A Flat Mobile Core Network for Evolved Packet Core Based SAE Mobile Networks

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In the current mobile IPv6 (MIPv6) systems for the System architecture evaluation (SAE) networks, such as 4th generation (4G) mobile network, the data delivery is performed basing on a centralized mobility network anchor between Evolved Node B (eNB) and Serving Gateways (S-GW), and also between S-GW and Packet Data Network Gateway (P-GW). However, the existing network has many obstacles, including suboptimal data routing, injection of unwanted data traffic into mobile core network and the requirement of capital expenditure. To handle these challenges, here we describe a flat mobile core network scheme donated by F-EPC, based SAE mobile network. In the proposed scheme, the P-GW and S-GW gateways are features as one node named Cellular Gateway (C-GW). Further, we proposed to distribute and increase the number of C-GW in mobile core network, the Mobility Management Entity (MME) functioned as centralizing mobility anchor and allocating the IP address for the User Entity (UE). In this paper, the explained results of a simulation analysis showed that the proposed scheme provides a superior performance compared with the current 4G architecture in terms of total transmission delay, handover delay and initial attach procedure.

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