Using PCP to update dynamic DNS

draft-deng-pcp-ddns
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Driven of this work

- DDNS is a widely used service
  - for Internet users who host services in the home network
  - numerous providers over the world
  - extensive list of DNS providers review on the internet
    - [http://dnslookup.me/dynamic-dns/](http://dnslookup.me/dynamic-dns/)
    - [http://noeld.com/services.htm](http://noeld.com/services.htm)
  - ddns service / Ddns service provider / Ddns service provider review / ddns setting up, search on Google:
    - About 3,770,000 results

- Add-on feature on the majority of residential routers
  - configurable on major OS (OpenWrt, DD-WRT): support hundreds of hardware
  - 3Com, TP-Link, Linksys, D-Link, Gateworks, Huawei, and so on.

- Will be broken in the IPv4 sharing context ((e.g., DS-Lite, MAP, NAT64))
Status of Current Practices

• DynDNS, GnuDIP Dynamic DNS, opendyn, miniDNS…

• Updates between Client and Server:
  – privately defined protocol - not standardized-, varying from one provider to another
  – Updates mostly via HTTP
  – a few web-based ones have emerged over time
Our solution to the problems

• Give **operational guidelines** of how to adapt IP sharing context to DDNS providers
  – The DDNS service MUST be able to maintain an alternative port number instead of the default port number.
  – Appropriate means to instantiate port mapping (PCP is recommended) in the address sharing device MUST be supported.
  – DDNS client MUST be triggered by the change of the external IP address and the port number.

• Give one example of implementation
  – to **prove feasibility** and **give a sense** of the amount of engineering effort needed
  – example implementation is based on web-based implementation, since it is the majority of the current practices
  – Since current practices themselves are _not_ standardized
  – It’s up to DDNS providers to decide their own implementation
Update since IETF#84

• Clarify the goal and scope:
  – The I-D requires no changes to current protocols
  – The I-D is rather an operational document.
  – It focuses on addressing problems for the third party DDNS service providers who use web-based form to do dynamic DNS updates
  – DNS based updates may refer to [I-D.cheshire-dnsext-dns-sd] and [RFC6281]
Update since IETF#84 (cont’d)

• Added more details about Implementation guidelines
  – The I-D gives an example how the DDNS server may implement such service notification functionality if they want.
  – The flow chart specifies more clearly how HTTP 301 or URL redirection may be used for DDNS server to redirect web service without extra notification.
  – Added a sub section to indicate how DNS server may notify Non-web service - using a web portal

• What to do with this document?
  – Interests of WG to see this work to be continued?
  – If so, more feedbacks on the ML are desired and appreciated