

Advances in Mobility Management for IP Networks

Editors:

Aisha Hassan Abdalla Hashim

Othman Khalifa

Shihab A. Hameed



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FUTURE DIRECTIONS

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23.1 INTRODUCTION

The Multicast Hierarchical Mobile IPv6 with Context Transfer Protocol (M-HMIPv6/CXTP)[1] has proposed enhancement of context transfer in mobile multicast. Context Transfer Protocol (CXTP) [2] is selected because it provides better service re-establishment in an inter domain handover. The objective is to improve the performance of the mobile nodes during handover in a multicast session. Therefore, it integrates M-HMIPv6 with CXTP and the benchmark is the standard HMIPv6 [3].

[1] has presented the literature review for relevant related works in mobile multicast. A design model of the enhanced new scheme has been developed. The mathematical analysis was carried out using equations derived from process flow of the scheme. Analytical analysis and simulation using NS2 have been conducted and the performance has been evaluated for the selected evaluation metrics. From [1], it can be concluded that:

- M-HMIPv6 with CXTP provides 80% better handover latency than HMIPv6. The M-HMIPv6/CXTP scheme offers lower time interval between the last packet received at the previous M-MAP and the first packet received at the next M-MAP.
- M-HMIPv6 with CXTP gives 40% lower packet loss rate than HMIPv6. It is nearly close to zero packet loss. This is also true since as the handover latency is getting lower, so does the packet loss.
- M-HMIPv6 with CXTP improves the service recovery time by 50% compared to HMIPv6. This is because of the lower number of parameters involved in the enhanced scheme.
- M-HMIPv6 with CXTP presents better total signaling cost by 89% from the benchmarked scheme. The enhanced scheme offers lower total signalling cost.

The percentage of improvement is shown in Fig. 23.1.