Special Use Domain Name ‘ipv4only.arpa’

https://datatracker.ietf.org/doc/draft-cheshire-sudn-ipv4only-dot-arpa/

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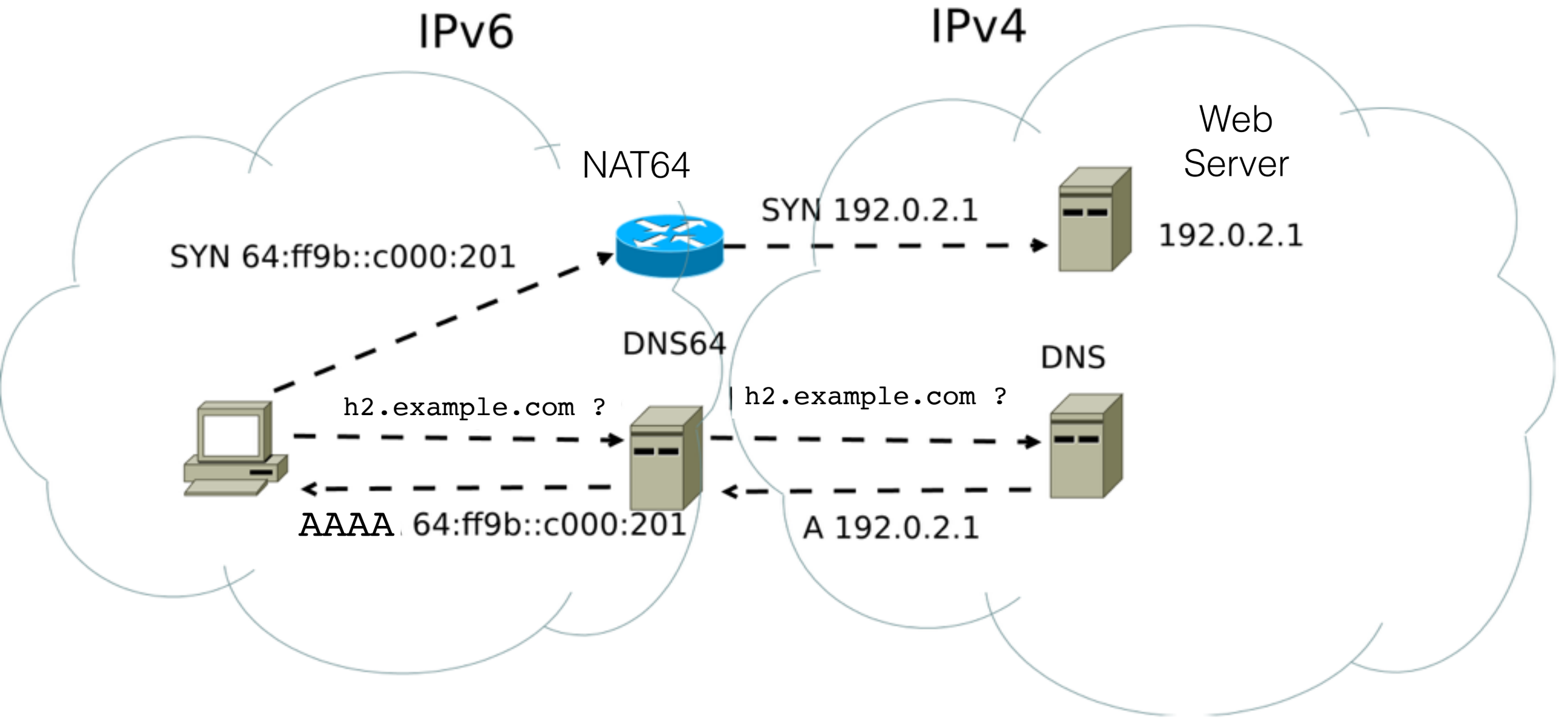
NAT64 + DNS64



https://en.wikipedia.org/wiki/NAT64

Discovery of the IPv6 Prefix Used for IPv6 Address Synthesis (RFC 7050)

- ipv4only.arpa A →
  - 192.0.0.170
  - 192.0.0.171
- ipv4only.arpa AAAA → (traditional network without DNS64)
  - No Error / No Answer
  - (Name exists by has no AAAA records)

Discovery of the IPv6 Prefix Used for IPv6 Address Synthesis (RFC 7050)

- ipv4only.arpa A →
  - 192.0.0.170
  - 192.0.0.171
- ipv4only.arpa AAAA → (on a specific NAT64 network)
  - 64:ff9b::192.0.0.170
  - 64:ff9b::192.0.0.171

Special Use Domain Name

- RFC 7050 Section 8.1

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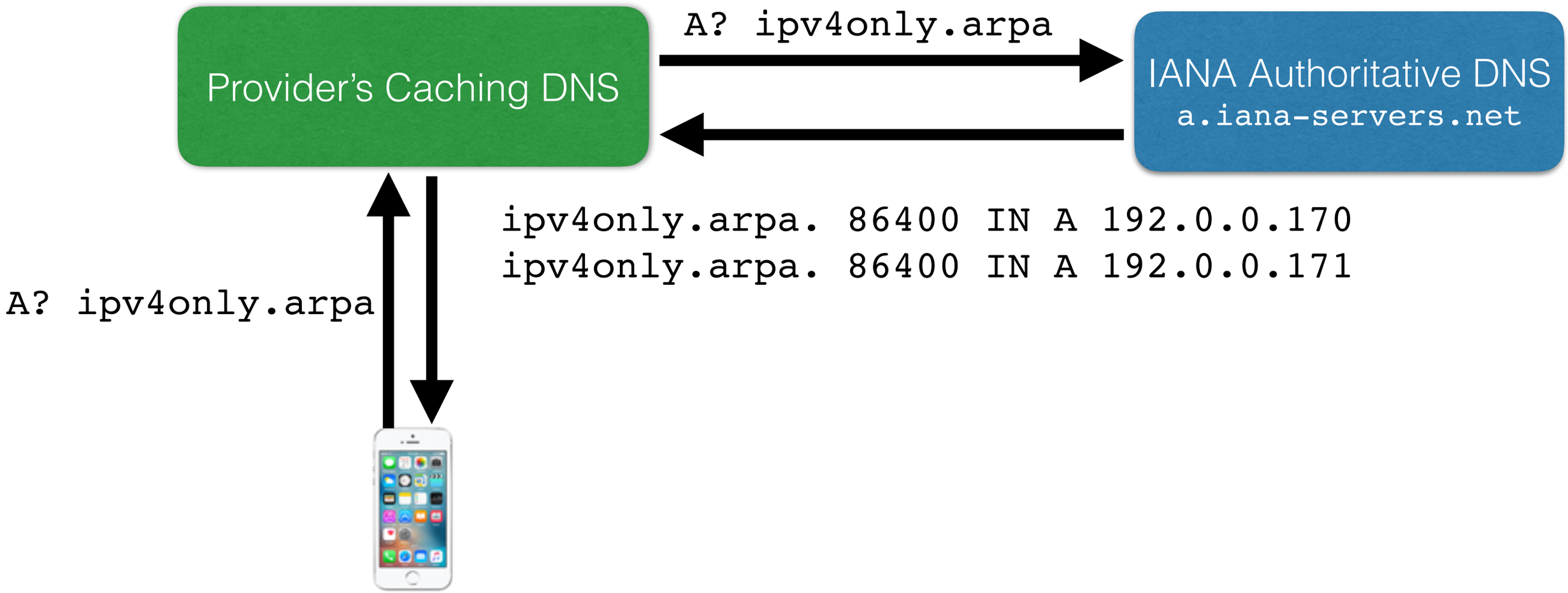
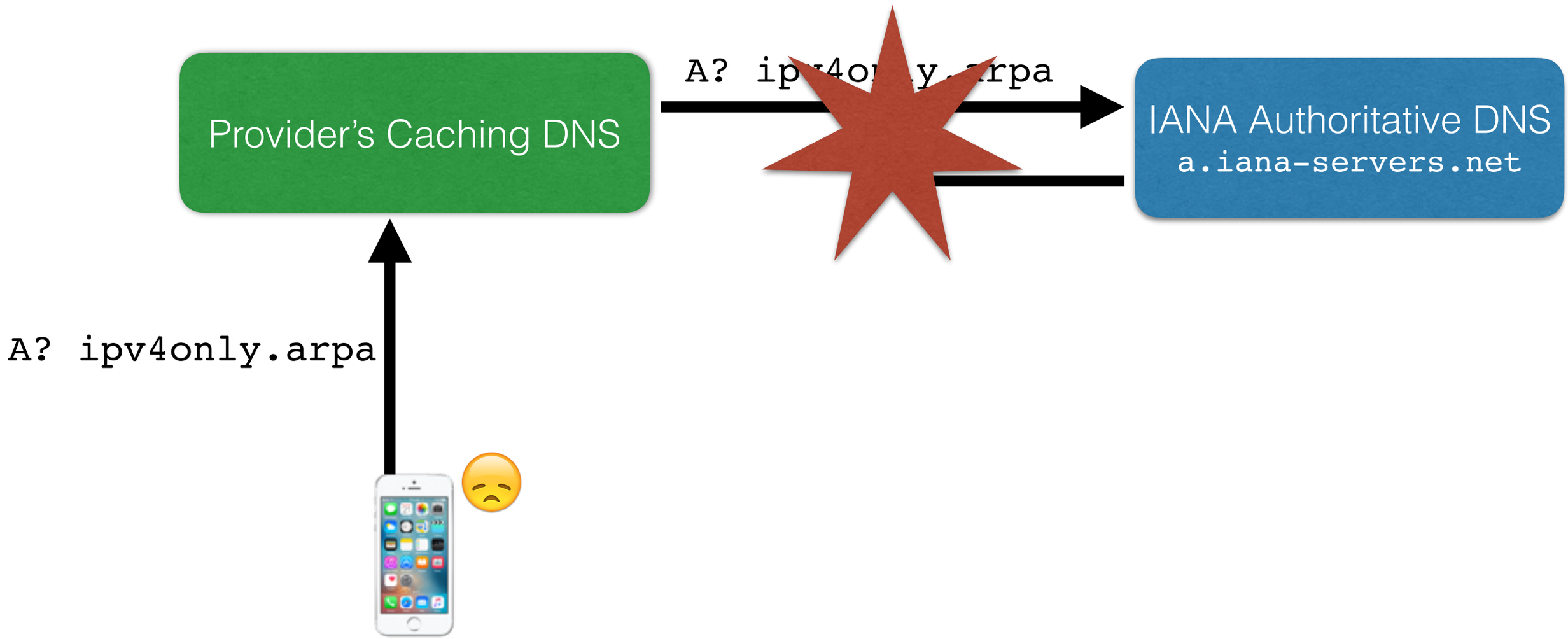
4.  Are developers of caching domain name servers
expected to make their implementations recognize
these names as special and treat them differently?
If so, how?

No.
```

Caching Domain Name Servers



Caching Domain Name Servers



Proposal

- Add “ipv4only.arpa” to the special use domain name registry
- DNS64 caching domain name servers SHOULD special-case “ipv4only.arpa” and return the appropriate synthesized AAAA response without querying .arpa name servers