

# **Enhanced Mobile Packet Core Network Scheme for Next-Generation Mobile Communication Systems**

**Mohammad Al Shinwan and Kim Chul-Soo**

In the current Evolved Packet Core (EPC) network for Long Term Evaluation (LTE) mobile network features complicated control and data plane protocols and requires expensive equipment. The data packet delivery in EPC is performed based on centralized mobile anchor between eNode B (eNB) elements and the network gateways. The mobility anchor is performed based on Serving Gateways (S-GWs) which has numerous drawbacks, including non-optimal routing between User Equipment's (UEs) in the same mobile network and nonessential data traffic into EPC. To address these challenges, here we describe a new mobile packet core architecture for future mobile networks. The proposed scheme is based on simplifying the mobile core network by removing the S-GW elements and S5/S8 interface. Further, we propose to connect the S1-U and S11 interfaces directly to Packet Data Gateway (P-GW). The eNB elements will exchange the messages direct with P-GW. We describe the results of numerical analysis showing the proposed scheme provides significant performance compared with current LTE network in terms of total transmission delay and handover delay.

Al Shinwan, Mohammad, and Chul-Soo, Kim, (2017), Enhanced Mobile Packet Core Network Scheme for Next-Generation Mobile Communication Systems, International Journal of Electronics Communication and Computer Engineering