

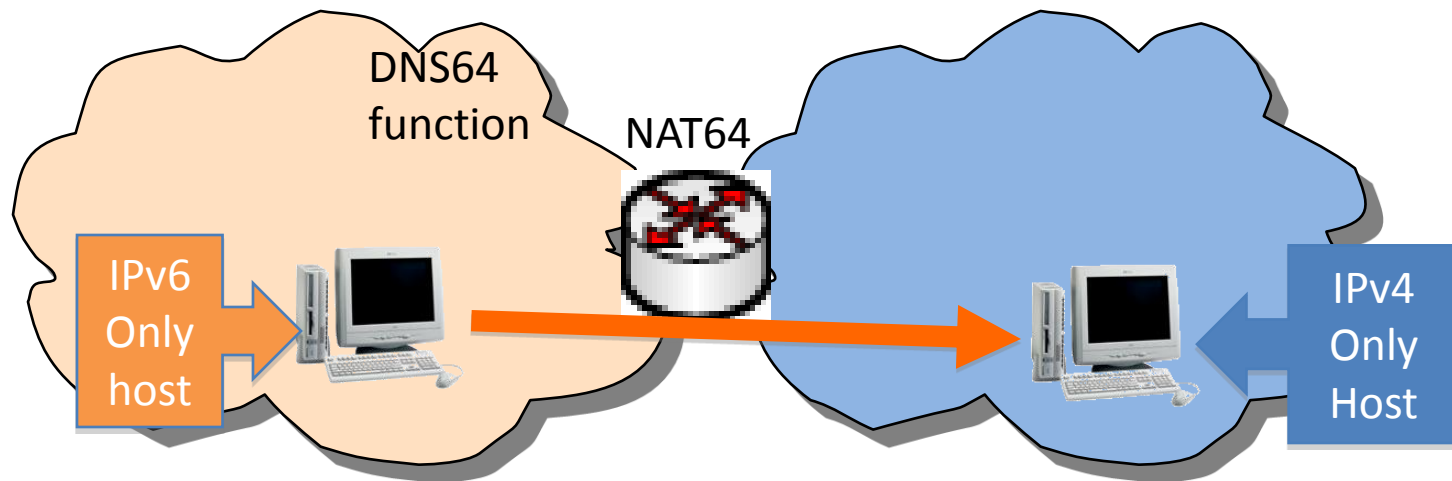
DNS64

draft-bagnulo-behave-dns64-02

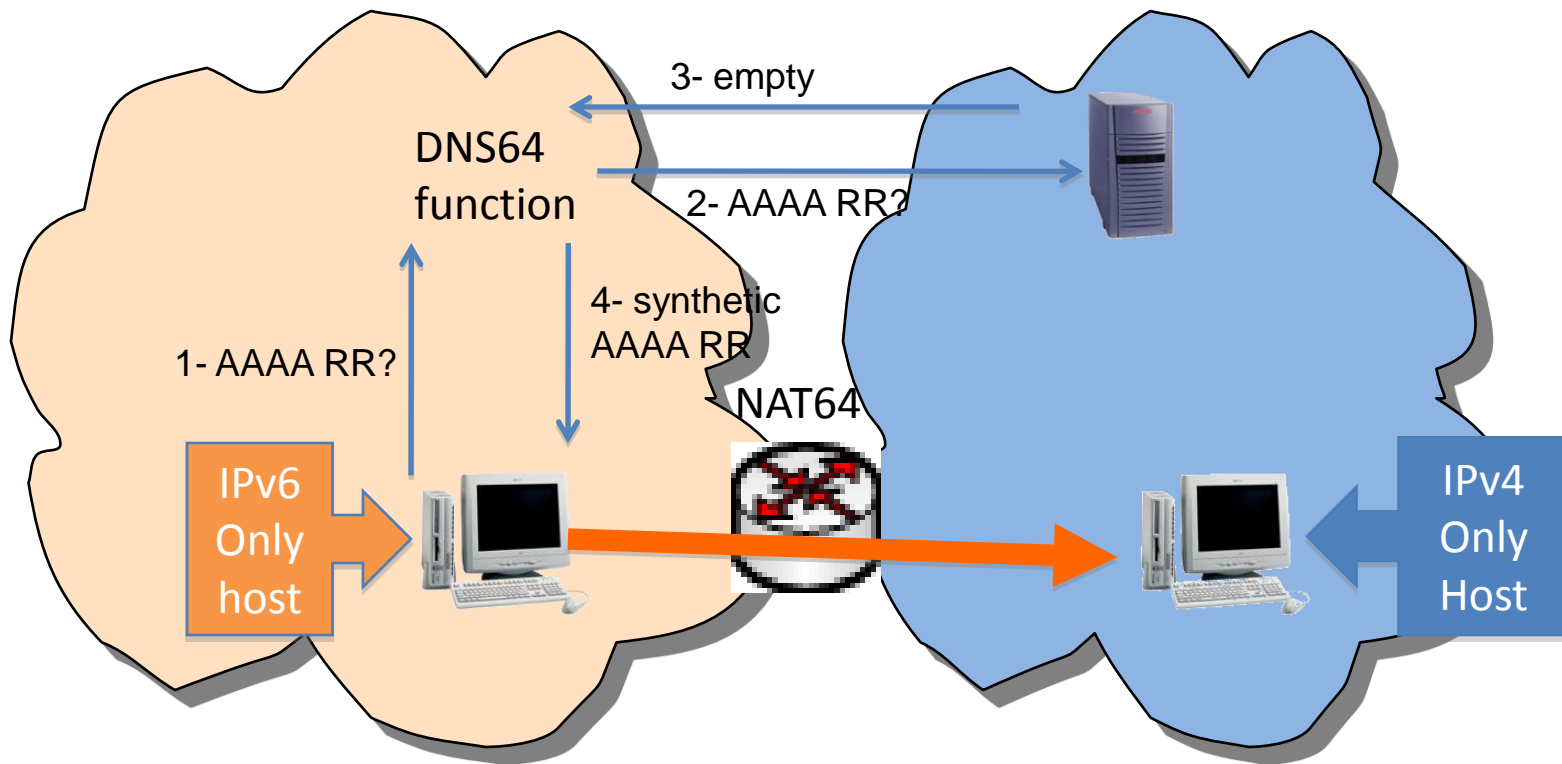
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IETF 74 – San Francisco

Application scenario



Application scenario

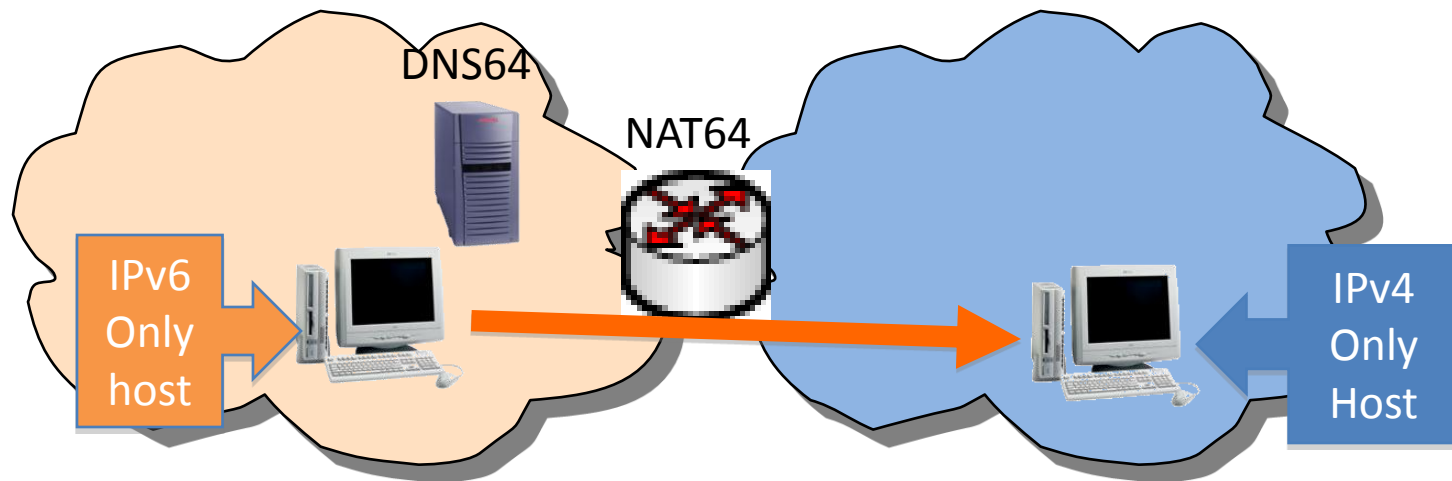


DNS64 function location

- DNS64 can be located:
 - In the local name server
 - Simplifies deployment
 - Supports legacy hosts
 - In the end host
 - Enables additional features e.g. Validating stub-resolver

Application scenario 1

An-IPv6-network-to-IPv4-Internet



IPv6 end site or
IPv6 end site and
IPv6 ISP

IPv4 Internet

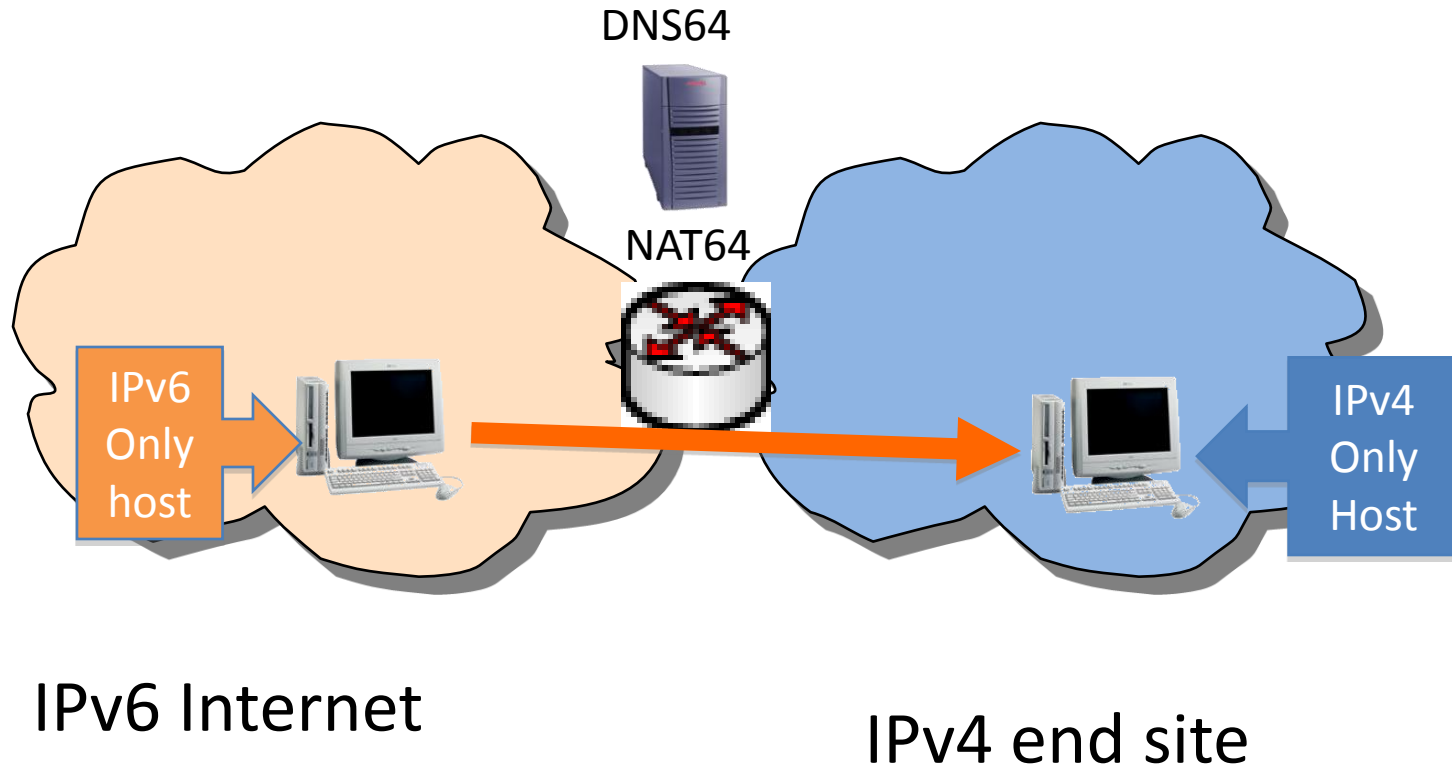
Application scenario 1

An-IPv6-network-to-IPv4-Internet

- DNSSEC
 - DNSSEC works fine EXCEPT in the case of a validating and translation oblivious stub resolver.
 - Not many validating stub resolver clients deployed yet, so this may not be a big problem
- Open questions:
 - How does the validating server sets the AD bit when replying with a synthetic AAAA RR to a query with DO set and CD reset?
 - Do we include the original A RR (and eventual associated DNSSEC information) in the DNS response containing the synthetic AAAA RR
 - Could be used as a hint that the AAAA RR is synthetic

Application scenario 2

IPv6-Internet-to-an-IPv4-network



Application scenario 2

IPv6-Internet-to-an-IPv4-network

- Most recommended approach: publish AAAA RR containing the IPv6 representation of the IPv4 address
 - How to support DynDNS?
- Second most recommended approach: generate the synthetic AAAA RR upon the reception of the DNS update
 - How to support DNSSEC?
 - The problems here seem to be generic to DynDNS/DNSSEC interaction, not specific to DNS64

Application scenario 2

IPv6-Internet-to-an-IPv4-network

- Third approach: synthesize AAAA RR upon the DNS query i.e. DNS64
 - How to support DNSSEC?
 - Need to generate the RRSIG RR on the fly.
 - How to handle NSEC RR generation?
 - Motivation: potential number of boxes to update is smaller