Homenet Implementation Report

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Over the shoulder implementer
What?

• Based on OpenWRT
• Code on github
• Prefix assignment:
  – draft-arkko-homenet-prefix-assignment-03
  – draft-ietf-ospf-ospfv3-autoconfig-00
• Multi-prefix multi-homing:
  – draft-troan-homenet-sadr-00
  – draft-bhandari-dhc-class-based-prefix-04
  – draft-ietf-v6ops-ipv6-multihoming-without-ipv6nat-04
• Service Discovery:
  – mDNS proxy
Prefix Assignment

• Plan a revision 04 ASAP
  – Include lifetimes of usable prefixes
  – Take a second look at timers. 4 minute timer to keep assigned prefix

• Consequences of Jari’s new job...

• Implementation extended to distribute other configuration information. OSPF is really just a distributed database after all.
  – Separate draft?
Multi-homing

- SADR works fine. Can be implemented with Linux’ multi table support. Uses the implicit method in SADR.
- Prefix class is useful for exposing applications to choice of exit.
Set Up Personal Hotspot

Share your iPhone’s Internet connection with your computer and iOS devices via Wi-Fi, Bluetooth, or USB.

Use Cellular Data for:

- iCloud Documents
- iTunes
- FaceTime
- Passbook Updates
- Reading List
Informed source selection

otroan@ubuntu:~/src/iputils$ ./ping6 -c 1 ipv6.google.com
PING ipv6.google.com(mrs02s04-in-x11.1.e100.net) from 2001:470:e41c:1878:7805:426e:b432:a24b : 56 data bytes
64 bytes from mrs02s04-in-x11.1.e100.net: icmp_seq=1 ttl=51 time=152 ms

--- ipv6.google.com ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 152.732/152.732/152.732/0.000 ms

otroan@ubuntu:~/src/iputils$ ./ping6 -c 1 ipv6.google.com%blue
PING ipv6.google.com%blue(mrs02s04-in-x11.1.e100.net) from 2001:470:84c0:21d4:21c:42ff:fe5f:b2c2 : 56 data bytes
64 bytes from mrs02s04-in-x11.1.e100.net: icmp_seq=1 ttl=46 time=247 ms

--- ipv6.google.com%blue ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 247.179/247.179/247.179/0.000 ms

otroan@ubuntu:~/src/iputils$ ./ping6 -c 1 ipv6.google.com%red
PING ipv6.google.com%red(mrs02s04-in-x11.1.e100.net) from 2001:470:84c0:31ea:21c:42ff:fe5f:b2c2 : 56 data bytes
64 bytes from mrs02s04-in-x11.1.e100.net: icmp_seq=1 ttl=46 time=258 ms

--- ipv6.google.com%red ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 258.540/258.540/258.540/0.000 ms
Service Discovery

• Implemented mDNS proxy in lua.
• Distribute services in OSPF
• Experiences:
  – mDNS is complex
  – Hard to scale
  – Conflict resolution across links was difficult
General experiences

• Integration of “packages” is hard
• How well existing packages react to “system events” is poor
  – Interface state changes, new addresses coming/going
• Glue is the challenge.
Please play with it!

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