

Tree Discovery

draft-thubert-tree-discovery-00.txt

IETF 60

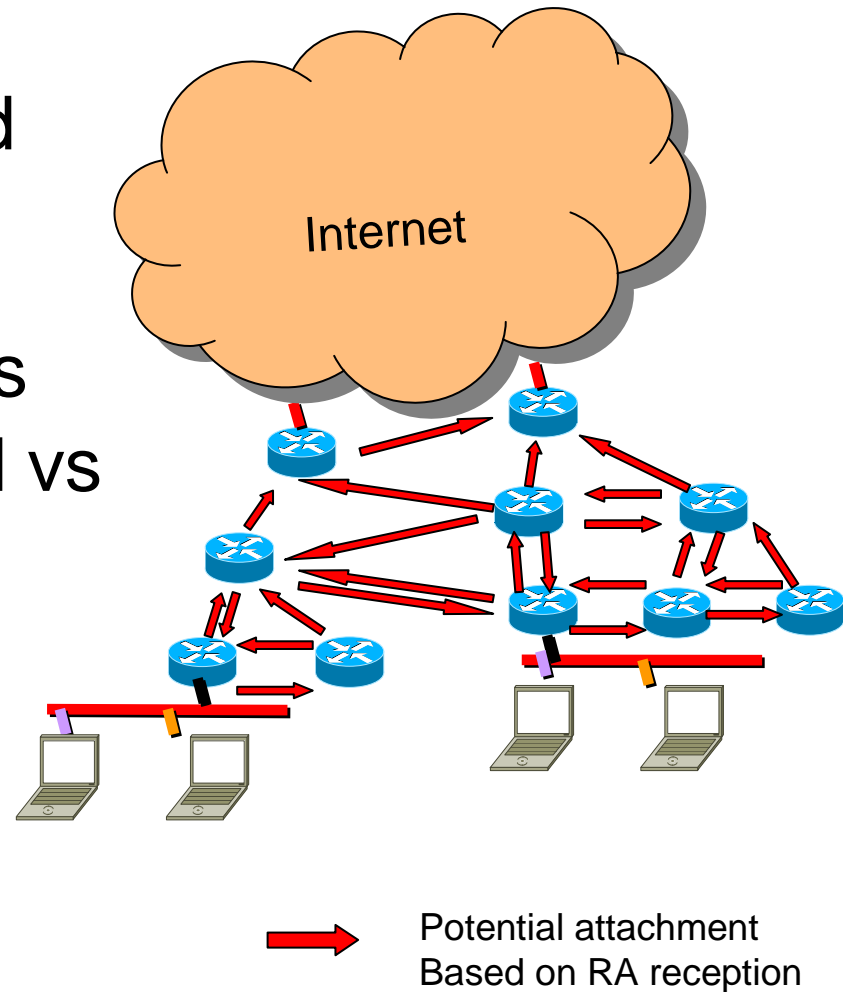
NEMO WG

Motivation for TD

- <http://people.nokia.net/vijayd/nemo/issue24.txt>
- Jari Arkko wrote:
« I'd like understand loop detection better. Or at least why it's not required. »
- A question Steve Deering raised at IETF 54
- Without a coordination
 - the startup of a nested nemo is very slow
 - the shape of the resulting tree is not optimized

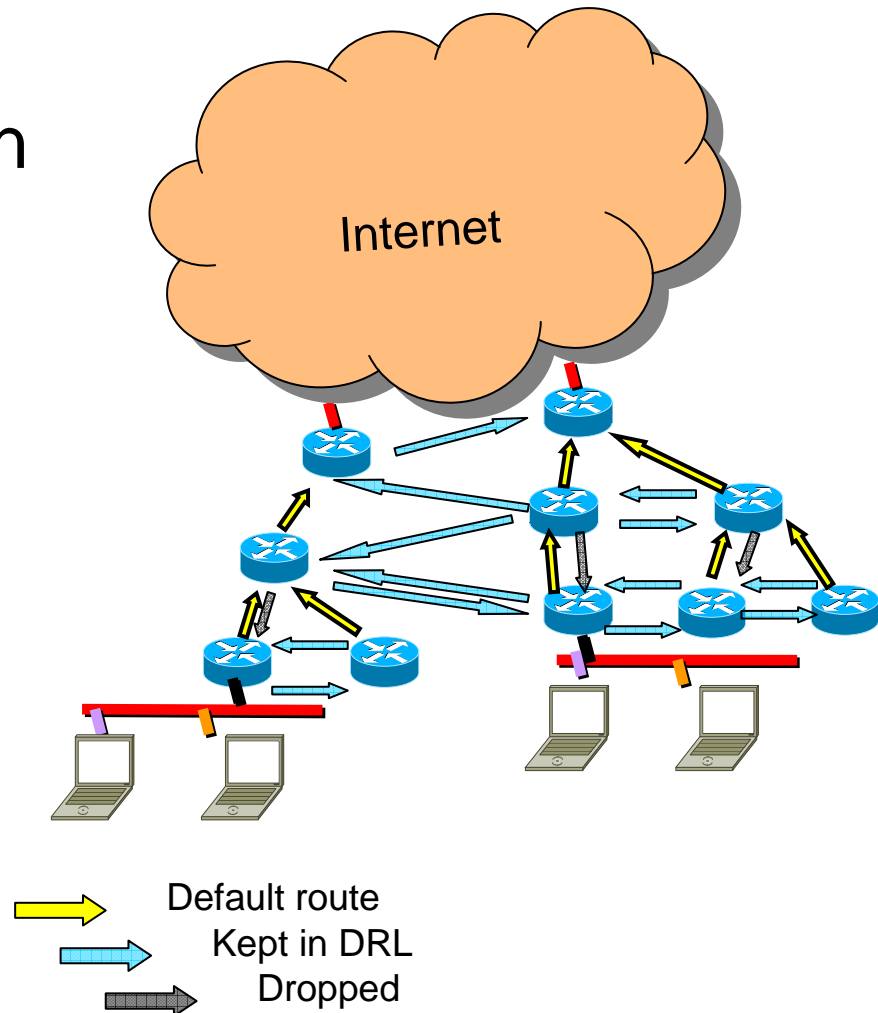
The Problem

- Preventing loops in nested NEMO topology
- Optimize Default Route selection into shallow trees
- Attachment selection fixed vs Mobile Router
- Which Metrics ?
- Fast reconfiguration upon movements

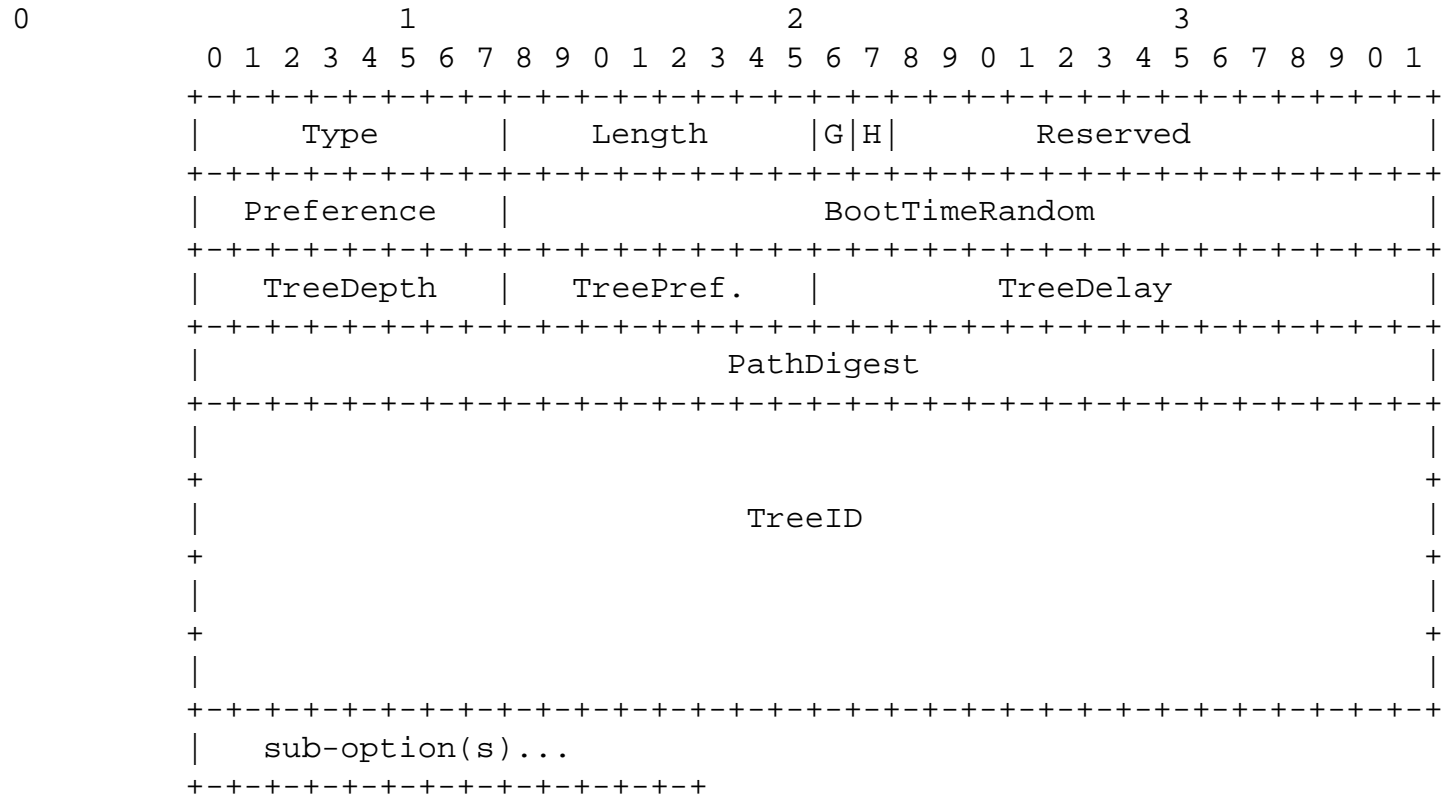


Tree Discovery Proposal

- Extension to ND RAs
- Minimum set of common rules for all MRs
 - Attach whenever possible
 - But NOT lower in a same tree
 - Delay Attachment by target depth
- Individual attachment decision by each MR
 - Using different algorithms
 - Using additional metrics
- Ordered DRL
 - for fast switching / recovery
 - Distributed database of all variations



R. A. Tree Information Option



Need to add metrics as suboptions, eg bandwidth, BER ...

ML issues

- Security / serviceability
 - Why would car B relay traffic from car A ?
- Should fixed AR send RATIO?
- non upgraded (LFN) router within tree
 - looks like a legacy fixed AR
 - Should not be opened for autoconf? Just a config issue?
 - A more robust mechanism that supports legacy Local Fixed Routers?
- Specify policies for group mobility
 - A cluster moving as a consistent tree when it roams from AR to AR
 - Hierarchies of trees

Questions?

WG Action?

- Does it fit in the charter?
- Is this a subject we wish to work on
- Comments appreciated on
draft-thubert-tree-discovery-00.txt

References

- <http://people.nokia.net/vijayd/nemo/issue24.txt>
- www.mobilenetworks.org/nemo/drafts/draft-thubert-tree-discovery-00.txt
- www.mobilenetworks.org/nemo/ietf55/slides/NEMO-IETF-RO-Taxonomy-20021120-v3.ppt
- <http://www.mobilenetworks.org/nemo/drafts/draft-thubert-nemo-ro-taxonomy-02.txt>