

INTEROPERABILITY MECHANISMS AND CRITERIA FOR LTE AND MOBILE-WIMAX

ANWAR MOUSA

University of Palestine, P.O. Box: 1219, Gaza- Palestine

ABSTRACT

In this paper, basic mechanisms of interoperability between Long-Term Evolution (LTE) as 4G cellular system and mobile WIMAX networks as 4G wireless are introduced. Two cost-based mechanisms are investigated to represent two interoperability functions: Initial Network Selection (INS) and Inter-Network Handover (INH). Simplified approaches that ease the evaluation of related Cost Functions (CF) are proposed. The necessary assumptions for the implementation of a joint LTE-WIMAX system level simulator platform, through a real coexistence scenario, are proposed. Numerical results show a considerable enhancement in terms of selected performance metrics such as blocking and dropping probabilities. Weight values readjustments are also tested to highlights the critical key factors affecting interoperability mechanisms.

KEYWORDS: LTE, Mobile WIMAX, interoperability, Initial Network Selection, Inter-Network Handover, 4G.