

Communicating Prefix Cost to Mobile Nodes

(draft-mccann-dmm-prefixcost-02)

IETF 95 Buenos Aires

Introduction

When an MN moves from one IP attachment point to another, it does not know about:

- amount of state in network on behalf of this prefix
- amount of transport resources to tunnel/route packets

The network does not know:

- the state of the connection flow (e.g., middle of download?)

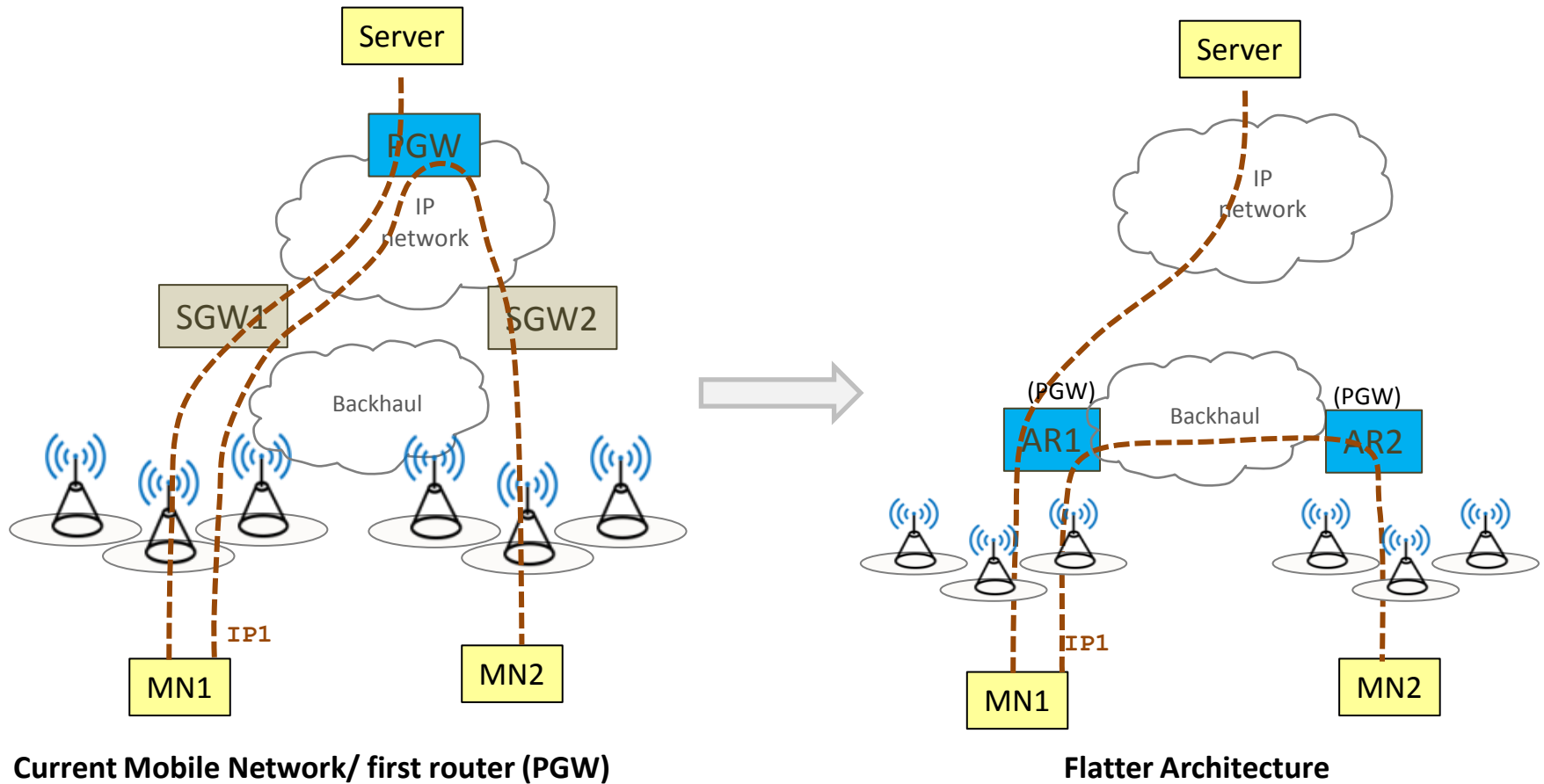
Proposal in this draft:

Network provides the “cost” of maintaining IP prefixes to the MN.

Notes:

- (a) Prefix-cost is not about e2e jitter or latency.
- (b) Link layer changes do not affect prefix cost.

Motivation (1)

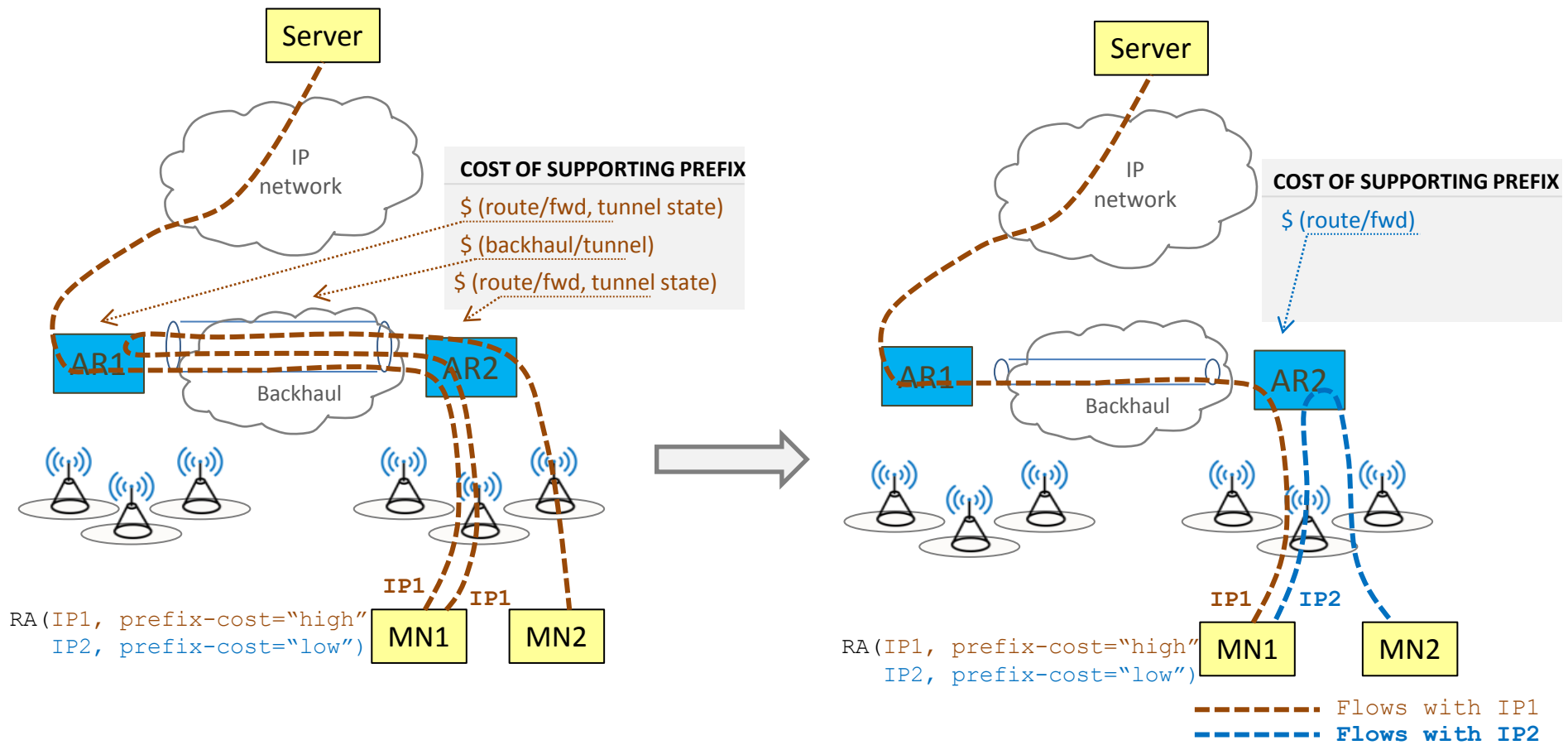


(1) Sub-optimal route with centralized gateway/anchor (PGW).

(2) Routers located closer to MN's point of attachment are more optimal .

When MN changes point of attachment, cost of the maintaining the prefix increases.
(state in gateways, tunnels – and suboptimal route)

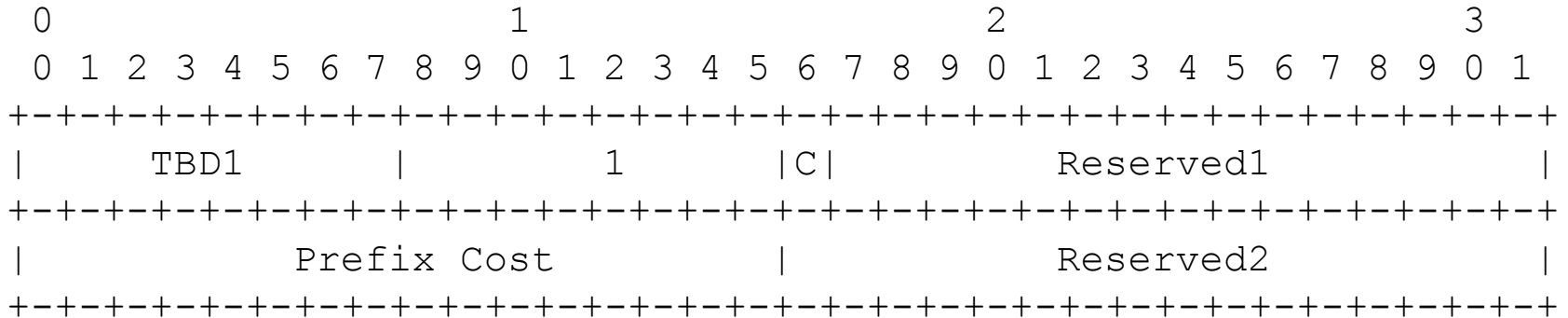
Motivation (2)



Network provides the cost of maintaining IP prefixes.
MN decides when to use new IP prefix.

Prefix Cost Sub-option

(Router Advertisement)



The prefix cost is carried as a 16-bit, unsigned number in network byte order. A higher number indicates an increased cost.

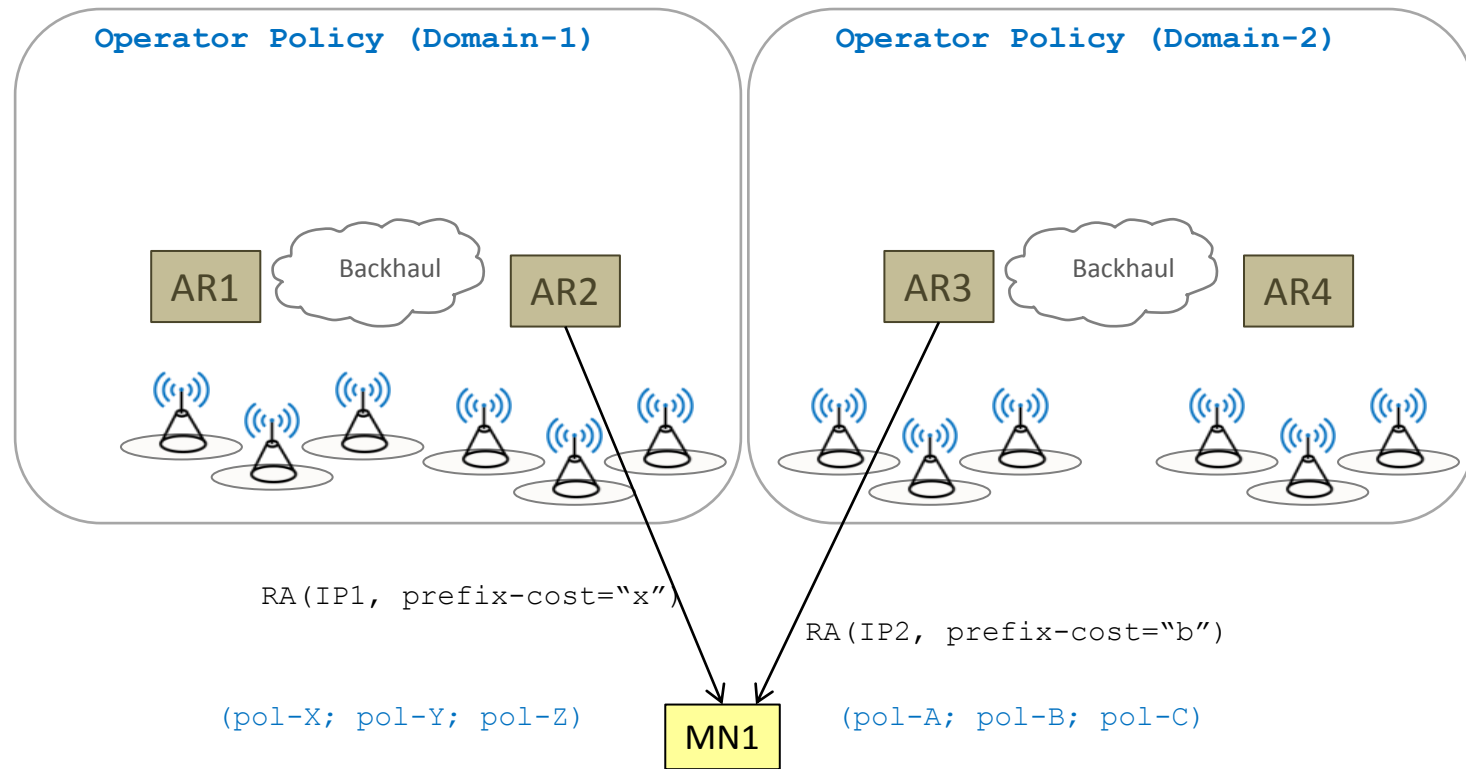
Uses: draft-korhonen-dmm-prefix-properties-04

IETF next steps

Review with 6man, mif

Feedback?

Backup - Policy, Source Address Selection



- Operator policy on “prefix cost” values.
- RFC 6724 source address selection rules should be factored in
 - Re-select IP address if current IP address exceeds [cost-ceiling].
 - If new-IP-address has [acceptable cost], present new addr to application.