Hackathon

DNS Service Discovery Report

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103rd IETF, Bangkok, November 2018

DNS Service Discovery Report

Lots of people stopped by with questions

Lots of productive discussions

Open Source Code Available

https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-IETF103.tar.gz

https://github.com/Abhayakara/dnssd-registration

Got more code checked in this weekend

Service Discovery for Thread Mesh Networks

Thread Mesh Networks

- IPv6 over 802.15.4 mesh
- Low power wireless network technology
- Good for battery-powered IoT devices
- Provides stable network for IoT devices
- https://www.threadgroup.org/
- Mesh has Thread Border Router to connect to Wi-Fi or Ethernet

Two challenges:

- Unicast data delivery
- Discovery

Service Discovery for Thread Mesh Networks

Unicast data delivery

Thread Mesh configures itself an IPv6 ULA prefix

Thread Border Router uses IPv6 RA on Wi-Fi/Ethernet link to advertise path to ULA prefix

In principle, this should work

- In practice there are client device bugs to be worked out

Service Discovery for Thread Mesh Networks

Discovery

Devices on Thread Mesh use Service Registration Protocol

- https://tools.ietf.org/html/draft-ietf-dnssd-srp-00

Thread Border Router needs to tell clients on Wi-Fi/Ethernet link how to discover those

Options evaluated:

- Mirror Thread Mesh services onto Wi-Fi/Ethernet link (using Multicast DNS)
- Signal clients on Wi-Fi/Ethernet link to use unicast queries to the Thread Border Router
  - Signal using Multicast DNS messages
  - Signal using a new IPv6 RA option
  - Signal using existing IPv6 PVD RA option

Planning to discuss more at DNSSD meeting on Thursday