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IEEE Communications Magazine

Feature Topic on

“Software Defined 5G Networks for Anything as a Service”

The advanced 5G infrastructure is expected to become the nervous system of the Digital Society and Digital Economy. “Full Immersive Experience” and “Anything as a Service” are the primary drivers for global adoption and market uptake of new technology components. Above all, 5G networks will be suitable for mission-critical machine communications, and massive machine type of traffic. As a result, the key performance metrics that 5G is expected to improve are in terms of, but not limited to: 1) Latency, 2) Reliability, and 3) Spectrum Agility. This calls for a complete re-thinking of Access Stratum (AS), Non Access Stratum (NAS) and Transport Network (TN) functions, procedures and protocols for carrier-grade performance in “in-coverage” and “out-of-coverage” scenarios, with and without network assistance. New emerging technologies, such as Software Defined Networking (SDN), Network Functions Virtualization (NFV), and Mobile Edge Computing (MEC) provide momentum for new design principles towards Software Defined 5G Networks.

This Feature Topic (FT) will shed light on the fundamental end-to-end technologies of the advanced 5G network infrastructure expected for providing “Full Immersive Experience”, enriched by “Context Information”, and “Anything as a Service” looking at the Nervous System of the Digital Society and Digital Economy, at the 2020 horizon and beyond.

Topics of interest include, but are not limited to:

- Solutions for unified Connection, Security, Mobility and Routing management
- Sensing, transport and rendering technologies for ultra high definition full immersive video experience
- New waveforms and resource management algorithms for Device-to-X communication
- New wireless and wireline transmission techniques for backhauling/fronthauling
- Cloud-centric optical networking including flexible (or elastic) optical networking
- Mapping of 5G information channels and phase-locked RF carriers into optical domain
- Optical modulation techniques for Tbps 5G MIMO antenna
- Wireless and optical techniques for pico and micro cells multi-access points
- New types of devices, cognitive objects and cyber physical systems
- Energy efficient and low latency architectures and technologies
- Security, privacy and resilience
- 5G Evaluation Tools and Testbeds

Submission Guidelines

Articles should be tutorial in nature and written in a style comprehensible to readers outside the specialty of the article. Authors must follow the IEEE Communications Magazine's guidelines for preparation of the manuscript. Complete guidelines for prospective authors can be found at:

<http://www.comsoc.org/commag/paper-submission-guidelines>. It is very important to note that the IEEE Communications Magazine strongly limits mathematical content, and the number of figures and tables. Paper length should not exceed 4,500 words. All articles to be considered for publication must be submitted through IEEE Manuscript Central (<http://mc.manuscriptcentral.com/commag-ieee>) by the deadline. Submit articles to the "September 2015/Software Defined 5G Networks" category.

Important Dates

- Full Paper Submission Deadline: 15 January 2015
- Decisions Notification: 01 May 2015
- Final Manuscripts Due: 01 July 2015
- Publication of Future Topic: September 2015

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