

## **Enhanced Handover Management in 4G Mobile Network**

**Mohammad Al Shinwan, Laith Abualigah, Ahmad M. Khasawneh,  
Hamzeh Alabool, Deemah Alarabiat**

The current Evolved Packet Core (EPC) 4th generation (4G) mobile network structure emphasizes complicated control plane protocols and requires expensive equipment. In this approach, we propose the creation of a tunnel that maintains data delivery to mobile devices until the new Base Station (BS) element updates the route with the gateway, which prevents data packet loss during handover between BS elements located near to one another. To maintain the handover without losing the data we propose an approach scheme based on IP encapsulated within IP (IP-in-IP) for data delivery. We describe the results of numerical analyses showing that the proposed architecture provides superior performance compared with the current 4G architecture in terms of handover delay.

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