs
- Performance evaluation of real-time communication in WSNs
- Applications of real-time communication in WSNs
- Topological control of real-time communication in WSNs
- Real-time communication for the Internet of Things (IoT)
- Soft computing approaches as a support for real-time communication in WSNs
- Impact on power consumption of real-time communication in WSNs
- Impact of wireless backhaul connections on the performance of real time WSN systems
- Testbed for real-time WSNs

Authors can submit their manuscripts through the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/wcmc/rtcw/.

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

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