DHCP Relay Agent Assignment Notification Option

IETF-64

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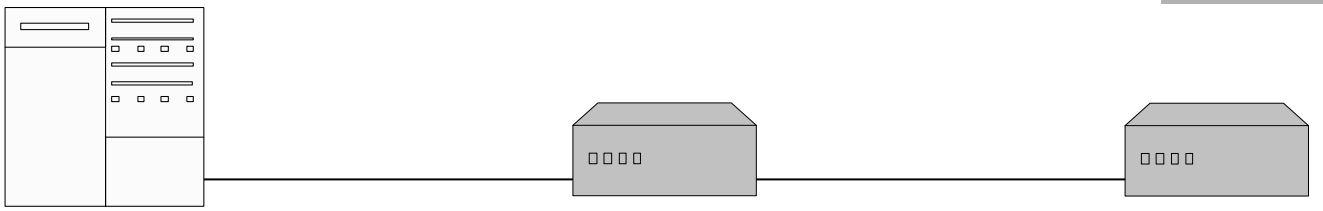
PD Route Injection

- Simple Cases
  1. Delegating router is on same link as requesting router → delegating router can manage the routing information
  2. DHCP server (delegation router) has access to routing protocols → server can manage the routing information
  3. Routing protocol trusts the requesting router → requesting router can manage the routing information

Problem Statement



DHCP Server
Delegating Router

Edge Router
Relay Agent

Customer Router
Requesting Router
and/or Client

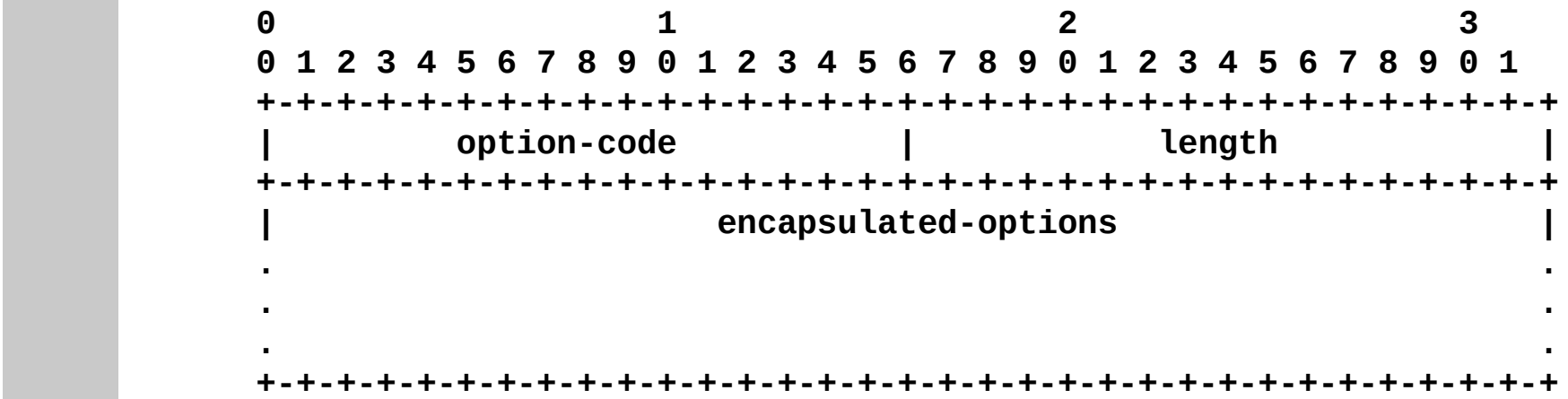
- But what if:
  - Delegating router (server) is run by a service provider
  - Requesting router is customer owned equipment
  - The service provider doesn‘t trust the customer’s equipment to manage routing information through a routing protocol
  - There are one or more relay agents
  - The DHCP server (delegating router) doesn't have access to routing protocols?

Background

- Ralph Droms initiated an email discussion in July on solving the Prefix Delegation routing injection problem
  - Ted Lemon, Tim Chown, John Brzozowski, Ole Troan, Josh Littlefield, Bernie Volz
- Assumption: DHCP message snooping is a Bad Idea

Proposed Solution

- New option – Relay Agent Assignment Notification (OPTION_AGENT_NOTIFY)



- Encapsulates IAPREFIX and IAADDR options
- Included by Server in Relay-Reply if requested by Relay in Relay-Forw's ORO

Encapsulated Options

- IAPREFIX communicates prefix
- IAADDR communicates address
- Preferred-lifetime not used (ignored)
- Valid-lifetime is lifetime of prefix/address
  - 0 to invalidate
  - Need not be the same given to “client”
- Other options can be encapsulated if needed (by future drafts)

Draft / Next Steps

- Draft available at ftp://ftpeng.cisco.com/ftp/rdroms/draft-droms-dhc-dhcpv6-agentopt-delegate-00.txt
  - will be submitted as soon as submissions reopen
  - co-authored by Ralph Droms, Ole Troan, & Bernie Volz
- Accept as Working Group item?
- Comments?