

A Hierarchical Care-of Prefix with BUT Scheme for Nested Mobile Networks

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Abstract

In this paper, we apply the hierarchical concept to the Care-of Prefix (CoP) scheme as HCoP and enhance HCoP with a novel Binding Update Tree (BUT) structure as HCoP-B for NEtwork MObility (NEMO) management of the nested mobile network. As compared to schemes such as Reverse Routing Header (RRH), Route Optimization using Tree Information Option (ROTIO) and HCoP with numerical performance evaluations, HCoP-B achieves the shortest handoff latency and significantly reduces the consumed network bandwidth of global binding update messages for route optimizations (RO) of all correspondent nodes (CN) after the nested mobile network hands over to a new AR. Consequently, HCoP-B resolves the RO storm problem.