DHCP Options for the Port Control Protocol (PCP)

draft-ietf-pcp-dhcp

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draft-ietf-pcp-dhcp-07

- The new version was submitted just after the Orlando meeting (March 2013)
- Main changes:
  - UTF-8 encoding was abandoned
  - Section 8 of RFC3315 is used instead
  - Add a new section called "***Guidance to Administrators***" to avoid configuring ambiguous names
  - Trailing dot is removed when address literals are used

Reminder

- The document has been cross-wg reviewed (*see the appendix*)
- The same question is raised each time there is a request for review: *Why not an IP Address?*
  - This question has been answered several times
  - See the appendix for some justifications
  - There is a consensus in the WG
- ***Need to move the document forward***

Appendix

Why Not an IP Address Option?

- Main reasons are:
  - DHCP servers are centralized while other services are regionalized (e.g., SBC, CGN, DNS servers, etc.)
    - Returning a generic name that can be resolved regionally is a widely adopted practice (e.g., SIP)
  - The teams which manage the regionalized nodes are not the same as those managing DHCP servers
  - There are existing regional-based load balancing solutions which are deployed at the regional level for services such as SIP. These solutions can be re-used easily for other services such as PCP. These LB does not require any interface to the DHCP server(s)
  - Avoids to make deployment-specific requirement on DHCP servers
    - This is an engineering choice
    - It is not up to the IETF to dictate a deployment option
- The approach in -07 is pragmatic since it allows to return a name but also IP address literals according to the WG consensus

Main Changes: Flashback

- **draft-bpw-pcp-dhcp**
  - Defined both an IP-Address and FQDN Options
  - Only FQDN option was maintained after discussion in the mailing list
  - Text added to the document to explain the rationale
- **IETF#81**
  - draft-bpw-pcp-dhcp adopted as WG
  - Consensus on maintaining the FQDN option
  - To the question raised by the authors "*Is PCP name strictly an FQDN, or a general string such as can be passed to getaddrinfo? e.g. is "10.0.0.1" address literal allowed?*"
    - *Consensus: Yes, general strings such as can be passed to getaddrinfo, including address literals.*
- **draft-ietf-pcp-dhcp-01**
  - Integrate all comments received from B. Voltz and T. Lemon

Main Changes: Flashback

- **draft-ietf-pcp-dhcp-02**
  - Integrate comments received from D. Thaler (e.g., use “Name” instead of FQDN, add a paragraph about multi-interface issues, add a procedure to select an IP address of the PCP Server, etc.)
- **draft-ietf-pcp-dhcp-03 LCed in dhc and pcp**
  - Multiple option approach was abandoned and a space character is used to separate names
- **IETF#84**
  - Main discussion points were raised in Vancouver (see the minutes)
  - “*When RFC1035 is used to encode the name, encoding IP literals will result in being decoded as a domain name (e.g., "1.2.3.4.“) How to solve this?*”
  - "*Consensus: just use plain strings like the existing DHCP "domain" option, no RFC1035-encoding for any names*“

Main Changes: Flashback

- **draft-ietf-pcp-dhcp-05**
  - Integrates the changes agreed in the Vancouver meeting (e.g., abandon RFC1035 encoding, remove the text about server selection, etc.)
- **draft-ietf-pcp-dhcp-05 WGLC**
- **IETF#85**
  - The WG advice is to consult with T. Lemon how to encode multiple string: maintain the space character or use length-encoded
- **draft-ietf-pcp-dhcp-06**
  - After checking with T. Lemon, a length-encoded approach is used instead of using space character to separate name
  - Integrate all comments received in the WGLC
  - T. Lemon questioned the use of UTF-8 encoding
    - Authors reported the issue in the mailing list to seek for advice
    - Add new text to explain the motivation and rationale for the encoding design choice