

DHCP anonymity profile

<http://datatracker.ietf.org/doc/draft-huitema-dhc-anonymity-profile/>

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The problem with MAC addresses



- Wi-Fi enabled trashcans:
<http://www.theverge.com/2013/8/9/4604980/smart-uk-trash-cans-smartphone-speed-proximity-wifi>
- Wi-Fi trackers in shopping centers:
<http://www.channel4.com/news/shopping-centre-wifi-tracking-spy-data>
- Hot spots tracked by spy agencies:
<http://www.cnet.com/news/canadian-spy-agency-said-to-use-airport-wi-fi-to-track-travelers/>

MAC Address Randomization

- Randomize the “probe” traffic when not connected (obvious)
- About three strategies when connected
 - Per connection: Configure a random MAC address at the time of connecting to a network, e.g. to specific Wi-Fi SSID, and keep it for the duration of the connection.
 - Per network: Same as "per connection," but always use the same MAC address for the same network -- different of course from the addresses used in other networks.
 - Time interval: Change the MAC address at regular time intervals.
- Obvious pros and cons
 - Assume per connection or per network variant, for minimal disruption of network management & connectivity

MAC Randomization is nice but... DHCP!

- Connect with random MAC, then disclose ID with DHCP???
- Dubious DHCP parameters (v4 and v6)
 - DHCP Unique ID (DUID), Host name, Previous addresses, ...
 - draft-ietf-dhc-dhcp-privacy-00, draft-ietf-dhc-dhcpv6-privacy-00
- Must change MAC/DUID/IP Address at the same time
 - Same DUID => same Address – even if uses different MAC
 - Same MAC, different IP => still tracked
 - Different MAC, same IP => still tracked.

Anonymity profile

- Specify both DHCPv4 and DHCPv6
 - Lots of text on motivation and threats applies to both, would have to be replicated if we split the profiles
- Safe options for DHCPv4, DHCPv6
 - Do not disclose more than what is in the MAC Address
 - Including Host Name (propose hexa print of MAC Address)
- Common profile for many platforms
 - Avoid platform fingerprinting
 - Including which options are used

Next steps

- Should this become a WG item?
- If yes:
 - Incorporate content from draft-mrugalski-dhc-dhcpv6-privacy-mitigation-00
 - Incorporate feedback from reviewers
 - Report from Bernie Volz, Marcin Siodelski
 - More?
 - Progress...