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