Communicating Prefix Cost to Mobile Nodes

(draft-mccann-dmm-prefixcost-01)

IETF 93 Prague

Introduction (1)

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

- Change in latency
- access /link bandwidth, congestion
- network state to route packets

By communicating the cost of keeping state in network elements and the cost of transport resources being expended every time its attachment point changes, the MN can make intelligent decisions about when to release old addresses and when to acquire new ones.

Introduction (2)

Cost should be communicated to the MN because:

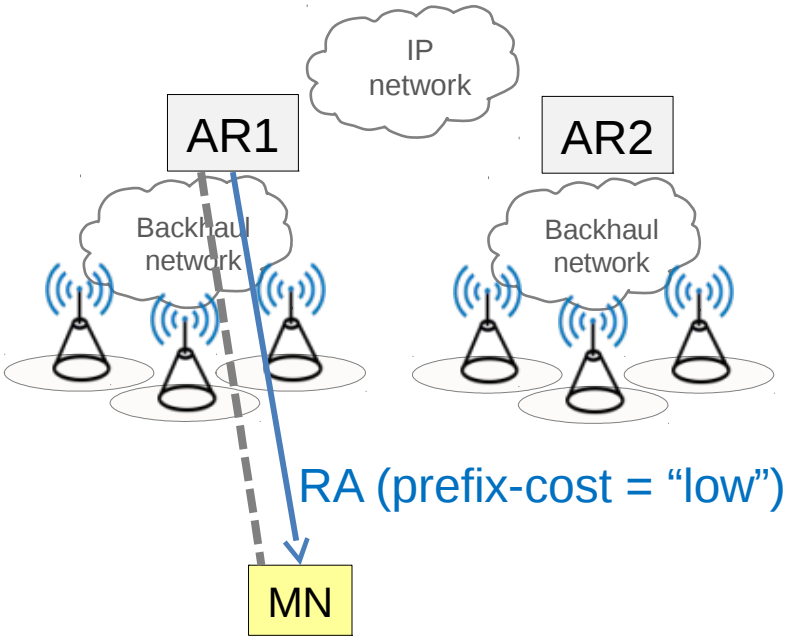
(1) MN decides about allocating new addresses /releasing old ones.

(2) Only the network has information about the cost of maintaining the prefix in a network-based mobility management scheme. (MN does not know the network topology, etc.)

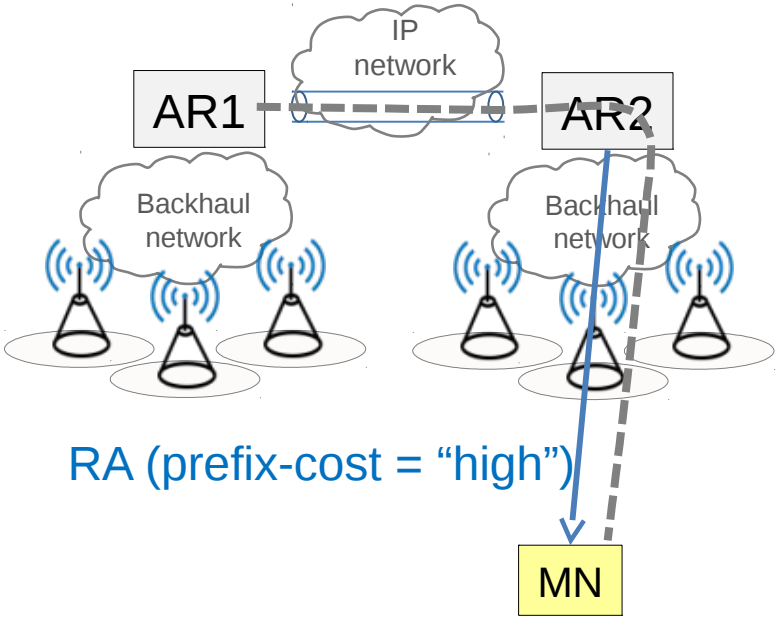
Proposal in this draft:
Network provides the “cost” of maintaining IP prefixes to the MN.

Example

Optimally connected



Sub-optimally connected

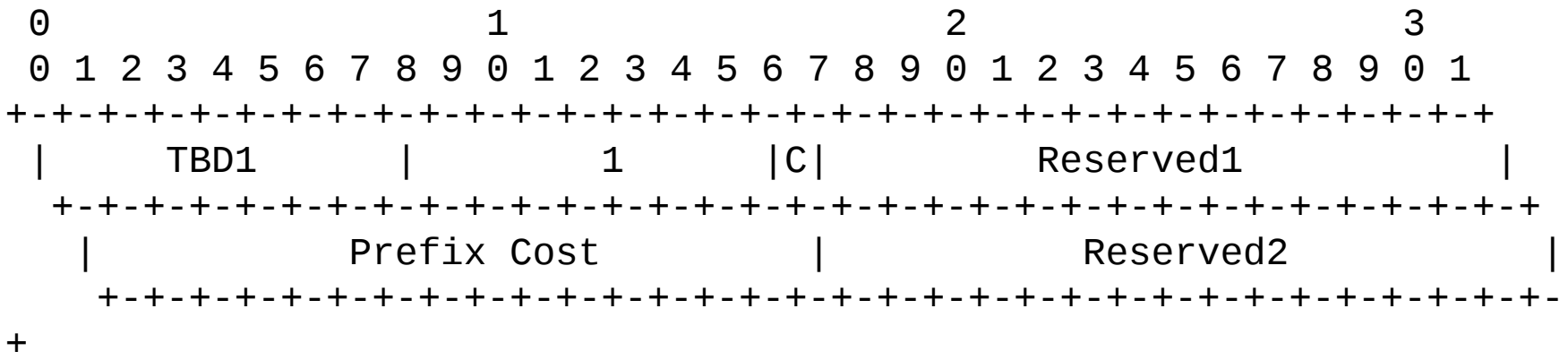


Prefix-cost is a representation for:

- the cost of maintaining link(s) / transport path
- cost to keep state in network elements
- cost of maintaining IP addresses
- cost as means to express some operator policy

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

Request for reviews and comments.