

DHC/Sunset4 Combined session

IETF 87

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Note Well

This summary is only meant to point you in the right direction, and doesn't have all the nuances. The IETF's IPR Policy is set forth in BCP 79; please read it carefully.

The brief summary:

- ❖ **By participating with the IETF, you agree to follow IETF processes.**
- ❖ **If you are aware that a contribution of yours (something you write, say, or discuss in any IETF context) is covered by patents or patent applications, you need to disclose that fact.**
- ❖ **You understand that meetings might be recorded, broadcast, and publicly archived.**

For further information, talk to a chair, ask an Area Director, or review the following:

BCP 9 (on the Internet Standards Process)

BCP 25 (on the Working Group processes)

BCP 78 (on the IETF Trust)

BCP 79 (on Intellectual Property Rights in the IETF)

Administrivia/Agenda

- Meeting notes (Etherpad): <http://tools.ietf.org/wg/sunset4/minutes>
- Mailing list: sunset4@ietf.org, dhc@ietf.org
- Jabber room: [sunset4@jabber.ietf.org](jabber://sunset4@jabber.ietf.org)
- Chairs, Joint Meeting intro – Why are we here?
- Simon Perreault, Turning off IPv4 Using DHCPv6
 - draft-perreault-sunset4-noipv4
- Qi Sun, DHCPv4 over DHCPv6 Transport
 - draft-ietf-dhc-dhcpv4-over-dhcpv6
- Presenter TBD, Provisioning IPv4 Config Over IPv6 Only Networks
 - draft-ietf-dhc-v4configuration
- Prashanth Patil, DHCPv6 Dynamic DNS Reconfiguration
 - draft-wing-dhc-dns-reconfigure Discussion

What is Sunset4?

- Answers the question, “How do you actually **turn off IPv4?**”
 - Dual stack is a transition technology; IPv6-only is the end state
- Areas of focus:
 - Provisioning methods to securely signal a dual-stack host to disable or depreference IPv4
 - Gaps in features and protocols that prevent IPv6-only operation
 - IPv6-only networks reaching legacy IPv4 networks

Why are we meeting together?

- From ietf-sunset4-gapanalysis:
 - PROBLEM 1: When an IPv4 node boots and requests an IPv4 address (e.g., using DHCP), it typically interprets the absence of a response as a failure condition even when it is not.
 - PROBLEM 2: Home router devices often identify themselves as default routers in DHCP responses that they send to requests coming from the LAN, even in the absence of IPv4 connectivity on the WAN.
 - One way to address is to send a signal to a dual-stack node that IPv4 connectivity is unavailable. **Given that IPv4 shall be off, the message must be delivered through IPv6.**
 - Section 6: On-demand provisioning of IPv4 addresses in DHCP
- draft-perreault-sunset4-noipv4 proposes DHCP options to depref/disable IPv4
 - DHCP may not be the only answer, need to consider all options

Why are we meeting together?

DHC working to define:

- provisioning {DHCP,IP}v4 over {DHCP,IP}v6
- Influencing priority of DNS servers provided by DHCP (draft-wing-dhc-dns-reconfigure)
- Chairs want to ensure coordination on DHCP options, solutions for signaling preferences to end hosts

Problem Statement

- Many networks will have both IPv4 and IPv6, but with varying transition technologies affecting the quality of those stacks
 - “real” IPv4 (no CGN)
 - CGN IPv4 (potentially broken for some apps)
 - NAT64/DNS64 (also potentially breaks things)
 - IPv6 (only)
- How do you tell dual-stack hosts which to use/avoid?
 - For which destinations?
 - With which protocol(s)?
 - Happy Eyeballs helps, but can be non-deterministic

Goals

- Identify overlap between WG efforts
- Coordinate efforts to ensure that provisioning IPv4 on an IPv6-only network can also signal the level of IPv4 connectivity
- Determine proper location for any work to signal address-family preferences to dual-stack end hosts
- Identify solutions that could be extended beyond DHCP (e.g. PPP, RA)