Border discovery
and
hnet status report

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Agenda

- Border discovery

  - draft-kline-homenet-default-perimeter-00

  - Different modes

- hnet

  - hnet?

  - hnet timeline

  - hnet versions

draft-kline-homenet-default-perimeter-00

- Basic algorithm is simple

  - Listen on unknown class interfaces constantly

  - Classify next hops

    - (internal, external)

  - Classify interfaces according to their next hops

    - (internal, external, ~~mixed~~)

Alternative modes of border discovery

1. Externally secure version (this is also in the draft) - we support this

   - Mark WAN port explicitly, keep it always external.

2. Insecure version - we support this too (allows use of all ports on router)

   - Use DHCPv4 client, DHCPv6 PD client and OSPFv3 for signals.

   - To avoid race conditions with OSPFv3 adjacency and DHCPv4 clients, we send custom option in DHCPv4 client and ignore such clients in server.

3. Internally (potentially, to some degree) secure version (not implemented)

   - Ask M. Behringer (draft-behringer-homenet-trust-bootstrap and so on)

hnet?

- Cisco-funded GPLv2 implementation that runs within supported Linux systems

- Mostly implemented in Lua (this may be about to change)

- What does it do?

  - border discovery (and related firewalling)

  - OSPFv3 AC (within own, slightly modified Bird OSPFv3 fork)

  - IPv6 prefix assignment (also with IPv4 portion for which no draft exists)

  - source specific routing (using OpenWRT infra)

  - hybrid proxy (OSPFv3 AC-integrated auto-configured one)

- Basic goal: zero configuration with some optional knobs

hnet timeline

- Atlanta (IETF85, November 2012)

  - draft-arkko-homenet-prefix-assignment-02

  - draft-acee-ospf-ospfv3-autoconfig-03

  - Buffalo WZR-HP-AG300NH + OpenWRT 12.09 and NetKit (Debian 7.0) UML supported targets

- Orlando (IETF86, March 2013)

  - draft-troan-homenet-sadr-00

  - draft-bhandari-dhc-class-based-prefix-04

- Berlin (IETF87, August 2013)

  - draft-cheshire-mdnsext-hybrid-01

  - draft-stenberg-homenet-dnssdext-hybrid-proxy-ospf-00

  - draft-dessez-homenet-googleplus-interconnect-01 (derivative project, not part of hnet)

- Vancouver (IETF88, November 2013)

  - draft-kline-homenet-default-perimeter-00

  - Upgraded OpenWRT to current trunk, integration with OpenWRT configuration and built-in daemons
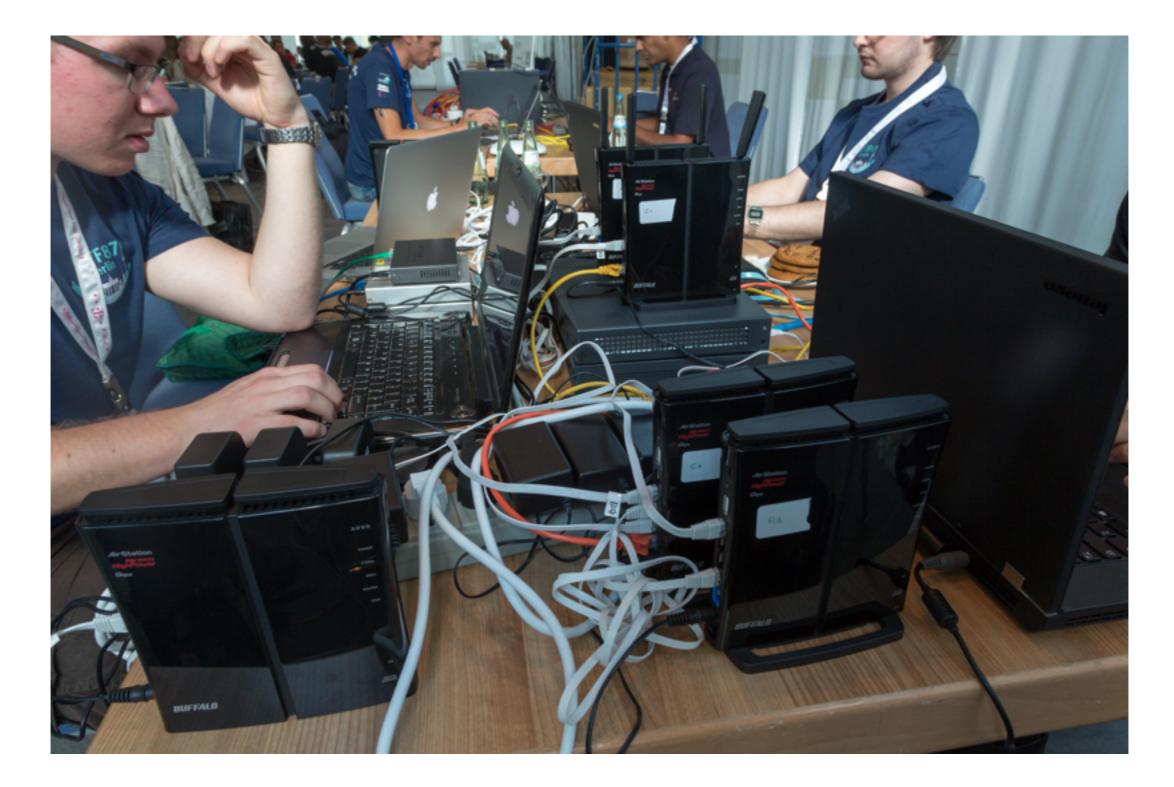
hnet versions

1. OpenWRT package feed

    https://github.com/fingon/hnet-openwrt-feed

2. Super-repository with everything + UML development
    infrastructure

    https://github.com/fingon/hnet

- Branches (in both)

    - vancouver: old, OpenWRT 12.09, ~stable (will disappear soon)

    - master: new, OpenWRT trunk, ~interesting

Questions?
We'll be in B&B at Comcast table in this IETF too.
(Disclaimer: Picture from IETF87)