

Enhanced Mobility Management Schemes in HIP-based Mobile Networks

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(Pt9)Abstract— The Host Identity Protocol (HIP) has been proposed as an identifier-locator (ID-LOC) separation scheme, in which the 128-bit Host Identity Tag (HIT) is used as an ID and the IP address of the host is used as a LOC. In HIP, the mobility control operations are performed based on a centralized Rendezvous Server (RVS) that acts as a mobility anchor for mobile nodes, in which all the HIP control messages are passed through the RVS server. However, this centralized mobility scheme has some limitation, such as the service degradation by a point of failure and the overhead of centralized anchor. In this paper, we propose the two schemes for distributed mobility management (DMM): HIP-DMM-Push and HIP-DMM-Pull. From the numerical analysis, it is shown that the proposed DMM schemes can provide better performance than the existing centralized scheme, and that the pull-based distributed control scheme (HIP-DMM-Pull) provides the best performance among the candidate mobility schemes in terms of the processing overhead at the central RVS server and the HIP connection setup delays.

(Pt9)Keyword—HIP, Rendezvous Server, Inter-Domain, Mobile Networks, Distributed mobility control



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