

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://www.dmoz.org/Computers/Internet/Protocols/DNS/Service_Providers/
 - <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