

# A Global Mobility Scheme for Seamless Multicasting in Proxy Mobile IPv6 Networks

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**Abstract**— Recently, Proxy Mobile IPv6 (PMIPv6) has been drawing attention as a mobility management protocol to effectively use the limited wireless resources. And, there have been some researches to apply PMIPv6 to multicasting, which is core technology of Internet broadcast system. However, PMIPv6 based multicasting cannot support the global mobility directly between different PMIPv6 domains because PMIPv6 is basically designed for local mobility in single PMIPv6 domain. Moreover, PMIPv6 based multicasting causes the disconnection of services because it does not solve problems of packet loss during binding and group joining procedure. In this paper, we propose a global mobility scheme that supports the seamless multicasting service in PMIPv6 networks. The proposed scheme supports the global mobility due to the addition of extra signalling messages between LMAs. Also, it achieves low latency because it performs fast binding and group joining procedure. We present the simulation results which show that the proposed scheme achieves the global mobility with low latency through the NS-2 simulation.

**Keyword**— Proxy Mobile IPv6, Multicast Mobility, Global Mobility, Seamless Service, Packet loss



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