DHCPv6 Dynamic Reconfigure

draft-wing-dhc-dns-reconfigure-01

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Problem

- Hosts connected to a network may be IPv4-only, IPv6-only or dual-stack
- Returning generic configuration to all such hosts may not be optimal and may raise complications
- Typical examples with problems are
  - Provide a DNS server to an IPv6-only host, while DNS64 is required
  - Provision a DNS64 server to a dual-stack host

Proposed Approach

- Means to inform the DHCP server about offered connectivity
- Means to notify transitions in connectivity e.g.,
  - dual-stack to IPv6-only mode
  - IPv6-only host has now acquired an IPv4 address
- DHCPv6 server reconfigures an end point accordingly

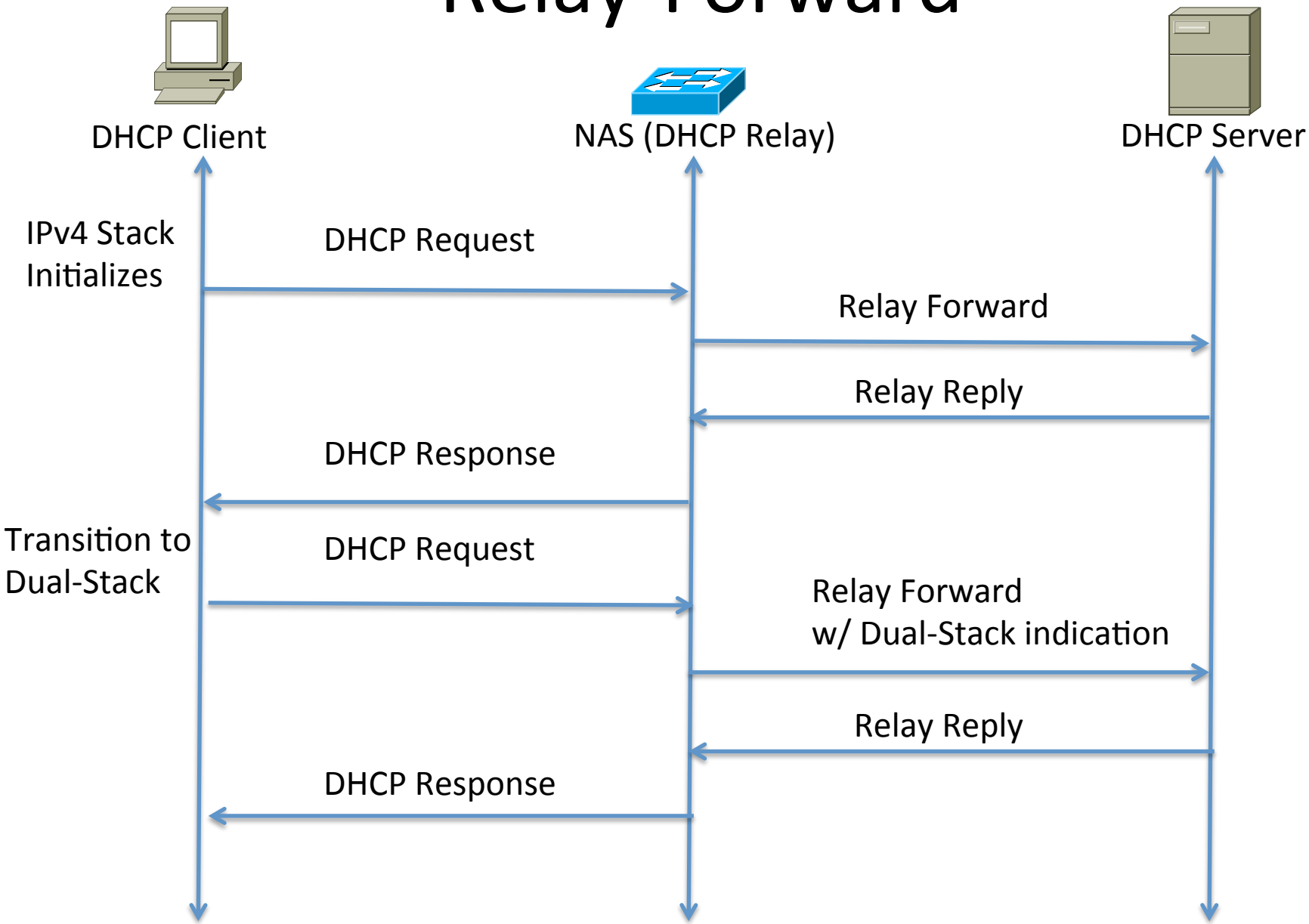
Focus on a Use Case

- Avoid unnecessary NAT64 by influencing the host's DNS server selection to use:
  - DNS64 when IPv6-only
  - Normal DNS when dual-stack
- Static configuration is sub-optimal in heterogeneous environments and during host mode transitions

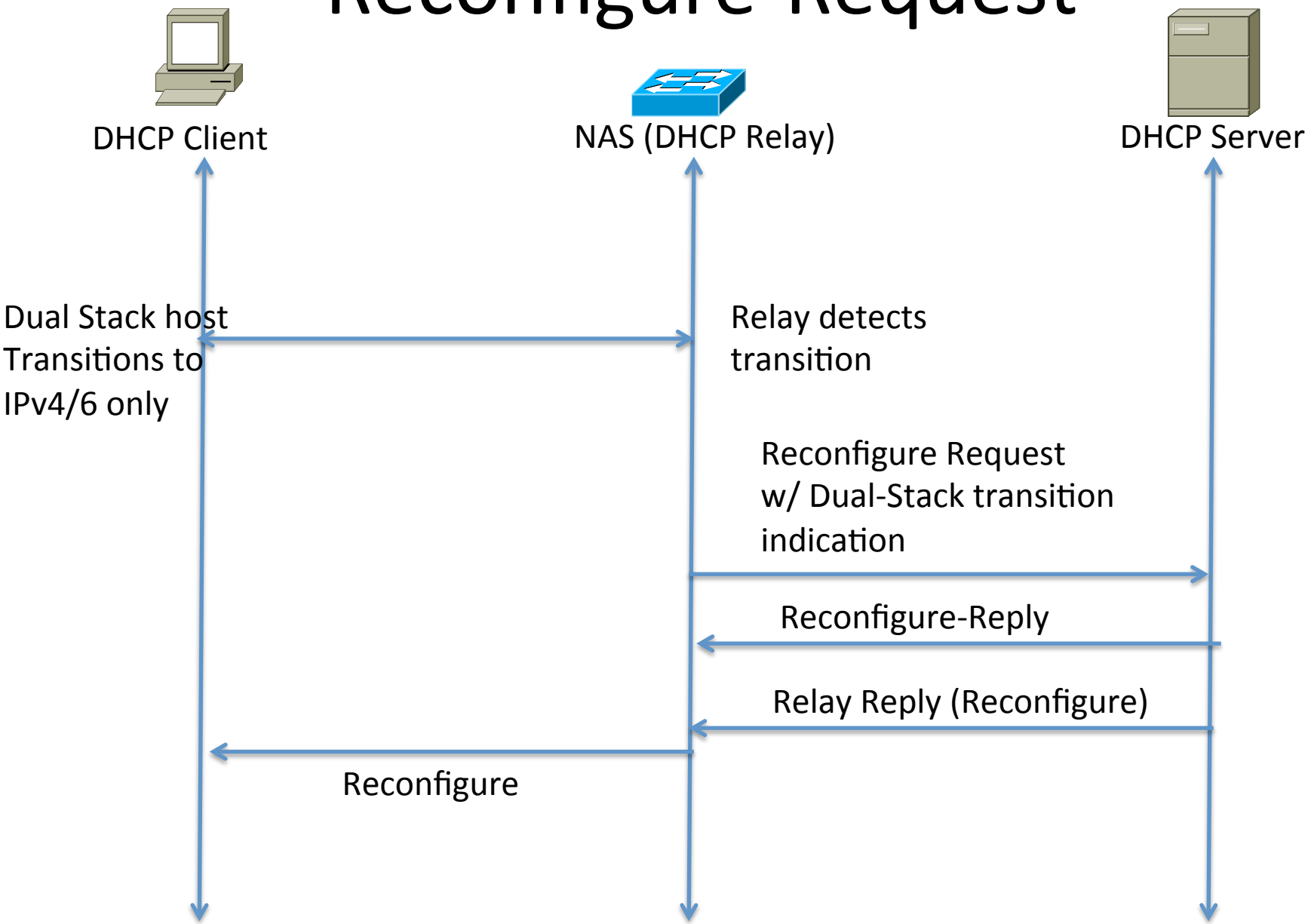
Theory of Operations

- Option from Relay in Relay-Forw to indicate if client is single/dual stacked
- Generic message from Relay to indicate host mode transitions to the server
- DHCPv6 Server acts accordingly on the generic message
- Follows RFC6977

Relay-Forward



Reconfigure-Request



Next Steps

- This is a missing piece of work
- Request adoption by the WG