Proxy MIP6 indication/Discovery

I-D: draft-damic-6man-pmip6-ind

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Problem statement

- Proxy Mobile IPv6 [RFC5213] enables the advertisement of a prefix(es), by an Access Router (MAG), which is topologically anchored elsewhere (LMA)

- A Host which receives such an RA has no awareness of the prefix characteristics
  - Proposal is to qualify the prefix type sent in an RA

RAs sent by a MAG

Prefixes (P1, P2… Pn)

LMA

Tunnel

On-link-Prefix: O1

O2

O3

MAG/AR

MAG/AR

MAG/AR

RA (P1, O2)
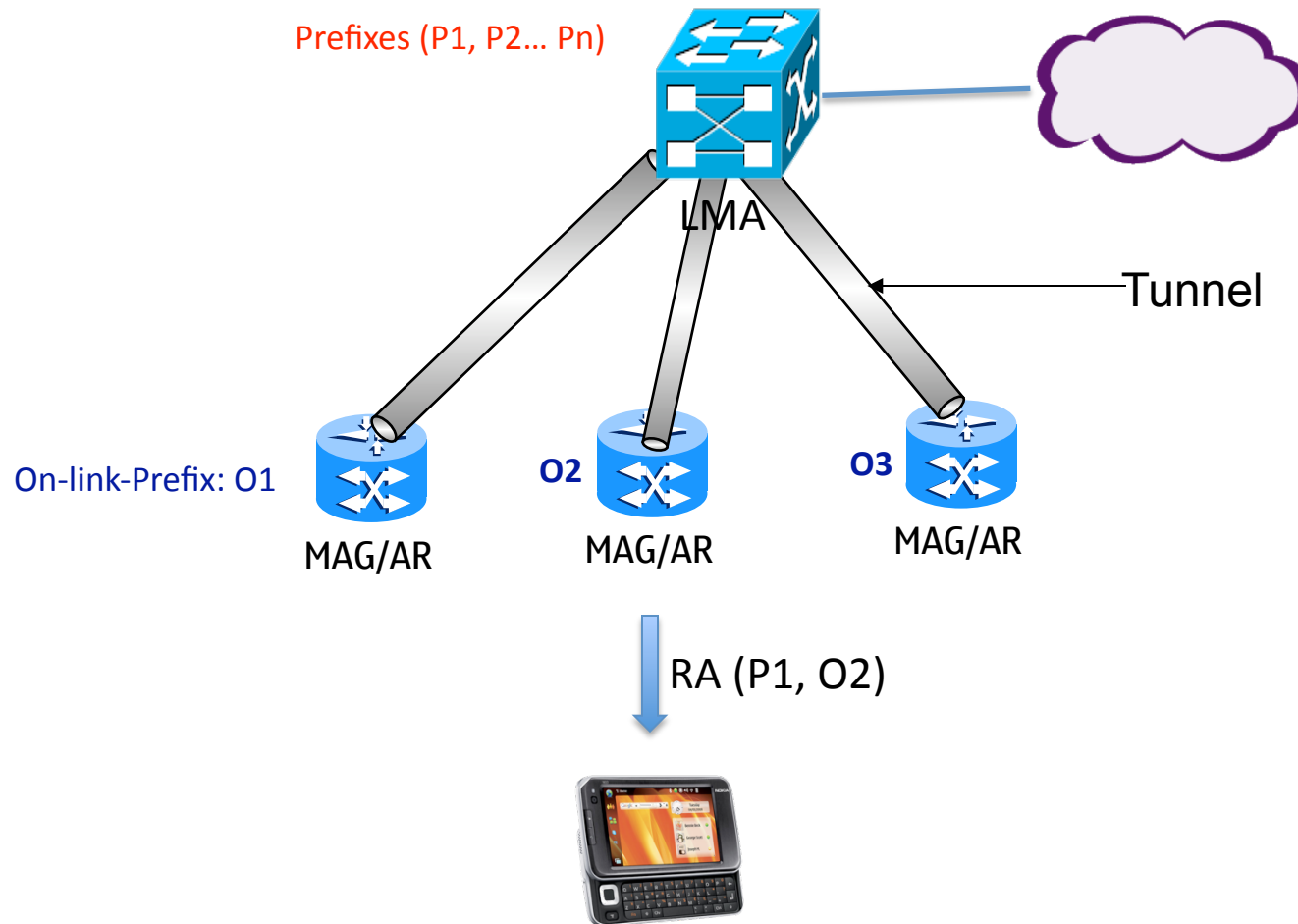
Prefix qualification benefits

- Awareness of the prefix types in an RA helps a host in several ways, eg.:

1. In terms of choosing the appropriate source address for an IP session

2. In making an informed decision of the mobility support and anchor point

3. Others?

Adding a flag in the RA

- Specify a flag in the PIO which indicates if the prefix in the RA is a

- Presence of the flag in the PIO indicates that the prefix is a Proxy MIP6 prefix
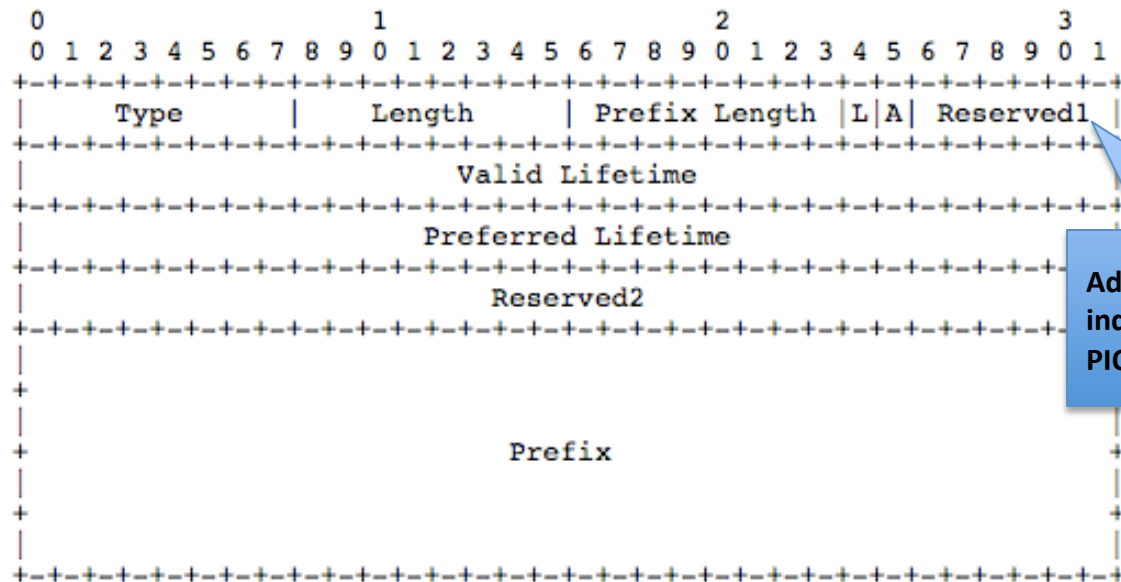
Add a new flag 'P' which indicates that the prefix in this PIO is of type PMIP6

Soliciting the On-link address

- An Access Router (MAG) may only advertise the PMIP6 prefix to a host

- There is no way for the host to explicitly request the on-link prefix when it receives an RA and knows that the prefix type is of type PMIP6

- Add a flag to the RS message which causes the MAG to respond with the OLP in the RA

Mobility support indication in the RA

- An access router which has PMIP6 MAG functionality and can provide network based mobility can advertise its capability to a host via the Extended Flags Option (RFC5075) in an RA

> The bit 'N' indicates the access router is a MAG and capable of supporting network based mobility.

```
        0                   1                   3
 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|     Type      |     Length    |N|       Bit fields available ..
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
... for assignment                                             |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

Next steps

- Consider this work as a 6MAN WG item