IETF DMM WG
Mobility Exposure and Selection WT Report

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IETF 92

Conference Call #3

- Feb 10, 2015
- Attendees: Danny, Marco, Byoung-Jo "J", Jouni, Seil, Sergio, Alper
- Agenda:
  - Discuss item #1 (DMM API) proposals
    - draft-yegin-dmm-ondemand-mobility
    - draft-liu-dmm-mobility-api
- Notes: http://yegin.org/NGmobility/DMM_WG_Exposure_Selection_WT-Call3.pptx

Item#1

- RFC 5014: IPv6 Socket API for Source Address Selection
- RFC already defined 2 relevant flags:
  - IPV6_PREFER_SRC_HOME
  - IPV6_PREFER_SRC_COA
- Not sufficient, as we need to distinguish among 3 different types
  - Fixed IP Address
  - Sustained IP Address
  - Nomadic IP Address
- Also, solution must trigger IP address allocation attempt if the requested type IP address is not already configured:
  - Item#3: "Describe how a required type of IP address is dynamically configured, when one is not already available on the MN"
- Need extensions to RFC 5014

yegin-dmm-ondemand-mobility

- Works with RFC 5014 framework ✓
- New IPV6_ADDR_PREFERENCES flags
  - IPV6_REQ_FIXED_IP
  - IPV6_REQ_SUSTAINED_IP   ✓
  - IPV6_REQ_NOMADIC_IP
- If the requested type IP address is not already configured, then the IP stack attempts to dynamically configure one   ✓

liu-dmm-mobility-api

- New extensions of RFC 5014 ✓

- IPV6_PREFER_SRC_LOCAL HNP:
  - Prefer to use locally allocated home network prefix.
- IPV6_PREFER_SRC_REMOTE_HNP:
  - Prefer to use home network prefix that allocated by other access router instead of the one that the MN currently attach.

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The local home prefix may be preferred by applications which are
likely to discontinue operations before the device travels to distant
networks.  On the other hand, a remote home prefix may be more
suitable for continued operation over wide areas, but at potentially
increased cost for mobiilty management.
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WT Proposal

- Adopt draft-yegin-dmm-ondemand-mobility as the baseline for DMM API

- Add a section on backward compatibility
  - Already done in draft-yegin-dmm-ondemand-mobility-03
    - Legacy apps get legacy treatment on new stack/network
    - New apps fall back to legacy treatment on legacy stack and/or network

Conference Call #4

- Feb 24, 2015
- Attendees: Danny, Sri, Byoung-Jo "J", Jouni, Seil, Sergio, John K., Alper
- Agenda:
  – Discuss principles for item#2/3 (IP configugration protocol extensions for DMM)
- Notes: http://yegin.org/NGmobility/DMM_WG_Exposure_Selection_WT-Call4.pptx

Principles

- Network needs to convey an additional attribute (mobility type) for each IP address or prefix it conveys to the hosts
- Hosts can explicitly request specific type of IP address/prefix from the network
- IP address configuration techniques
  - DHCPv6
  - SLAAC
  - Manual: No protocol work
  - Mobile IPv6
  - IKEv2
  - PPP: Not needed (until someone requests it)
  - NDP: No implication
- It's very desirable to have alignment on information elements (attribute definitions) across various configuration protocols. I.e., re-use as much as possible.
- Next steps:
  - Producing one I-D for each of the above techniques, defining extensions on the baseline protocols.

Item #4

- Describe how MN decides between IP-layer and other layer-based mobility support (e.g., MPTCP, SIP, app-layer) to apply on a given data flow
- No progress.