Enhanced mobility anchoring wt

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Work since IETF93

♦ draft-chan-dmm-distributed-mobility-anchoring-05
  - rewrite draft to explain moving anchor (mid-session anchor switching) with references to other drafts
  - switch to IP anchor in new network: using new IP address if session continuity is not needed
  - switch to IP anchor in new network: using prior IP address if session continuity is needed

♦ draft-chan-dmm-distributed-mobility-anchoring-06
  - various corrections
IP prefix anchor switching

What I have is only borrowed from God so that I may serve others. H. Anthony Chan
IP prefix anchor in new network

LM: IP1 ↔ IPER2
FM-CP

Net1
FM-DP
ER1: ⚓ IP1

MN(IP1):
flow(IP1, ...)
move

Net2
FM-DP
ER2: ⚓ IP2

MN(IP2):
flow(IP2, ...)

Net3
ER3: ⚓ IPCN

CN:
flow(IPCN, IP2, ...)

What I have is only borrowed from God so that I may serve others. H Anthony Chan
### Changing anchor with new prefix

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<th>p-AR</th>
<th>n-AR</th>
<th>DHCP servers</th>
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Switching anchor in mid-session

MN

p-AR

n-AR

DHCP servers

CN

MN attaches to p-AR: acquire MN-ID and profile

RS

<RA(P1)

IP address config

<flow(IP1, IPcn)
detach from p-AR, attach to n-AR

RS

<RA(P2)

IP address config

<flow(IP1, IPcn)

flow(IP1, IPcn) terminates

<new flow(IP2, IPcn)

p-AR

Allocated prefix P1

DHCPv6 release

BGP route updates

DHCPv6-PD request

DHCPv6-PD reply

BGP route updates

DHCPv6-PD timeout

new flow(IP2, IPcn)

Allocated prefix P2

BGP route updates
Relations to work of other wt

♦ Exposing mobility state wt
  - anchor switching is needed only some IP prefixes
  - drafts on these proposals are referenced

♦ Forwarding path and signaling management wt
  - anchor switching may take place in a network with separate control and data planes.
  - the BGP route update messages and the DHCPv6-PD messages may be turned into messages between control plane and data plane.

♦ Deployment models and scenarios wt
  - anchor switching may apply to the scenarios where the control plane functions FM-CP and LM server may be centralized or distributed, where
    - Internetwork Location Management (LM) function:
      - LM may be a logical function at CPA and CPN
    - Forwarding Management (FM) function:
      - FM-CP may be a logical function at CPA and CPN
      - FM-DP may be a logical function at DPA and DPN
    - FM-DP may be distributed in distributed mobility management
    - LM, FM-CP may each be centralized or distributed
Backup Slides
Enhanced mobility anchoring work item in dmm chapter

♦ Enhanced mobility anchoring: define protocol solutions for a gateway and mobility anchor assignment and mid-session mobility anchor switching that go beyond what has been specified, for example, in RFC 6097, 6463, and 5142. Traffic steering associated with the anchor switch is also in-scope if deemed appropriate.
Description of IP address/prefix anchoring

♦ An IP address, i.e., Home Address (HoA), or prefix, i.e., Home Network Prefix (HNP) allocated to a mobile node is topologically anchored to a node when the anchor node is able to advertise a connected route into the routing infrastructure for the allocated IP prefix.