Simulation of the Registration and the Base Exchange Protocols in HIP Layer with Estimation of the Handover Latency

International Journal of Computer Applications
© 2012 by IJCA Journal

Volume 47 - Number 25

Year of Publication: 2012

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Abstract

In the current Internet, hosts are identified using IP addresses that depend on the topological location of the hosts. In other words, the IP addresses are semantically overloaded since they identify both the hosts and topological locations. These dual operations of the IP address causes problems when the host has to change its IP address due to mobility. The location information changes, but it should not affect the identity information of the host. The Host Identity Protocol (HIP) is rather new concept that separates the identity and location information. The separation is done by introducing a new layer between the transport and network layers of TCP/IP stack called HIP Layer that maps host identifiers to network locators. In this paper, we will discuss how the mobility problem is addressed by HIP, the simulation of the Registration and the Base Exchange protocols in HIP Layer along with the estimation of the Handover Latency. And we will compare TCP/IP with HIP over TCP/IP. The Handover Latency is the Metric we are used to compare between the two.

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Index Terms

Computer Science Communications

Keywords

Mobility Host Identity Protocol Base Exchange Registration Protocol Handover Latency Omnet++.