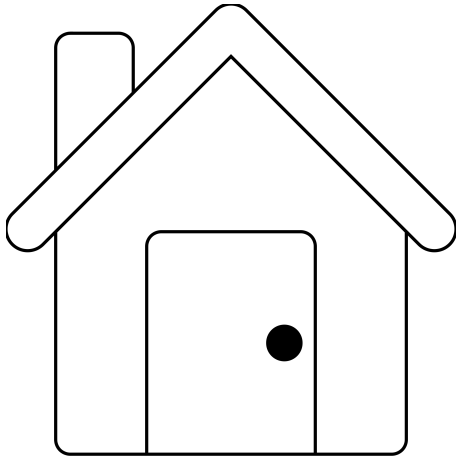
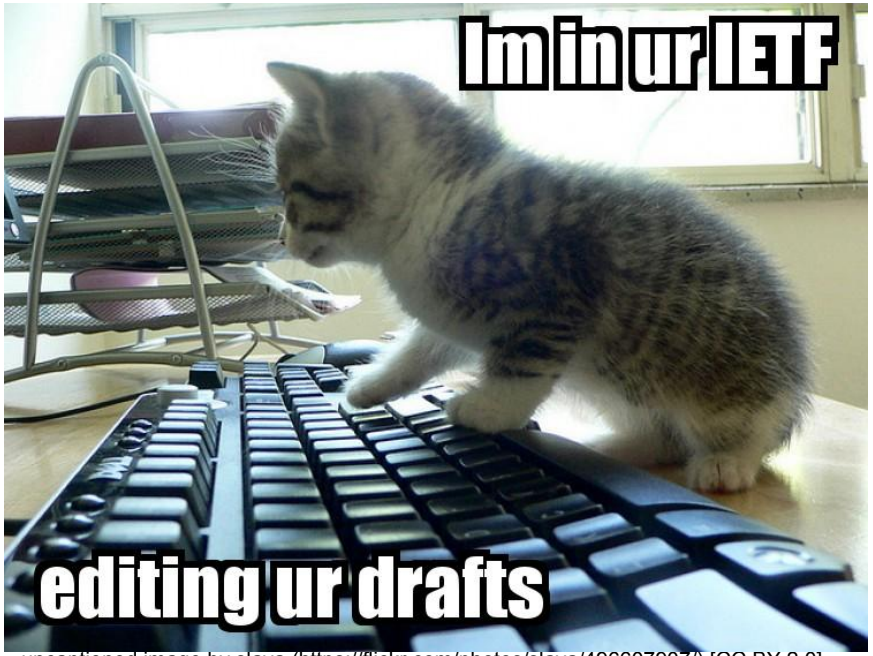
xNCP family updates

drafts: DNCP-08, HNCP-07
software: hnet reference implementation



Steven Barth (speaker)
Markus Stenberg
Pierre Pfister

What happened since Dallas?



uncaptioned image by slava (https://flickr.com/photos/slava/496607907/) [CC BY 2.0]

DNCP

- 7 new draft revisions
- reference implementation “split”

HNCP

- 3 new draft revisions
- many implementation updates

In other news

- 2nd independent implementation
- DNCP stress test simulations
- More DNCP-based protocols

DNCP - Reviews & Updates

Reviews

- Various WG and non-WG member reviews during WGLC and after
- Detailed reviews for Internet and Routing Area
- Detailed review as result of second implementation

Latest Revision (DNCP-08)

- all raised major issues addressed to the best of our knowledge
  - restructured the draft in -06 & added many clarifications
  - added protocol overview section, simplified suggested data model

DNCP-08 - Administrative Change

Issue

- DNCP references SHA-2 in the (optional) Trust Consensus Mechanism
- Only had an Informational Reference to RFC 6234

Change

- Moved reference to “normative” - however RFC 6234 is informational
  - RFC 6234 is IETF adoption of FIPS standard

- Downref required

Any Objections?

DNCP - Some Clarifications

DNCP is separate from its derived protocols

- HNCP was the first, however other use cases exist (e.g., draft-augustin-homenet-dncp-use-case)

- Use cases in other WGs exist as well (e.g., draft-carpenter-anima-gdn-protocol explicitly mentions coexistence of DNCP and GDNP)

- Minimal DNCP profiles (only defining parameters in Section 9) are implementable and testable (e.g., draft-jin-homenet-dncp-experience)

DNCP does not depend on or interact with routing protocols

- DNCP is autonomous and discovers a topology graph on its own

- DNCP profiles can rely solely on link-local communication (like HNCP does)

HNCP - Major changes since Dallas

Prefix Policies

- Special policies for prefix assignment, additional firewalling, etc.
- Correctly identify prefixes and their source and allow restricted assignment
- e.g. (company) VPN-prefix destined for certain links only (e.g. home office)
- e.g. detect and reuse (IOT-)prefixes belonging to the same “network”
- e.g. special purpose prefix (e.g. IPTV) to be assigned to supported STPs only, but user should be able to place them anywhere in the homenet

Generalized Requirements for RAs, DHCPv6, etc.

- remove redundant and incomplete requirements
- rely on RFC 7084 (CER-requirements) and list (few) adaptions for multi-router usability instead

HNCP - Reviews & Updates

Reviews

- Various reviews during WGLC
- Detailed review as result of second implementation

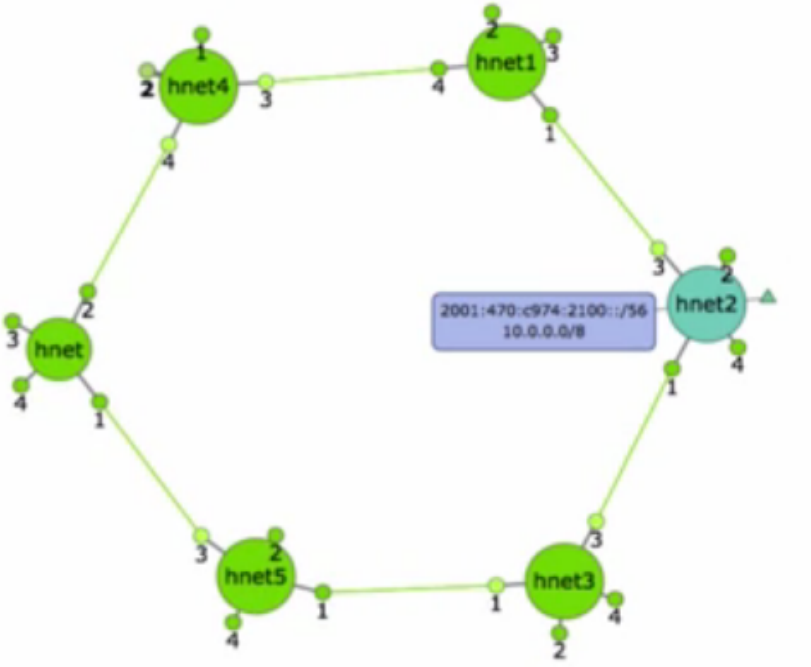
Latest Revision HNCP-07

- many issues already addressed
- more clarifications required, maybe also an additional overview?

HNCP-08

- hopefully ready a few weeks after Prague
- ready for submission to IESG?
- other detailed reviews planned in the near future - wait or not?

Reference Implementation Updates



Updated to match DNCP-07 / HNCP-07

Updated to latest Prefix Assignment

Improved blackbox testsuite

DNCP logically separated

- for developing other DNCP apps
- for testing and simulation
- supports non-HNCP features (e.g. TCP transport, per-peer k-a)

Border Discovery

- Fixed other interface categories

Roadmap

Achieve IESG consensus for DNCP

- Tackled all open issues

Achieve WG consensus for HNCP

- Fix remaining issues from WGLC
- Submit to IESG

Keep reference implementation in sync

Thank you for your attention!
See www.homewrt.org for drafts & software!