Basic Nemo Usages
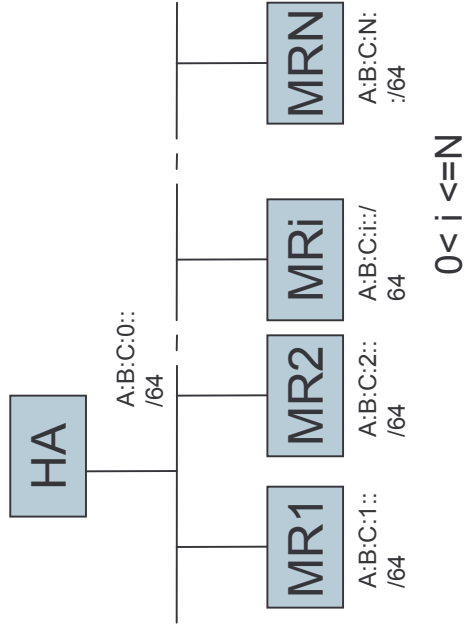
Pascal Thubert (Cisco)

Ryuji Wakikawa (Keio)

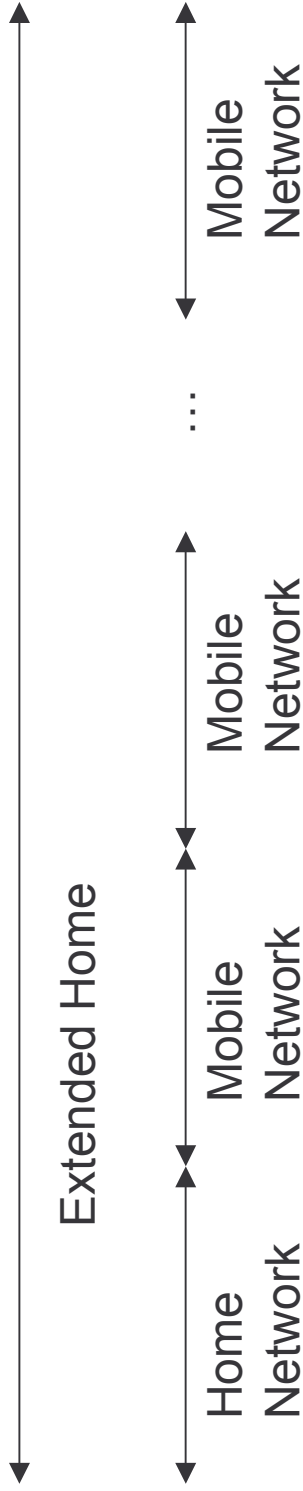Vijay Devarapalli (Nokia)

The concept of Home Network with NEMO

✓ The MIPv6 Home is a subnet on a physical link

✓ NEMO Allows Home to become an aggregation:
  ➤ Extended Home Network
  ➤ Aggregated Home Network

✓ NEMO allows Home to be virtual:
  ➤ Virtual Home Network

Extended Home Network

- In this disposition, the Home Network is one subnet, contiguous to the Mobile Networks.

- Their aggregation is called extended Home Network.

- When a Mobile Router is at Home:
  - ✓ the HA is configured with static routes to MNPs or the MRs participate to the local IGP when at Home
  - ✓ The Mobile Router performs normal routing between the Home Link and the Mobile Networks

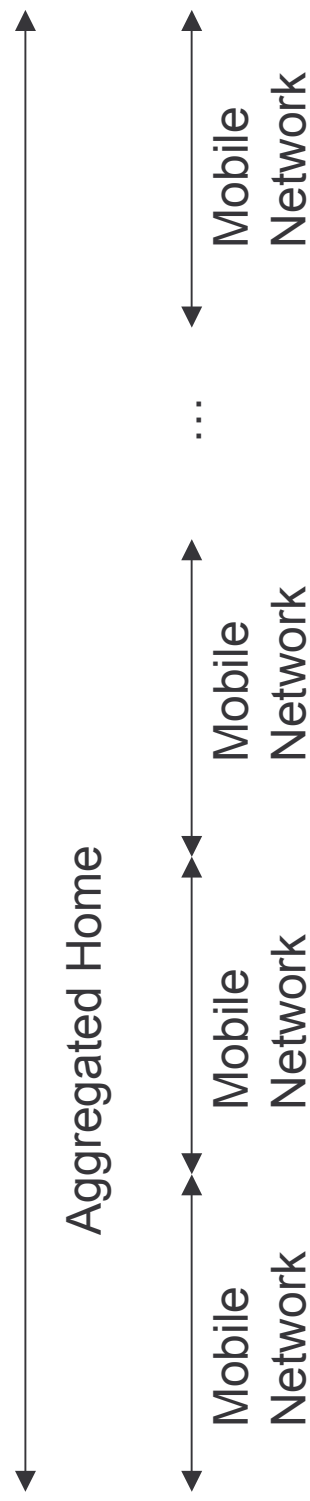| HA			

MR1	MR2	MRi	MRN

A:B:C:0::/64

A:B:C:1::/64   A:B:C:2::/64   A:B:C:i::/64   A:B:C:N::/64

0< i <=N

routing

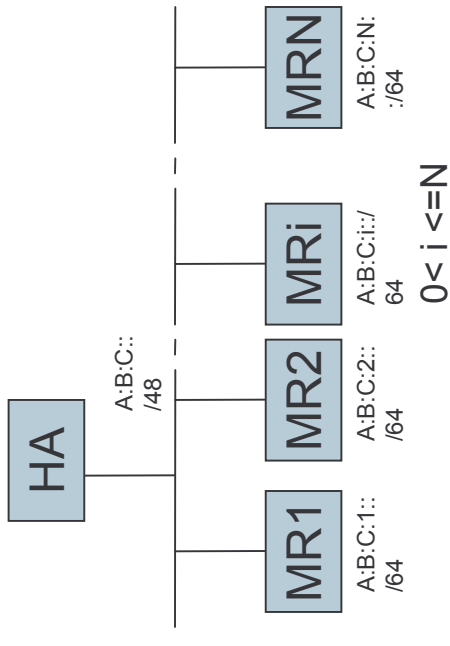Home Network   Mobile Network   Mobile Network   ...   Mobile Network
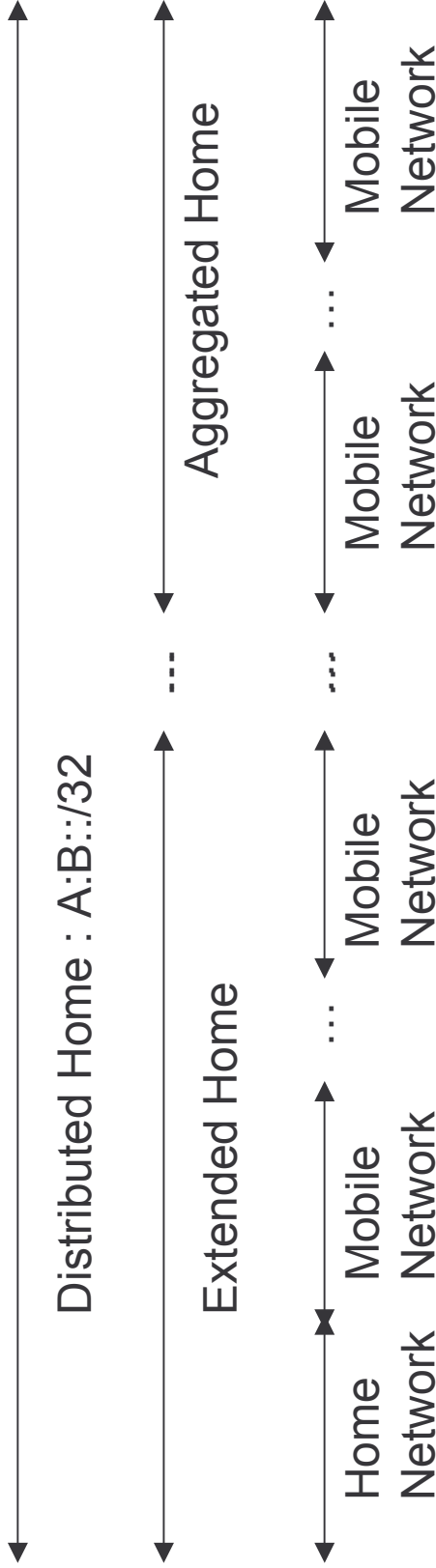
Extended Home

Aggregated Home Network

- In this disposition, the Home Network actually overlaps with the Mobile Networks.

- When a Mobile Router is at Home:
  - ✓ HA expects its MNNs to be on link.
  - ✓ The MR acts as a bridge between the Home Link and the Mobile Networks.

HA — A:B:C:: /48

MR1 — A:B:C:1:: /64

MR2 — A:B:C:2:: /64

MRi — A:B:C:i:: /64

0< i <=N

MRN — A:B:C:N: /64

bridging

Mobile Network

Mobile Network

...

Mobile Network

Mobile Network

Mobile Network

Aggregated Home

Distributed Home Network

MR1
A:B:0:1::
/64

HA

MR
A:B:0:2::
/64

MRi
A:B:0:i::/
64

A:B:0:0::
/64

MRN
A:B:C:p::
/64

Tunnel(s)

Note: tunnels endpoints are
Not part of the aggregation!

MR1
A:B:P:1::
/64

HA

MR2
A:B:P:2::
/64

A:B:P::
/48

MRi
A:B:P:i::/
64

MRN
A:B:P:Q:
:/64

Distributed Home : A:B::/32

Extended Home

Aggregated Home

Home
Network

Mobile
Network

Mobile
Network

Mobile
Network

Mobile
Network
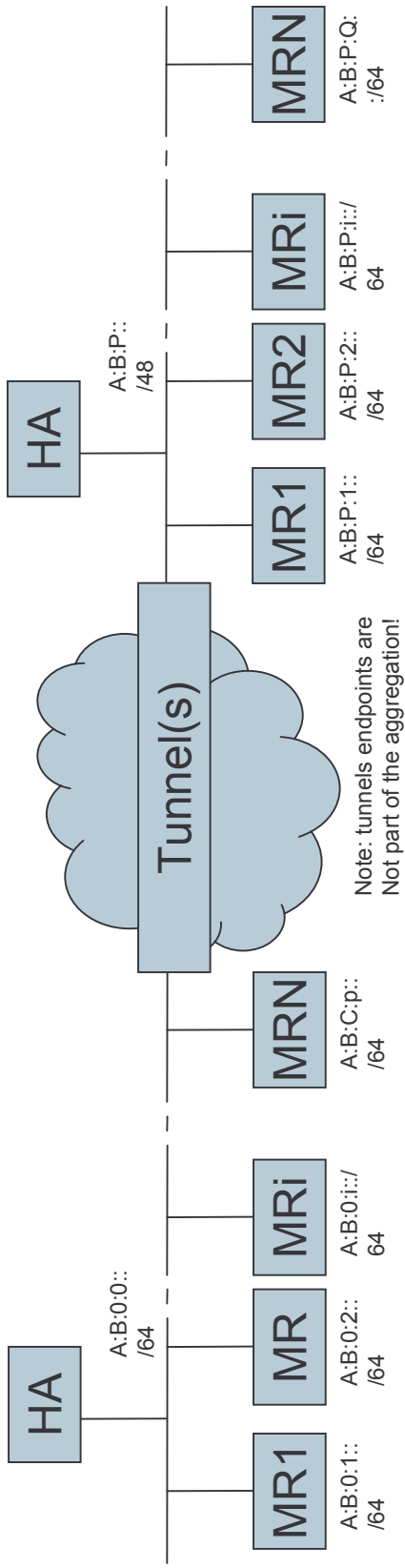
Virtual Home Network

✓ Examples:
  ➢ Home Link on a virtual link
  ➢ Home Link on an automatic tunnel
    (tunnel end point resolved dynamically using BCE)

✓ Works for all the previous models:
  ➢ Extended, Aggregated, Distributed (even locally)

✓ Pros:
  ➢ Higher availability of Home Link
  ➢ Saves ND related activity (HA discovery, DAD, proxy ND)

✓ Cons:
  ➢ No HA redundancy for the prefix on the Home Link
  ➢ No returning Home

Mailing List issues

✓ **Scope (aimed at Informational):**
  - ➢ Does not cover how to fix Virtual Network Cons
  - ➢ Describes Home Network configurations: Broad enough?

✓ **Title**
  - ➢ Does not reflect the actual coverage of the doc
  - ➢ Should be "Examples of home networks for NEMO".

✓ **Prefix Length and subnetting:**
  - ➢ /64 discussion. Plens are given as example only
  - ➢ MR could have contiguous supernetted MNPs