

Self Organizing Networks for 3GPP LTE

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Abstract – Network elements and their parameters in mobile wireless networks, are largely manually configured. This has been somewhat sufficient; but with the growing data traffic compensated by new and emerging technologies with corresponding larger networks, there is an obvious need to redefine the network operations to achieve optimum performance. A manual configuration approach requires specialized expertise for device deployments, configurations, re-setting network parameters and general management of the network. This process is cost-intensive, time-consuming and prone to errors. Adoption of this approach in the evolved wireless technologies results in poor network performance. Therefore, the introduction of advanced mobile wireless networks has highlighted the need and essence for automation within the network. Self Organizing Networks (SON) developed by 3GPP, using automation, ensures operational efficiency and next generation simplified network management for a mobile wireless network. The introduction of SON in LTE therefore brings about optimum network performance and higher end user Quality of Experience. This paper highlights the SON techniques relevant within an LTE network, a brief description of SON architecture alternatives and then some information on the evolution of SON activities as LTE evolves towards LTE-A.