Service Flows Distribution and Handoff Technique based on MIPv6

draft-liu-dmm-flows-distribution-and-handoff-00

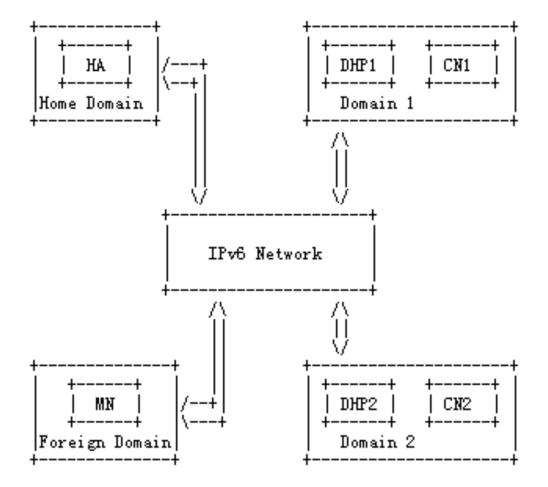
liumin@ict.ac.cn

DMIPv6 & MIPv6

• **Distributed Mobile IPv6 (DMIPv6)** is a distributed network layer mobility solution compatible with mobile IPv6, which would take different mobility management strategies according to the CN's position, network conditions and service requirements of different service flows so as to achieve the session based handoff and transmission path control.

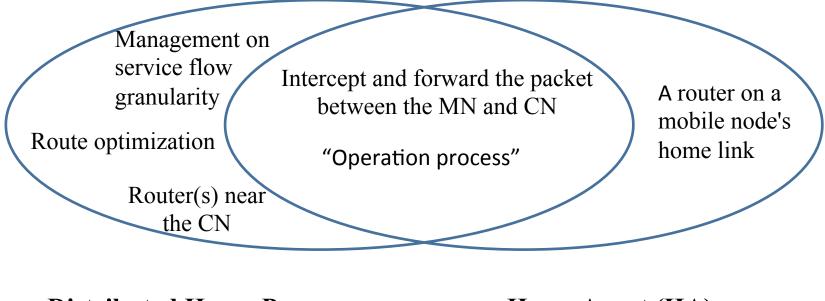
	Component	Management Granularity	Management Strategies	Deployment Method	Operation Process
MIPv6	HA (HoA), MN, CN, etc.	Entire Node	Single	Single	Similar
DMIPv6	DHP (DHoA), MN, CN, etc.	Single service flow	Different strategies to different occasion	Distributed	

Basic Framework



DMIPv6 allows a MN to choose multiple Distributed Home-Proxys (DHPs) and **Distributed Home Address** (DHoAs) while there are HA and HoA already. MNs choose whether to start DMIPv6 according to the type and initiator of each session. DMIPv6 could select and maintain different DHPs for a MN's different service flows at the same time.





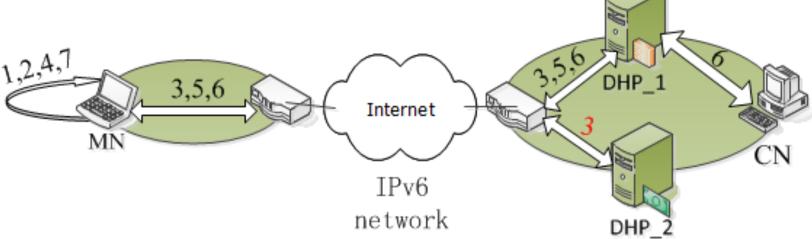
Distributed Home-Proxy(DHP)

Home Agent (HA)

DHP is a router near the CN, with the function for an extension of the HA, which assigns distributed home addresses (DHoAs) for the MN, receives and forwards packets between the MN and CN. It plays a role in route optimization and switching management on service flow granularity.

The Processing Procedure of a New Service Connection

- 1. Judgment of the Mobility Requirement of the Service Flow
- 2. Judgment of the Initiator of the Service Flow
- 3. DHP Query 4. DHP Selection
- 5. DHoA Application
- 6. Establishing the Communication Connection
- 7. Confirming the Communication Mode



The Processing Procedure when MN Moves

- 1. Judging the QoS condition of the new access network
- 2. For sessions need to be maintained
 - MN binds the new CoA to the selected DHP again
 - DHP replies the binding update
 - DHP performs proxy functions
 - Route optimizes if permitted
- 3. For sessions need to be terminated
 - MN will not bind the new CoA with DHP

Message Types

- Some New Message Types
 - ✓ DHP Query Message
 - ✓ DHoA Request/Response Message
 - ✓ DHP Binding Update/Confirmation Message

Details to the draft please

Reference

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- [RFC2460] Deering, S., "Internet Protocol, Version 6 (IPv6) Specification", RFC 2460, November 1997.
- [RFC4862] Thomson, S., Narten, T. and T. Jinmei, "IPv6 Stateless Address Autoconfiguration", RFC 4862, September 2007.
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- [RFC6275] Perkins, Ed., C., Johnson, D., and J. Arkko, "Mobility Support in IPv6", RFC 6275, July 2011.
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Thank you!