DNA with unmodified routers: Prefix List based approach

draft-jinchoi-dna-cpl-01.txt

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Changes since -00

- Editorial clarifications
- New section 4 – attempt at a protocol specification
  - Identifies some issues
  - Leaves policy for how hard to try (to get a complete list) unspecified

Outline

- Similar to RFC 2461 way of specifying things
  - Conceptual data structures
    - Introducing “candidate link objects” and “current link object”
    - Each containing information learned from RAs
  - Merging candiate link objects
  - Timer handling and garbage collection
  - Receiving link UP indication
    - Start forming a new candidate link object
  - Receiving valid RAs
    - Ignore those which contain no prefixes
  - Changing the link in ND

Unspecified things

- Interaction with DAD
  - Conservative would be to move to optimistic mode after each link UP indication
  - Specify here or in other document?
- MLD
  - What needs to be done after link UP?
  - What needs to be done when on new link?

Issues (1)

- Links that partition or merge?
  - Initially P1 and P2 assigned to same link, but later split to be assigned to different links, or vice versa
  - Rely on lifetime of information (default routers and prefixes) to handle this
- Need to track age of each canditate link object?
  - Makes it more well-defined how > 2 objects are merged

Issues (2)

- Security implications of sharing state across interfaces
  - If different interfaces or links have different “security properties”
  - An attacker could trick a host that prefixes really on different links are on the same link
    - Exposure to threat during the lifetime of the cached candiate link object

Next Step?

- Please read and comment
- Accept as WG draft?