QoS AND MOBILE TECHNOLOGIES

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CHAPTER 11

HANDOFF PROCESS IN MICROMOBILITY PROTOCOLS

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11.1 INTRODUCTION

The aim of micro mobility protocols is to reduce signaling load and handoff latency for local domain handoffs. Depending on the way they handle the mobile node in the local domain, micro mobility protocols are divided into two types [1]: Tunnel-Based Protocols and Per Host forwarding schemes.

11.2 TUNNEL-BASED PROTOCOLS

In these protocols, normal IP routing will be used to transmit packets to the mobile node. To allow this a few specialized nodes (mobility agents) store the information related to the mobile node's current access router. Packets are tunneled from the mobility agent to the mobile node. Such protocols include Hierarchical Mobile IPv6, Mobile IPv6 Regional Registrations and Fast Handovers for Mobile IPv6 [1].

11.2.1 Hierarchical Mobile IPv6 (HMIPv6)

Hierarchical Mobile IPv6 [2] introduces a new conceptual entity called Mobility Anchor Point (MAP). MAP acts as the proxy home agent for mobile nodes within the local domain. Mobility inside the local domain (MAP domain) is handled by HMIPv6 (using MAP) and mobility between MAP domains is handled by MIPv6.

When a mobile node enters a new MAP domain, it obtains two care of addresses: regional care of address (RCoA) and on-link care of address (LCoA). The RCoA is bound to a MAP domain and is constant for the particular MAP domain. Whenever the mobile node changes its current location within the MAP domain, it acquires a new LCoA. The mobile node uses RCoA to inform its Home Agent and active CNs about its current location and uses LCoA to get an address within the current MAP domain. Whenever the mobile node moves within the current MAP domain, it needs to register with the current MAP. Because the RCoA of a mobile node does not change with its movement in the MAP domain, there is no need to inform its Home Agent and CNs.