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A comprehensive cost performance analysis for a QoS-based scheme in network mobility (NEMO)
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Abstract
By shifting the portability task away from a mobile network node and onto a mobile router, the NEMO BS protocol has been given the green light to run by the Internet Engineering Task Force (IETF) working group. It is not effective to anticipate the mobility of each node in a train, bus, or ship individually. Hence, it would be reasonable to hire a Mobile Router (MR) that collectively handles the mobility of the entire mobile network. The NEMO BS protocol encourages efficient mobility for groups. Devices on a mobile network do not recognize the mobility of their network. Uninterrupted Internet connectivity is still given to mobile network nodes (i.e. the devices) despite the fact that the network's connection point is shifted on the Internet. The NBS solution has severe performance limitations (e.g. triangular routing and signalling cost). To address the aforementioned issues, the Diff-FH NEMO pattern has formerly been proposed. This article built a methodology to evaluate signalling costs for major Diff-FH NEMO entities. For verification, the effectiveness of the proposed scheme Diff-FH NEMO is measured against that of the industry-standard NEMO BS protocol and the MIPv6-based Route Optimization (MIRON) scheme. Many important indicators, such as the length of time a user spends in a subnet and the total number of hops, are used to compare the signalling cost to (DiffServ Mobile Router (DMRs), Correspondent Nodes (CNs), Local Fixed Nodes (LFNs), and mobile nodes). The analytical findings indicate that the suggested approach gained considerable act enhancement by shrinking the total signalling cost when the network size was enlarged. © 2023 THE AUTHORS

Author Keywords
Diff-FH NEMO; MIRON; NEMO; QoS

Index Keywords
Cost benefit analysis, Internet protocols, Mobile telecommunication systems, Quality of service, Routers; Comprehensive costs, Cost performance, Diff-FH network mobility, MIPv6-based route optimization, Mobile network nodes, Mobile Router, Network mobility, Route optimization, Signaling costs; Wireless networks

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