



Small cEIS coordinAtion for Multi-tenancy and Edge services

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Self-X features and virtualised CESC multi-tenancy techniques evaluation

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Abstract

The introduction of Self-Organizing Networks (SON) functions, also known as “Self-X” functions, facilitates an efficient management of the multi-tenant Cloud Enabled Small Cell (CESC) networks considered in the framework of the 5G-PPP SESAME EU-funded project (GA No.671596). These functions can automatically tune global operational settings of a small cell (SC) as well as specific parameters of Radio Resource Management (RRM) functions. As a result, planning and optimisation activities can be performed in a more autonomous way, removing the need for manual tasks.

Previous deliverables D2.4 and D2.5 already identified, respectively, the different Self-X functions and their mapping on the SESAME architecture, while the deliverable D3.1 has presented some initial studies in the area of Self-X. Based on this, the actual deliverable presents a detailed analysis and evaluation of some selected Self-X functions and of associated RRM functions that have been considered as relevant, in SESAME. For this purpose, the deliverable starts its context by covering the multi-tenancy aspects and the Radio Access Network (RAN) slicing process in multi-cell networks and assessing their impact on the design of RRM and Self-X functions. Then, the deliverable presents different solutions for specific Self-X and RRM functionalities, in particular covering the areas of self-planning, self-optimisation of admission control, mobility load balancing, inter-cell interference coordination, dynamic virtual resource allocation, Self-X for the wireless backhaul and user-centric knowledge extraction.