Learn NAT64 PREFIX64s using PCP

I-D. boucadair-pcp-nat64-prefix64-option
IETF 85-Atlanta, November 2012

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Problem

- Applications using IPv4 address referrals
- Local synthesis in the host (e.g., DNS64 resolver embedded in the host)
- An example is shown below

SDP Answer includes IPv4 addressees only. This answer will be rejected by the IPv6-only SIP UA
Solution

- Retrieve the PREFIX64 from the PCP Server
- An example is shown below

Builds an IPv4-embedded IPv6 address using the IPv4 address enclosed in the SDP answer
Solution

- Retrieve the PREFIX64 from the PCP Server
- An example is shown below

Embeds a PCP Client
Embeds a PCP Server

SIP UA

(1) PCP MAP Request (PREFIX64)
(2) PCP MAP Response (PREFIX64)
(3) INVITE
(4) INVITE
(8) 200 OK
(7) 200 OK
(9) ACK
(10) ACK
(11) ACK

RTP
RTCP

Source IP Address: 2001:db8::1
Source Port Number: 15362
Source IP Address: 2001:db8::1
Source Port Number: 15363

Source IP Address: 1.2.3.4
Source Port Number: 18684
Source IP Address: 2001:db8::1
Source Port Number: 15363

Builds an IPv4-embedded IPv6 address using the IPv4 address enclosed in the SDP answer

IPv4 UA

NAT64

Proxy
Status & Next Steps

• Android implementation and validation
  – PCP Client and SIP UA
  – Easy to support
• Simple solution for a well defined problem
• Both an option and an OpCode are defined to retrieve PREFIX64
• Request to adopt this document as WG item