

## **Enhancing inter-PMIPv6-domain for superior handover performance across IP-based wireless domain networks.**

### **ABSTRACT**

As a network-based localized mobility management protocol, Proxy Mobile IPv6 (PMIPv6) enables a Mobile Host (MH) to roam within a localized domain without MH intervention in the mobility-related signalling. However, the PMIPv6 maintains MH mobility support in a restriction domain. Therefore, whenever the MH roams away from the PMIPv6 domain, its reachability status will be broken-down causing high handover latency and inevitable traffic loss for its communication session. This article proposes a proactive mechanism to manage the MH handover and maintain its data session continually across inter-PMIPv6-domains. The proposed mechanism introduces an intermediate global mobility anchor entity, called, which is responsible to coordinate MH handover as well as redirect its traffic across inter-PMIPv6-domains. Through various simulation evaluations, via ns-2, several experiments were conducted, revealing numerous results that verify the proposed mechanism superior performance over the conventional inter-PMIPv6-domain handover schemes in terms of handover latency, achieved throughput, protocol signalling cost and end-to-end traffic delivery latency.

**Keyword:** PMIPv6; Inter-domain mobility; Handover coordinator; Traffic redirection; Handover latency; Protocol signalling cost.