Evaluating Multiple Mobile Routers and Multiple Prefixes in NEMO Basic Support

draft-kuntz-nemo-multihoming-test-00.txt

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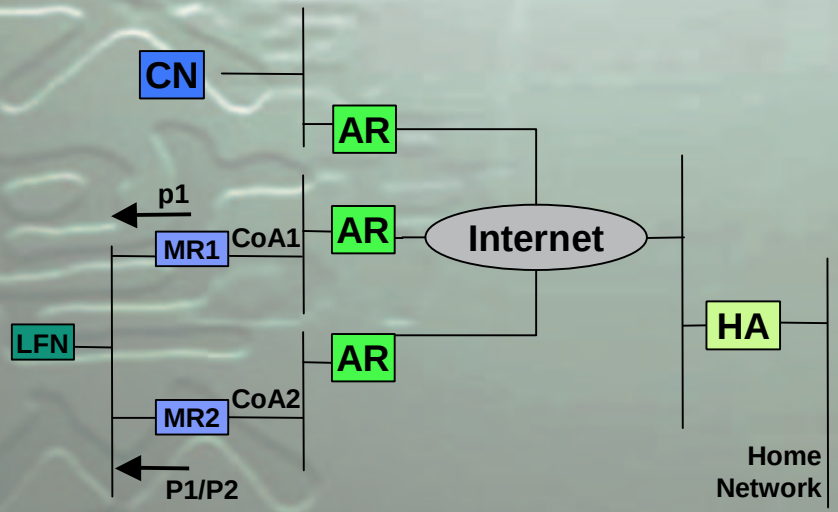
Overview

- Motivations
  - Investigate issues with Multiple Mobile Routers and Multiple NEMO-Prefixes
  - Based on *draft-ietf-nemo-multihoming-issues-00.txt*
- Environment
  - Nautilus6 NEMO Basic Support implementation based on KAME stack
  - Operating System: NetBSD 1.6.1`

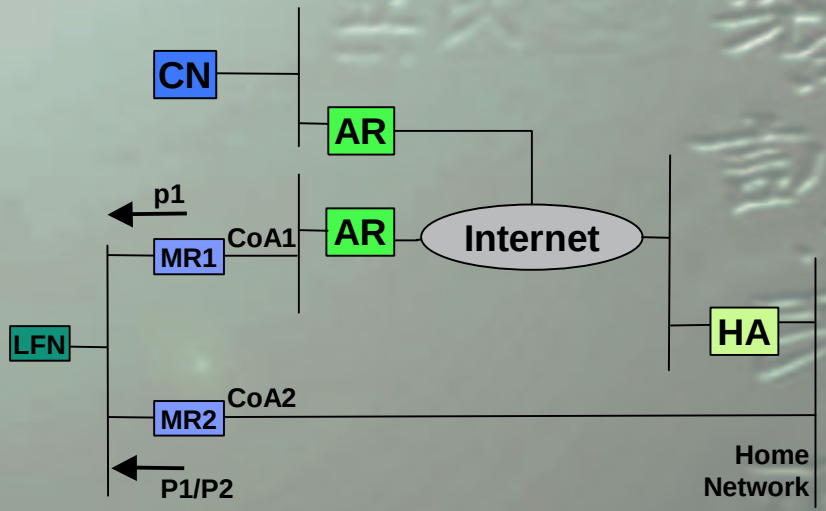
Implementation Status

- Need multiple prefix registrations in a single BU message to test (1,*,n)
  - Implementation issue
- Need multiple CoA registrations to test (1,*,*)
  - NEMO Basic Support issue

Topology:
Case (2MRs,1HA,1prefix) and (2MRs,1HA,2prefixes)



Both MRs in foreign network



One MR at home

Issues

- Unreachability
  - Binding de-registration delay
  - Switching delay from an MR to another MR
- Routing Loop
  - When failed MR's binding lifetime expires
    - No BU entry in HA binding cache
    - No routing information for NEMO-prefix in HA routing table
- Asymmetric Communication
  - Incoming traffic by one MR and outgoing by another MR

Requirements

- Quick de-registration of MR
  - When the MR fails
  - When there is another MR at home
- MNN's quick switching of Default MR
  - When default MR's egress interface fails
  - When incoming and outgoing traffic is asymmetric
- HA's ability of choosing an MR-at-Home
- Prefix BU for any failed MR
  - Cooperation between MRs
- Dynamically activating/deactivating RA on MR

Conclusion

- Reachability of Mobile network depends on
  - MR's operation
  - MRs' cooperation
  - HA's routing table and binding cache
  - MNN's default MR

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