Obtaining IPv4 configuration over IPv6 networks

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Architecture

- This is an architecture question
- It's come up in the DHC working group several times in the past six years.
- We've come to conclusions about it each time
- We've never documented those conclusions

Current situation

- It's come up again

- Current use case has a set of requirements

- These requirements are not necessarily universal

- We need to come up with an architectural solution that addresses current use case, doesn't break things, and will also address future use cases (we hope!)

Issues

- Stateless IPv4 addressing
- Dynamic IPv4 address allocation
- IPv4 service address configuration

Stateless Address Conf

- This is the case typified by MAP-E
- IPv4 address and port range can be derived, using math, from IPv6 prefix
- Need to configure particulars of math

Dynamic address allocation

- This is desired for some lw4over6 scenarios
- IPv4 address only allocated on demand
- IPv4 address needs a lifetime

IPv4 service configuration

- Need to configure some provider service that still runs over IPv4

Decisions

- For each case, we need to decide whether to address it with DHCPv4, DHCPv6, or both.

- What we decide to do has to be a good architectural choice

- We need to publish a document that says what choice we made

- Probably a BCP