Ad-Hoc On-Demand Distance Vector (AODV)

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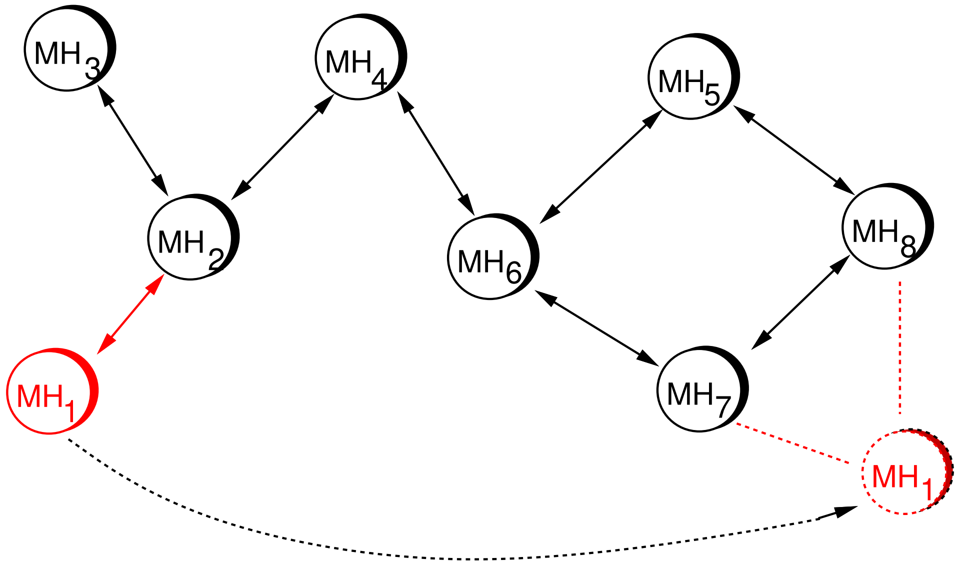
Overall Description

- Distance Vector, using Destination sequencing for route updates
- Routes on demand
- Routes are cached by intermediate nodes for some time since last use
- Limited range broadcast used for neighbor discovery (symmetric routes assumed)
- Infinite metric assigned to broken links
- Link breakage triggers notification back to users of formerly active links (nodes keep track of which neighbors forward packets using the link).

Destination sequencing maintains nice properties of loop-freeness, and eliminates Bellman-Ford "counting to infinity" problem.

Currently, next hop is selected on "number of hops", but should perhaps consider instead "first response" to route request

Ad-hoc Networking



Suppose MH_1 moves away from MH_2 towards MH_7, and has active sessions with MH_3 and MH_6. The following actions occur:

- MH_2 notices that its link to MH_1 is broken
- MH_2 checks its routing table, and finds that its link to MH_1 was actively in use by MH_3 and MH_4.
- MH_2 unicasts an ∞-metric route update, with an incremented destination sequence number, to MH_3 and MH_4. MH_3 may subsequently issue a new route request for MH_4.
- MH_4 also notes that its route to MH_1 was actively in use, and forwards the ∞-metric route update to MH_6.

- The ∞-metric route update for MH_1 may also be included in the next periodic limited broadcast issued by MH_2
- MH_6 may subsequently issue a new route request for MH_1
- Any subsequent route request for MH_1 which is satisfied by a route reply through MH_2 may cause MH_2 to update its route table