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## Performance Evaluation of Multi-Interfaced Fast Handoff Scheme for PNEMO Environment

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### Abstract

Mobility management is classified into two parts such as location management and handoff management. The earlier one concentrates on location update whereas the later one manages continuous Internet connectivity while the Mobile Router (MR) changes its single point of attachment to the network. Therefore, frequent movement of the MR is one of the significant characteristics in Network Mobility (NEMO) environment. Because, in accordance with the standard Network Mobility Basic Support Protocol (NEMO BSP), the MR utilizes single Interface to attach to the access link. MR requires changing its Care of Address (CoA) when it moves among different wireless access networks. As a result, it can directly influence the performance of the mobility management protocols during inter technology handoff of multi-interfaced MR. This paper proposed a multi-interfaced fast handoff scheme in Proxy NEMO (PNEMO) environment. After that, it represents a comparative analysis between the proposed multi-interfaced scheme, NEMO BSP and the PNEMO scheme respectively. The performance disparities of these schemes are estimated and analyzed via both numerical and simulation approaches. The simulation is performed through NS-3 network simulator. The performance metrics estimated for evaluation are mainly handoff delay and packet loss. It has been perceived that, the proposed scheme performs better compared to the PNEMO scheme and NEMO BSP.

### Keywords

**Author Keywords:** NEMO; NEMO BSP; PNEMO; Multi-interfaced MR; Mobility management

**KeyWords Plus:** INTELLIGENT TRANSPORTATION SYSTEMS; HETEROGENEOUS WIRELESS NETWORKS; MOBILITY MANAGEMENT

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