CALL FOR PAPERS

Special Issue of *International Journal of Network Management* on

Managing Self-Organizing Radio Access Networks

PUBLICATION: **Summer 2013**

Self Organizing Networks (SON) were introduced within the 3GPP Long Term Evolution (LTE) as a key technology for assisting mobile operators to address challenges associated with the operation and management of their Radio Access Network (RAN). In particular, SON comprises a set of self-x (self-planning, self-configuration, self-optimization, self-healing etc.) techniques and functions that aim at providing solutions for improving network management, performance and flexibility, i.e. for automating the traditional manual network management processes, for reducing the network operation cost, and for increasing efficiency (higher Quality of Service/Experience levels in a more cost efficient manner).

SON has received particular attention in 3GPP, starting from Release 8, where a set of use cases with regards to self-configuring and self-optimizing networks namely, Coverage and capacity optimization, Energy Savings, Interference Reduction, Automated Configuration of Physical Cell Identity, Mobility robustness optimization, Mobility Load balancing optimization, RACH Optimization, Automatic Neighbour Relation Function, and Inter-cell Interference Coordination, were introduced. SON is continued with amendments in releases 9 and 10. SON-related aspects are a work in progress and will continue being standardized in the subsequent releases of LTE as an indispensable part of the standard. Apparently, there is also still plenty of room for further research results.

The extension/enhancement of SON use cases and proposals for solving them comprise mechanisms for traffic, mobility and interference management, energy efficient RANs, SON in heterogeneous networks in LTE-Advanced (HetNets) as well as in multi radio access technology and multi layer networks, SON for QoS optimization etc. At the same time, the management of SON functions per se, as well as their coordination/interactions, is an equally important topic that leaves room for advancements with respect to coordination of SON functions, SON conflict resolution, governance and policy-based approaches for managing SON and SON coordination, but also aspects covering SON integration/coordination with traditional Operation, Administration and Management (OAM) functions and systems i.e. Operation Support Systems, Network Management Systems, Element Management Systems (OSS/NMS/EMS) etc.

Accordingly, this special issue of *International Journal of Network Management* is seeking new and unpublished contributions addressing issues in the Management of Self-Organizing RANs including, but not limited to:

- SON optimization algorithms for heterogeneous LTE-Advanced networks (HetNets)
- SON optimization algorithms for traffic, mobility and interference management
- SON optimization algorithms for energy efficient RANs
- Coordination of SON functions
- SON conflict resolution
- Governance/Policy-based management of SON
- Knowledge-based SON
- SON management architecture aspects
- SON integration with OAM functions/systems
- Self-Evolving Networks (Self-Testing & Self-Healing)
- Realistic performance evaluation of SON functionalities before network deployment
- Reduction of management costs in SON empowered RANs
- Decision support systems provided by policy-based management of SON functionalities
- Service-oriented SON management (Service Level Agreements etc.)

IMPORTANT DATES

Deadline for submissions:	November 1, 2012
Notification of acceptance:	March 1, 2013
Revised papers to editors due date:	April 1, 2013
Final camera-ready to Wiley:	May 1, 2013
Publication Date:	July-August 2013

SUBMISSION GUIDELINES

Electronic submission using the manuscript central http://mc.manuscriptcentral.com/nem is required. The author will be called to select the special issue and name of guest editor during submission. Author guidelines for the preparation and submission are also available at http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1099-1190/homepage/ForAuthors.html

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