



Special Issue on Seamless Mobility in Wireless Networks

The advances in wireless technologies and mobile devices have enabled the realization of a wide range of wireless networking opportunities. These networks provide mobile users with a variety of application services, including high-speed data and real-time multimedia delivery. While no single wireless technology is predominant today, no single wireless technology will prevail in the foreseeable future, simply due to the fact that different wireless technologies were designed to address different coverage, mobility, and data rate requirements. The “coexistence of wireless heterogeneous networks” has been widely recognized, and it has become more and more common that new mobile devices get equipped with multiple and heterogeneous wireless interfaces. Furthermore, the recent advances in software-defined and cognitive radio technologies including the availability of TV white space spectrum promise even more diversity and heterogeneity. This brings about a lot of opportunities and challenges for mobile wireless networking. These challenges should be addressed urgently to make the best out of the proliferation of wireless technologies.

With the emerging wireless technologies, mobility has more generic meaning than just node movement as in the traditional sense. It also means that when the operational environment changes (such as frequency and power), a node or the network adapts to the environmental changes, which requires the cognitive capability. On one hand, it is of critical importance that seamless, low latency and transparent services are provided to the users, via potentially multiple heterogeneous wireless technologies or opportunistic spectrum access involved during the course of node movement or environmental changes. This is particularly challenging if infrastructure networks are absent. *Environment cognizance, spectrum-aware mobility management, and vertical handoff* become critical components in the solution space. Such issues are even more challenging with the support of the cognitive radio technology. On the other hand, host and network mobility also affects the performance of network protocols significantly, while at the same time allows opportunistic interconnections of heterogeneous networks, which in turn makes *mobility adaptability* an important design issue. This asks the design of wireless architectures, protocols, spectrum management, and mobility management mechanisms to be revisited. Traditional infrastructure-based approach is not sufficient to tackle all the challenges manifested today.

The Special Issue on Seamless Mobility in Wireless Networks welcomes original submissions from both researchers and practitioners that explore recent advances in architecture, system, protocol, modeling, and testbed design, as well as emerging applications and standards to enable seamless mobility and transparency in wireless networks. Topics of interest include, but are not limited to:

- Architecture, system, and protocol design for seamless roaming support in wireless networks
- Spectrum cognition and agility associated with mobility
- Vertical handoff and seamless integration of heterogeneous networks
- Location tracking, positioning, and address management
- Mobility modeling and theoretical/experimental validation
- Mobility impact on routing, resource/power/QoS management
- Adaptive and resilient protocols for seamless mobility support at all layers, as well as cross-layer approaches
- Security and privacy issues under mobility and network access
- Emerging standards and applications on mobility
- Simulation/testbed tools and experimental measurements

Submission

Authors are invited to submit original and unpublished papers. Submissions should follow the author guidelines of Journal of Communications and the complete instructions for prospective authors can be found at <http://www.academypublisher.com/jcm/forauthors.html>. For further questions or inquiries, please contact the corresponding guest editor (Linda Xie, linda.xie@uncg.edu).

Important Dates

Submission Deadline:	June 1, 2010
Author Notification:	October 15, 2010
Final Manuscript due:	November 15, 2010
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