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IEEE Vehicular Technology Magazine Special Issue on
Next Generation Softwarized Wireless Networks

Fifth Generation (5G) systems need to face not only the challenging requirements of enhanced Mobile BroadBand (eMBB) use cases with multi-gigabit data rates but also of new diverse use cases associated to customers of new market segments and vertical industries (e.g., e-health, automotive, energy). Therefore, on top of supporting the evolution of the current business models, 5G will expand to new ones. Partnerships will be established on multiple layers ranging from sharing the infrastructure, to exposing specific network capabilities as an end to end service, and integrating partners' services into the 5G system through a rich and software oriented capability set. The vision of the future 5G system corresponds to a highly heterogeneous network, including multiple Radio Access Technologies (RATs), multiple cell layers, multiple spectrum bands, multiple types of devices, etc.

In the view of the upcoming 5G era, limitations such as the lack of network automation, limited flexibility in scaling/upgrading network resources and services are gradually being confronted via a progressive softwarization of radio and wireless networks sustained in the applicability of emerging concepts and technologies such as network function virtualization (NFV) and software-defined networking (SDN). In addition to network flexibility, NFV/SDN technologies are also expected to result in reduced equipment and, remarkably, lower operational costs. Indeed, the adoption of NFV/SDN architectural frameworks enables the creation of more intelligent networks that are open, programmable and application aware. It creates network abstractions that are essential for the integration and consistent operation of the underlying networking functions, facilitating the combination of diverse access systems (e.g., satellite/terrestrial) and network elements (e.g., macro and small cells) for the deployment of optimized network architectures tailored to specific application requirements.

The objective of this special issue is to present the latest insights, results and perspectives on the area of next generation softwarized wireless networks. We are soliciting original contributions that have not been published and are not currently under consideration by any other journals. The topics of interest include:

- Novelties in wireless virtualization technologies
- Programmability of wireless networks (e.g., abstractions, Application Programming Interfaces)
- Software-defined mobile / wireless transport / satellite networks
- Novel service delivery models facilitated by softwarization (e.g., Network as a Service)
- Network slicing and multi-tenancy in next generation Radio Access Network (RAN)
- Architectural design of softwarized wireless networks
- Network and service management in softwarized wireless networks
- Service function chaining (SFC) in wireless networks
- Cloud computing and Edge-Fog computing technologies in softwarized wireless networks
- Integration and unified management of access technologies, including satellite access
- Integration and unified management of access, backhaul and fronthaul technologies
- Use cases/applications highlighting the potential of softwarized wireless networking solutions

Submissions should clearly identify how they relate to topics under consideration in this special issue. Contributions describing an overall working system and reporting real world deployment experiences are particularly of interest. Submitted papers should contain state-of-the-art research material presented in a tutorial or survey style. Manuscript format must adhere to the IEEE VT Magazine submission guidelines. Articles should be about 3,000 to 4,000 words long with 5—10 figures and 10—15 references. The use of mathematical equations should be limited to three. Submit papers using ScholarOne Manuscripts™: http://mc.manuscriptcentral.com/vtm-ieee

Important Dates

Submission Deadline: 15 November 2017
First Editorial Decision: 31 January 2018
Acceptance Notification: 15 March 2018
Final Manuscript Due: 31 March 2018
Publication: Sep-Dec 2018

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