

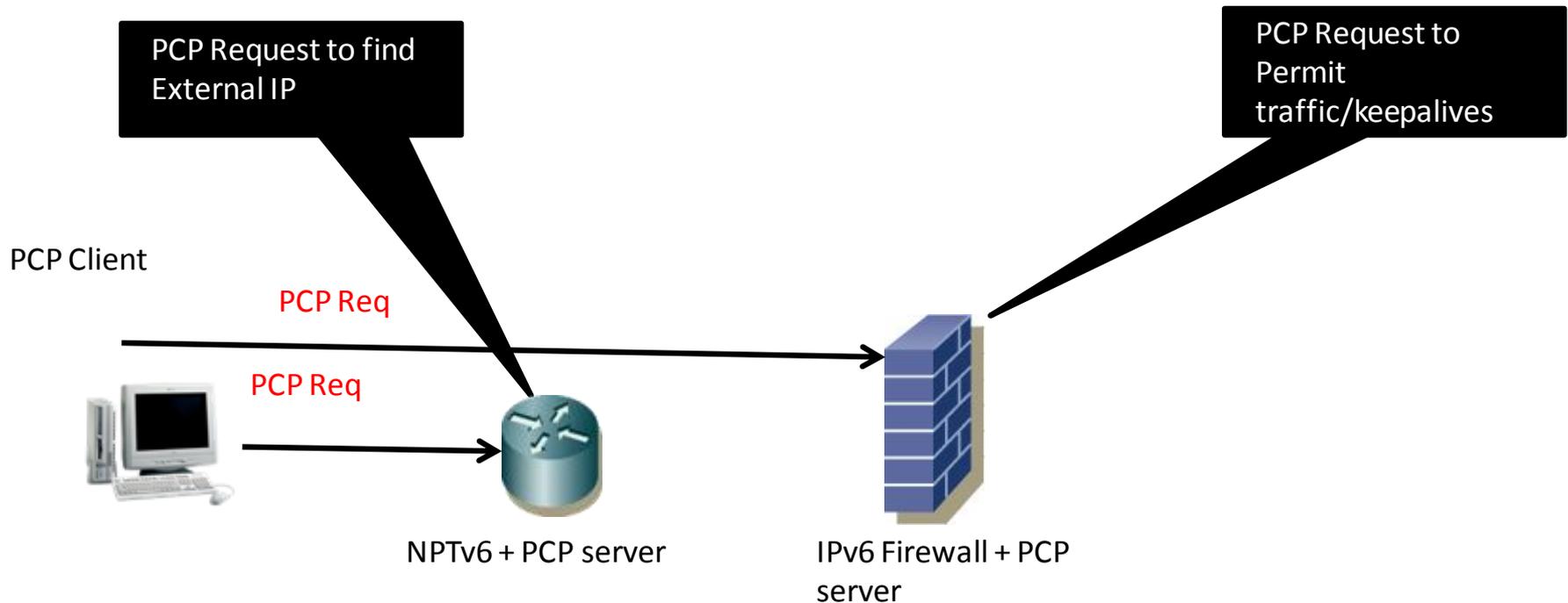
# Retrieving the Capabilities of a PCP-controlled Device

**draft-boucadair-pcp-capability**

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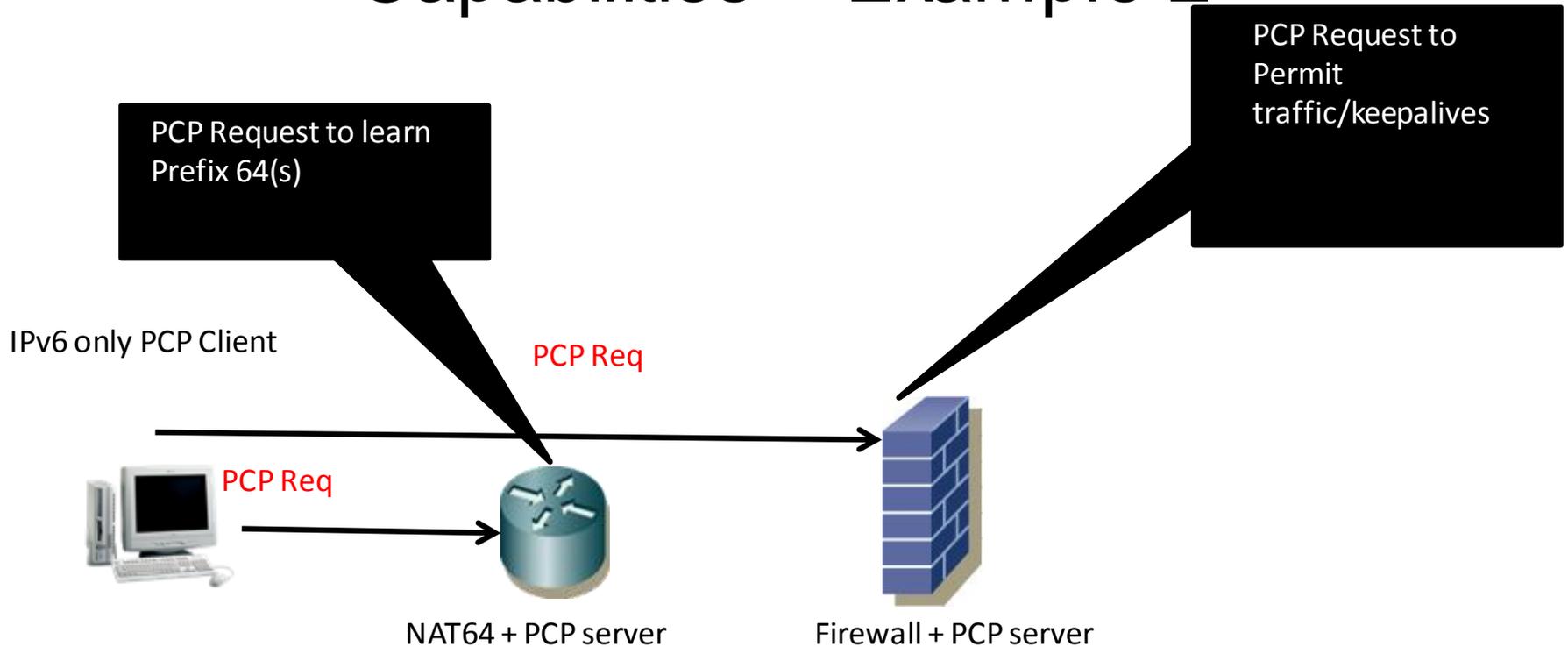
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# Problem 1 - PCP Servers with different Capabilities



- PCP Request format is different for NPTv6, Firewall
- PCP Request sent only once to NTPv6
- Similar scenario for ILNP Translator

# Problem 2 - PCP Servers with different Capabilities – Example 2



- PCP Request format is different for NAT64, Firewall
- PCP client needs to send PCP Request only once to NAT64 to learn Prefix 64(s)

# Proposed Solution

- Define a new Option called CAPABILITY
  - “A” bit indicates whether authentication is supported or not
  - Each bit in the Capability bit mask is used to represent the PCP-controlled device capability:
    - 1: NAT44
    - 2: Stateless NAT64 [RFC6145].
    - 4: Stateful NAT64 [RFC6146].
    - 8: A+P Port Range Router [RFC6346].
    - 16: IPv4 firewall Section 5
    - 32: IPv6 Firewall [RFC6092].
    - 64: NPTv6 [RFC6296].
    - 128: ILNP Translator [I-D.irtf-rrg-ilnp-arch]
  - Several bits can be set if several functions are co-located in the same device

# Proposed Solution

1. Once the PCP Client is configured with its PCP Server(s), it may issue an ANNOUNCE OpCode which enclose a CAPABILITY Option
  - The PCP Client may decide to tune its requests and decide whether all PCP Servers need to be contacted in parallel or only a subset of them should be contacted
2. Upon receipt of a PCP request from a PCP Client requiring the PCP Server to enforce an operation beyond its capabilities, the PCP Server may return an error code together with the CAPABILITY option
3. When a new PCP Server joins the network, it may send an ANNOUNCE OpCode with its capabilities

# Next Steps

- Is this a valid problem?
- Does the proposed solution make sense?
- Is the WG interested in working in this item?