Autoconfiguring single-homed end systems to make use of network multi-homing

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Scenario

- Host
- DHCP server
- Gateway

Connections:
- ISP 1
- ISP 2
One Possible Solution - I

host

Gateway
src: 10.2.0.0/16
src: 10.1.0.0/16

ISP 1
ISP 2

10.2.2.5
10.1.2.6
One Possible Solution - II

Request MP proxy avail

MP proxy avail 1 + other config

Configure physical, create virtual interface

Send MP range 1

Config
Implementation

• Implemented using ISC DHCP server/client (latest version)
  – Was easy (little scripting on the client side but mostly config)

• Working in a testbed setup
Other ways to achieve the same
(or something similar)

- Server sends two (n really) offers – client accepts both (all, subset)
  - Good for environments with two (n) DHCP servers, one for each ISP connection – only client changes
  - Client-side behavior is not standard behavior
  - Does not guarantee that this actually will be routed differently
  - Single DHCP server and client (always) needs to change anyway
Other ways to achieve the same
(or something similar)

• Make use of ECMP at the gateway (different port numbers)
  – Would work today
  – Trial and error
  – Depends on ECMP algo (needs to include port numbers)
Is this Useful?