

A Distributed Mapping Control of Identifiers and Locators for Future Mobile Internet

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Abstract— The future Internet will be evolved to mobile-oriented environments, and thus the mobility support is a key issue in the design of future Internet. This paper proposes a distributed identifier-locator mapping system (DMS) for the future mobile-oriented Internet environment, which is designed on the identifier-locator (ID-LOC) separation principle. The proposed DMS scheme is implemented over Linux platform by using the OpenFlow and Click Router software modules. From experimentations over the real testbed network of Korea Research Education Network (KOREN), we can see that the proposed DMS scheme can effectively perform the mobility management operations for mobile Internet hosts. For performance comparison, we can see that the proposed DMS scheme reduces the signaling delays for mobility management, including ID-LOC mapping update/query and data delivery, compared with the existing mobility control schemes, Proxy Mobile IP (PMIP).

Keyword— ID-LOC Separation, Distributed Mapping System, OpenFlow, Experimentation



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