Failure management insights in 5G using ns-3 network simulator

Antonio Tarrías, Sergio Fortes and Raquel Barco atm@ic.uma.es, sfr@ic.uma.es, rbm@ic.uma.es Instituto de Telecomunicación (TELMA), Universidad de Málaga, CEI Andalucía TECH E.T.S. Ingeniería de Telecomunicación, Bulevar Louis Pasteur 35, 29010 Málaga (España)

ABSTRACT

Failure management has been one of the most researched fields in cellular networks paradigm. Networks operators has experienced many problems on their deployments with each of the past generations. 5G networks aim high to encompass a wide variety of services, which means a large amount of resources on network management and failure resolution. The objective of the present work is to use the previous generation as base and provide, together with the updates on 3GPP specification, insights about what would be the problems that networks will handle. For this, they were identified and categorized some of these failures at the same time their effect on system performance was evaluated.

ACKNOWLEDGEMENTS

This work was supported by the European Union's Horizon 2020 research and innovation program under Grant no. 871249, project LOCUS. This work has been also funded by: Junta de Andalucía and ERDF: projects IDADE-5G (UMA18-FEDERJA-201) and OptiRAN5G (UMA18-FEDERJA-174), and postdoctoral grant (Ref., DOC 01154, "selección de personal investigador doctor convocado mediante Resolución de 21 de mayo de 2020", PAIDI 2020); University of Malaga, through the I Plan Propio de Investigación, Transferencia y Divulgación Científica de la Universidad de Málaga.