

EXTENSIONS TO IPV6 ROUTER ADVERTISEMENTS

I-D: *draft-damic-netlmm-pmip6-ind-discover*

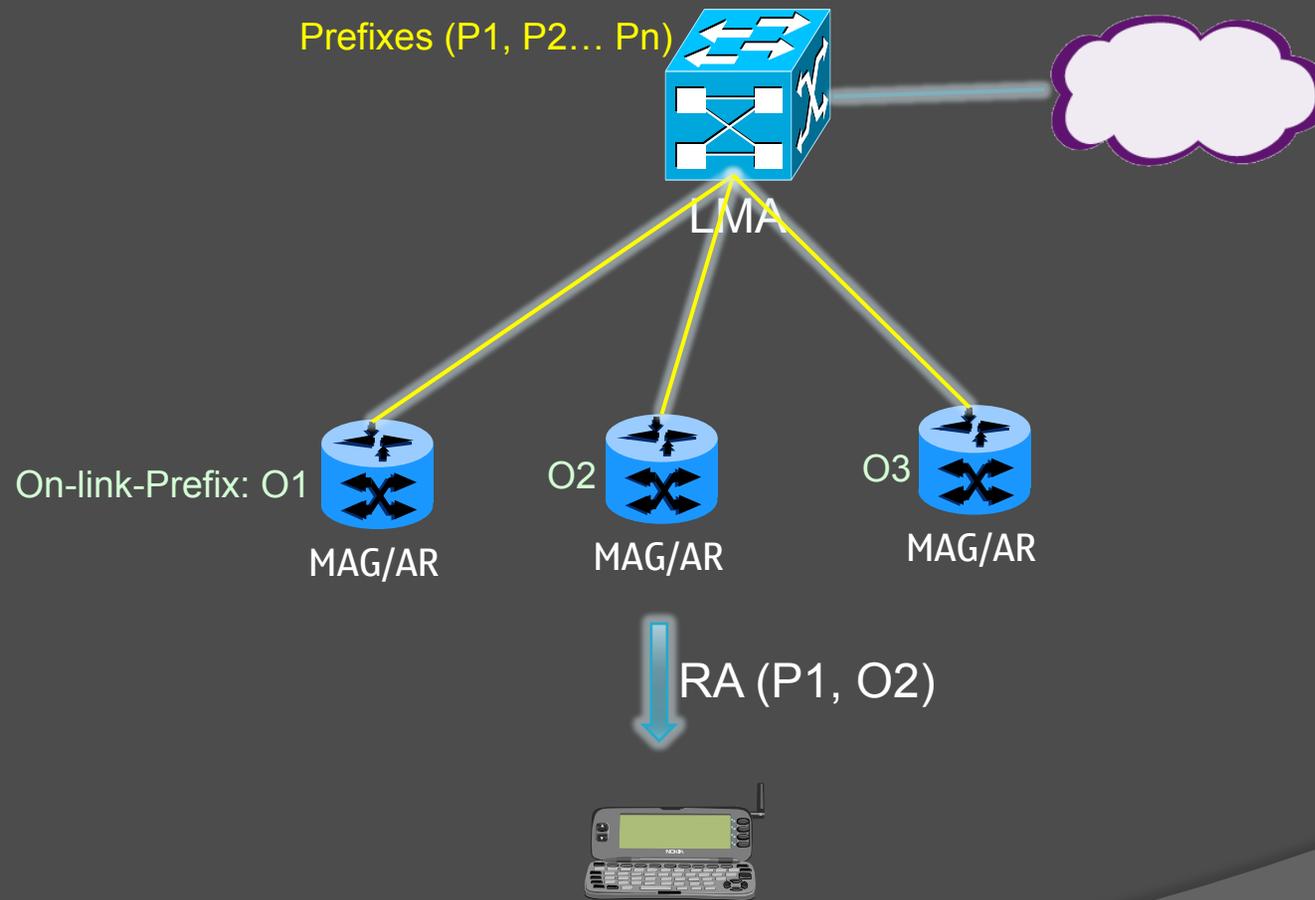
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Background

- Proxy Mobile IPv6 enables the advertisement of a prefix by an AR (MAG) which is topologically anchored at an LMA

Prefix Advt via RA in PMIP6



Proposal 1: Indicate Prefix type

- New PIO type which has the ability to indicate prefix type
- Prefix type:
 - 0 – On-link prefix
 - 1 – PMIP6 prefix

Type	Len	Prefix Length	L	A	Prefix Type
Valid Lifetime					
Preferred Lifetime					
Reserved					
IPv6 Prefix					

Justification

- ⦿ Enables the host to determine the prefix type in the scenario where the RA includes PMIP6 and on-link prefixes
- ⦿ Is backwards compatible since legacy hosts do not have to process the new PIO type

Proposal 2: Request on-link-prefix

- ⦿ A flag in RS requesting the AR/MAG to include the on-link-prefix in the RA
- ⦿ Flag “C” set by the host in the RS sent to the MAG/LMA

Type	Code	Checksum
C	Reserved	
Options		

Justification

- Mobile node has the ability to obtain the OLP and use it to configure a CoA and manage its own mobility
- MN can configure and use address derived from the OLP for sessions that do not require mobility
 - Referred to as local-breakout in some SDOs

Proposal 3: PMIP6 MAG capability indication

- A flag in RA indicating that the AR supports PMIP6 MAG functionality
- Flag “N” set by the AR/MAG in the RA

Type	Length			Checksum	
Cur Hop Limit	M	O	N	Reserved	RTR lifetime
● ● ●					

Justification

- ⦿ Hosts which implement Mobile IPv6 functionality can recognize that the prefix advertised by the MAG as its home prefix is virtual
 - May decide to use OLP and configure a CoA for managing its own mobility
- ⦿ Why does the host care if the AR is also a MAG?
 - Hosts which have MIPv6 capability can establish optimized paths with CNs (using RO)

Next steps

- ④ 6MAN WG should extend IPv6 RS/RA functionality (as a result of ProxyMIP6)
- ④ Adopt I-D: draft-damic-netImm-pmip6-ind-discover as WG doc

