Routing Protocol Selection

- We aren't going to decide which routing protocol today, but we'd like to talk about how we are going to decide one day

From IETF 89…

Choosing a Solution Path

1. Go back to working on OSPF for routing and configuration

2. Adopt HNCP for configuration and minimalist routing now, "full-blown" routing TBD

3. Propose something else

Dave Thaler:
    Suggest you ask the questions:
        "For config, should we use 1, 2 or 3"
        Only scope for configuration. Then, ask the same for routing.

Mark Townsley:
    Right, will do that

Humming:
    1. OSPF for configuration, hum (almost none)
    2. HNCP for configuration, hum (strong hum)
    3. Something else for config (very quiet hum)

Conclusion: strong support for 2
    :
    :
Ray Bellis:

    1. Do you support zero or one protocol (strong hum)
    2. Do you support 2 or more protocols (weak hum)

"Zero, One or 2+ Routing Protocols"

1. "Zero Routing Protocol" implies
   – "HNCP Fallback" using configuration topology
   – Will manage to get packets out the uplink that corresponds to the DHCPv6 PD prefix
   – No metrics, not necessarily shortest path, etc.

2. "One Routing Protocol" implies
   – Do not use "HNCP Fallback"
   – Choose **one** of OSPF, IS-IS, Babel, etc.

> If we decide to do #2 and fail, we probably end up with #3

STRONG HUM ↑

WEAK HUM ↓

3. "2 or more protocols" implies
   – No decision on which routing protocol to use in the home
   – Some way to ensure that the routing protocol used is supported by all routers in a given homenet (HNCP has a rudimentary mechanism for this)
   – HNCP Fallback in case no common routing protocol is found

Ideas for the process of selecting a routing protocol

1. Compare existing protocols
   – Set a date
   – Define what it means to be an "existing protocol"
   – Identify "existing protocols" on that date
   – RFC 5218 as a guide to select one
2. Write a requirements document
   – Risk of becoming a discussion about traits of existing protocols rather than requirements we need
3. Coin Flip
4. Something else?

Please Discuss.
We have until 9:25am
We don't have to come up with a decision today.

RFC 5218: Potential Success Factors

1. Positive net value (meet a real need)
2. Incremental deployability
3. Open code availability
4. Freedom from usage restrictions
5. Open spec availability
6. Open development and maintenance processes
7. Good technical design (see RFC 1958)

Additional "wild" success factors:
8. Threats sufficiently mitigated
9. Extensible
10. No hard scalability bound