

# DHCPv6 Options for Discovery NAT64 Prefixes

**draft-li-intarea-nat64-prefix-dhcp-option-01**

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# Motivation

- Several transition mechanism (SIIT, 464XLAT, SIIT-EAM, ...) use NAT64
  - stateless or stateful
- Using Well-Known Prefix (WKP) and/or 1+ additional Network Specific Prefixes (NSPs)
- Multiple NAT64 Scenario:
  - Different NAT64 have different IPv6/IPv4 prefixes
  - Attract traffic to the correct NAT64
  - Support for destination-based IPv4 routing
- Several NAT64 may have different prefixes (IPv6/IPv4)
- This ID proposes a DHCPv6-based method to inform DHCPv6 clients

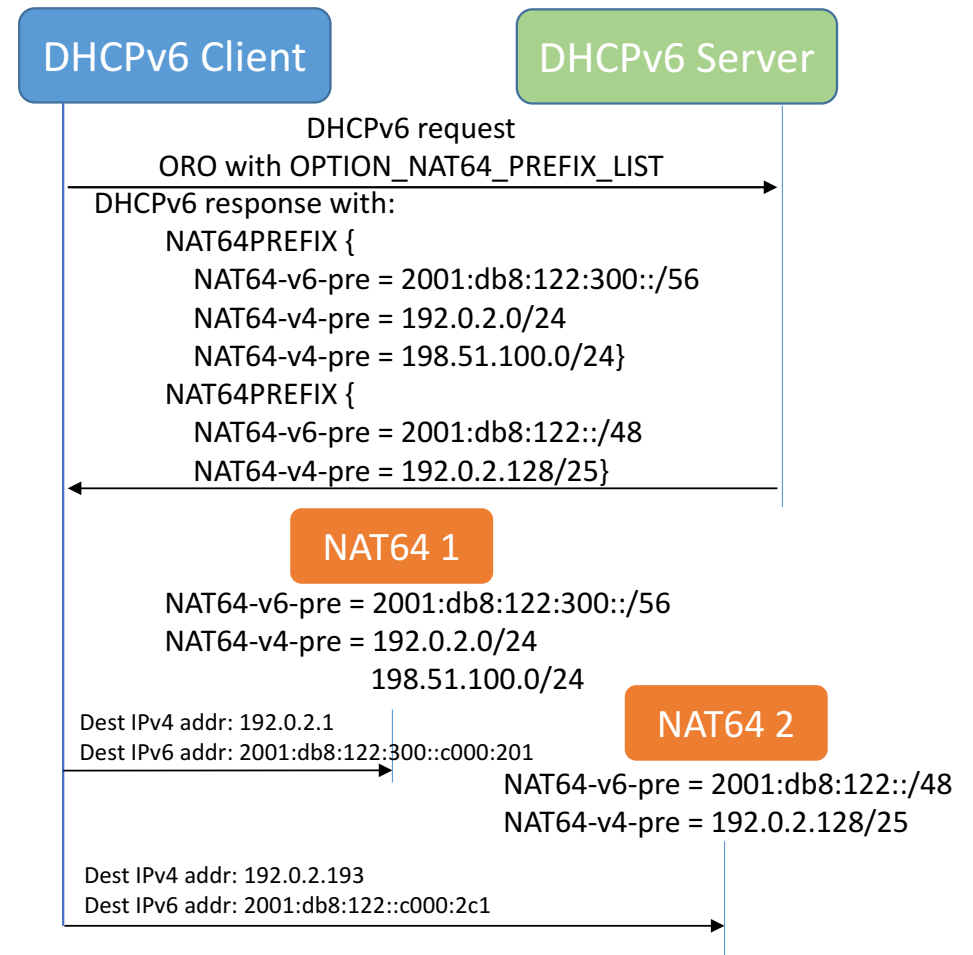
# Proposed Solution (I)

- Client and DHCPv6 Server Interaction

- Client requests **OPTION\_NAT64\_PREFIX\_LIST** in DHCPv6 requests
- DHCPv6 server provisions the NAT64-side translation IPv6 prefix(es) list by **OPTION\_NAT64\_PREFIX\_LIST**
- NAT64-side translation IPv6 prefix List contains the NAT64-prefix, NAT64-suffix and one or more IPv4 prefixes it servers
- DHCPv6 Client records the NAT64-side translation IPv6/IPv4 prefix(es)

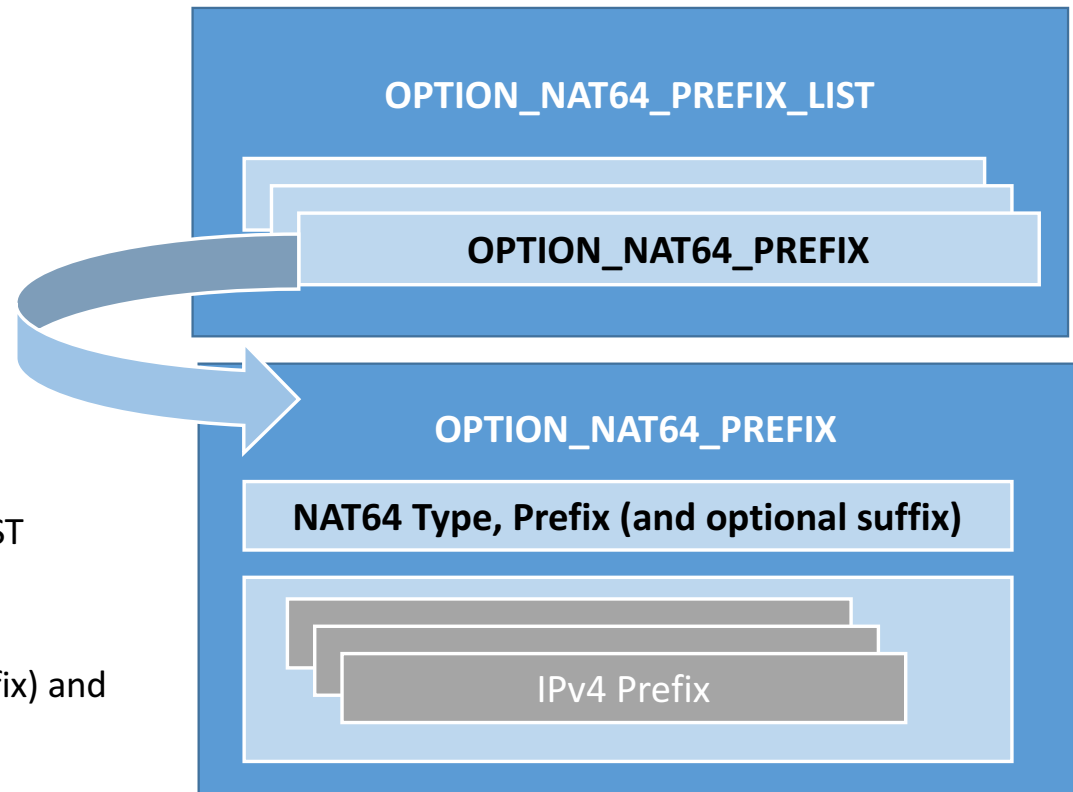
- DHCPv6 Client selects the correct NAT64

- When translating dest IPv4 addr to dest IPv6 addr, selects the IPv6 prefix by longest-match-first rule



# Proposed Solution (II)

- **OPTION\_NAT64\_PREFIX\_LIST**
  - A container option carrying one or more NAT64\_PREFIX options
  - Compatible with single and multiple NAT64:
    - One or several OPTION\_NAT64\_PREFIX in OPTION\_NAT64\_PREFIX\_LIST
- **OPTION\_NAT64\_PREFIX**
  - Encapsulated into OPTION\_NAT64\_PREFIX\_LIST
  - Each NAT64-prefix comes in its own option
  - List the NAT64, Type, IPv6 prefix (optional suffix) and the corresponding IPv4 prefix(es)



# Next Steps

- Any inputs?
- Move forward in int-area WG?