

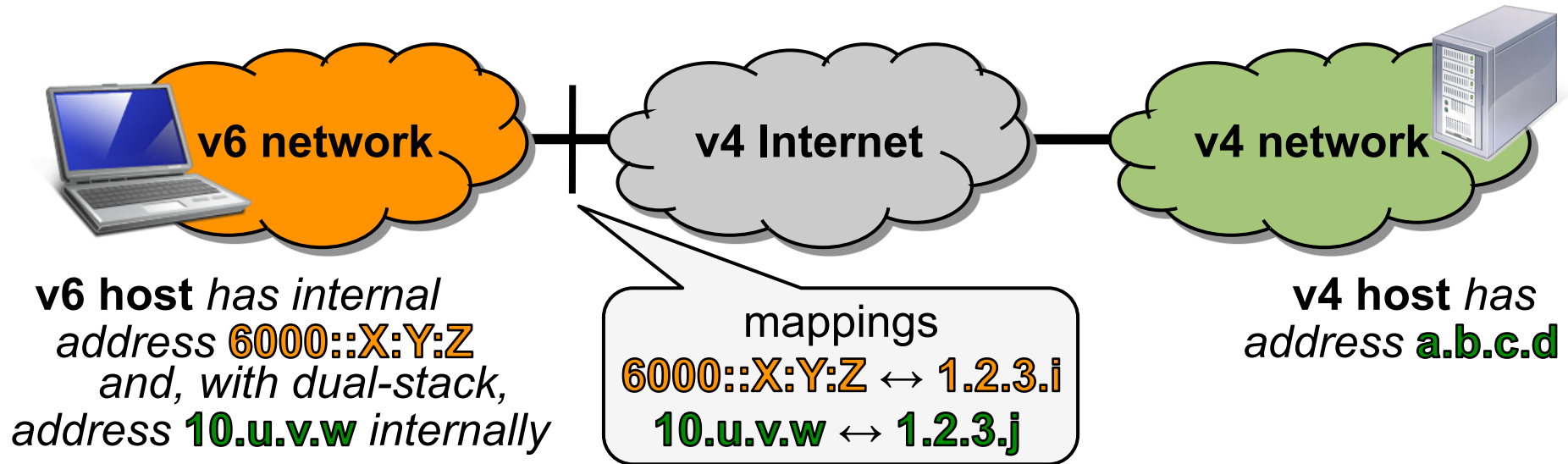
# **Virtual IPv6 Connectivity for IPv4-Only Networks**

**draft-vogt-durand-virtual-ip6-connectivity**

**Christian Vogt and Alain Durand**

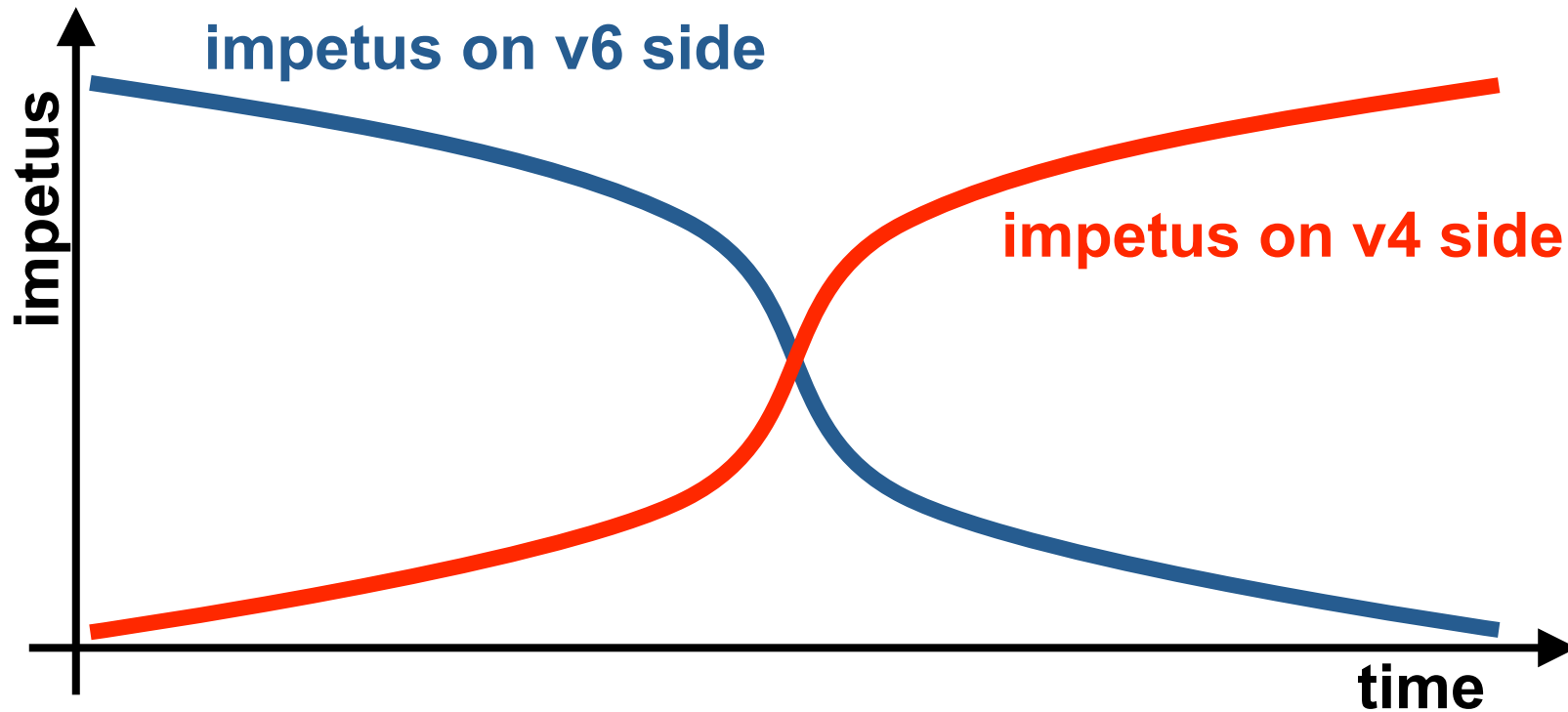
Behave working group meeting at IETF 73  
Minneapolis — November 2008

# Motivation for IPv4/IPv6 Interworking



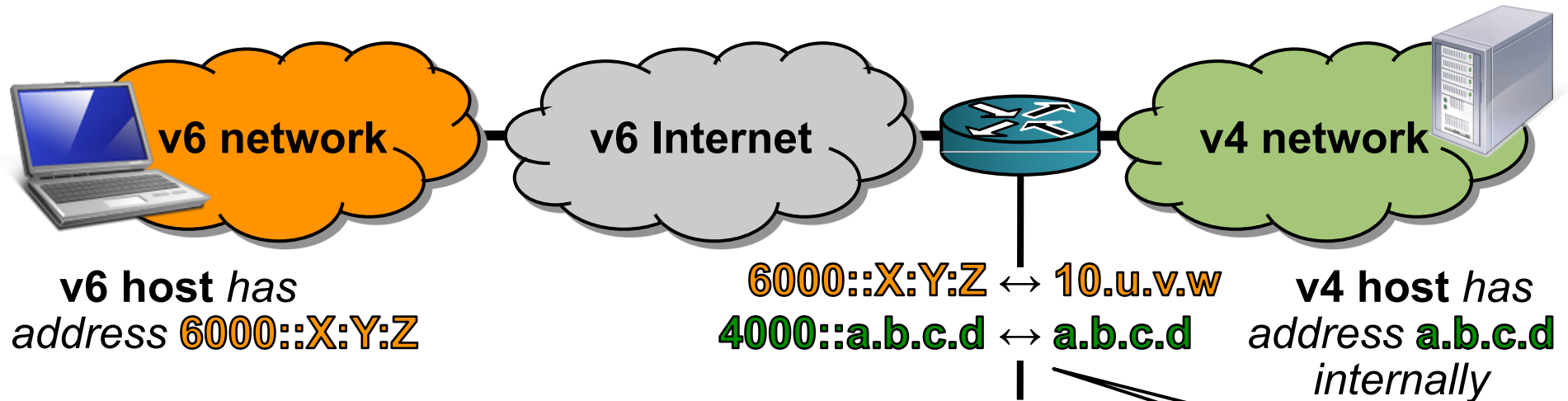
- impetus initially on v6 side
  - peers and networks mostly v4
  - no incentive for v4 side to change
- two v6-side solutions: dual stack, translation
  - both require global IPv4 addresses

# Impetus will Shift from v6 to v4 Side



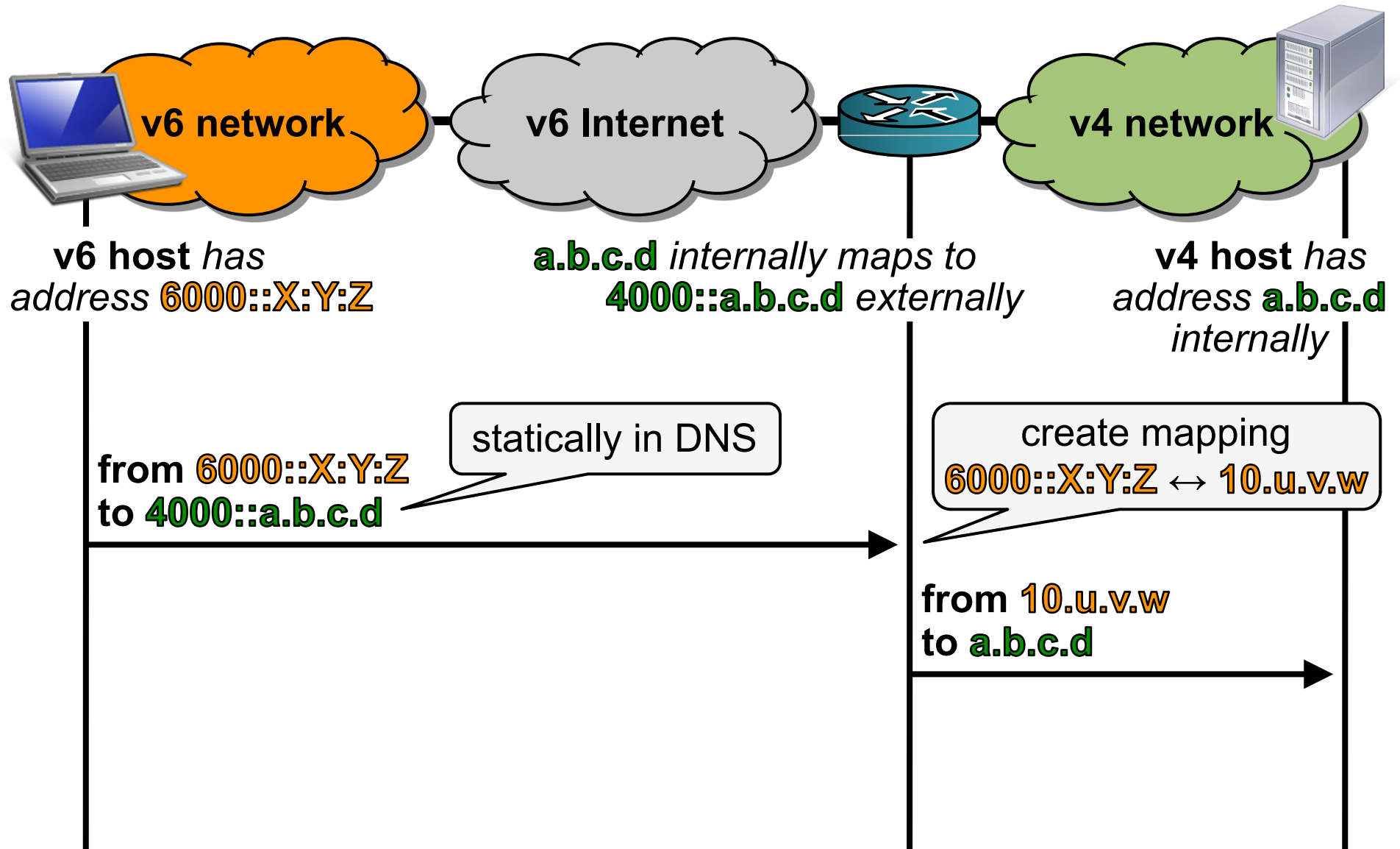
- no global IPv4 addresses available
- relevant peers, services, networks v6-only
- legacy v4 services want to reach v6 consumers
- ⇒ need v4-side solution

# Virtual v6 Connectivity for v4-Only Networks

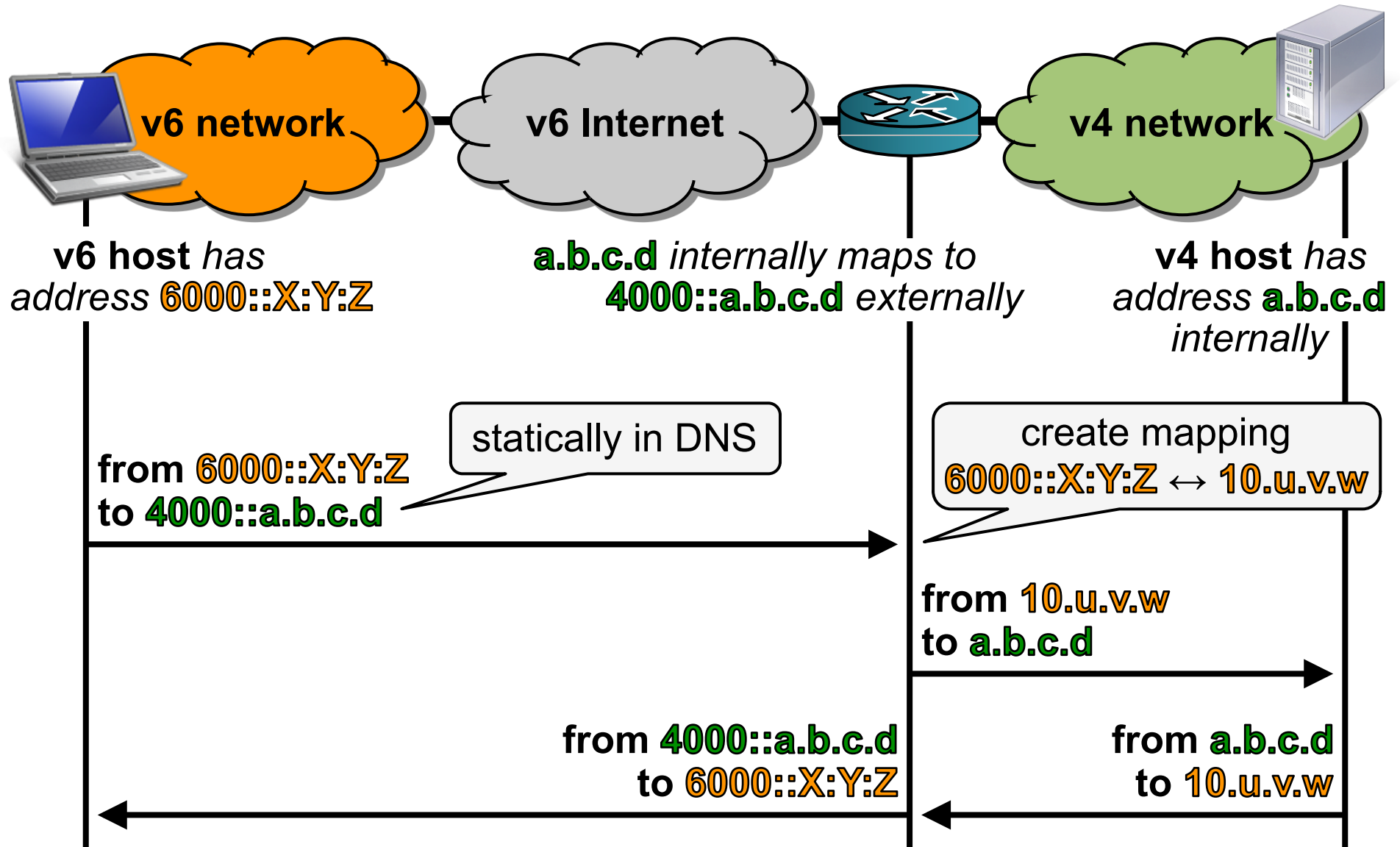


- v4 hosts externally at virtual v6 address
  - virtual v6 address global and stable
  - end-to-end DNSSEC possible
- v6 peers internally at virtual v4 addresses
  - virtual v4 address private and ephemeral
  - DNSSEC possible up to resolver
- no extra global v4 addresses needed

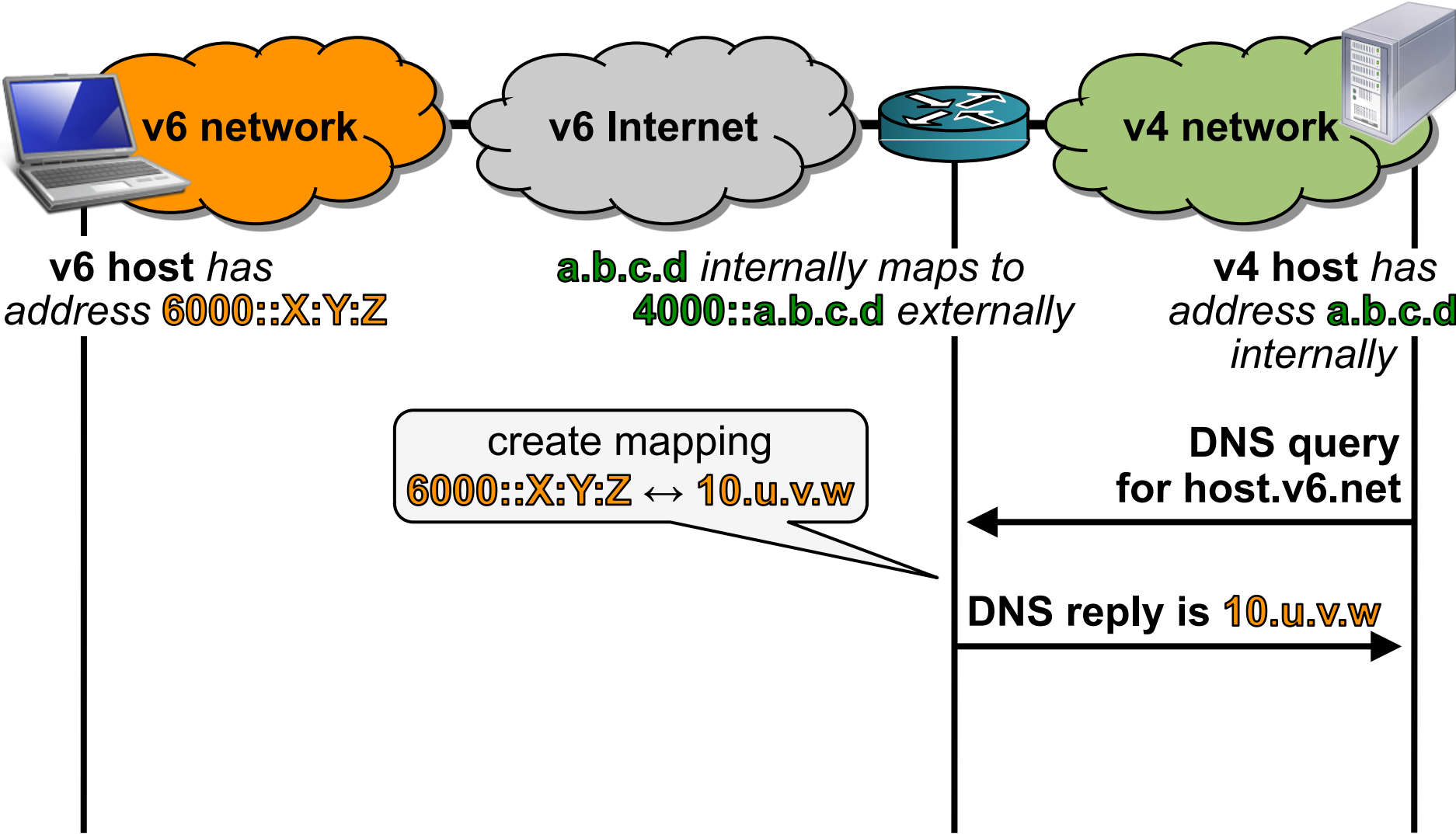
# Inbound Connections



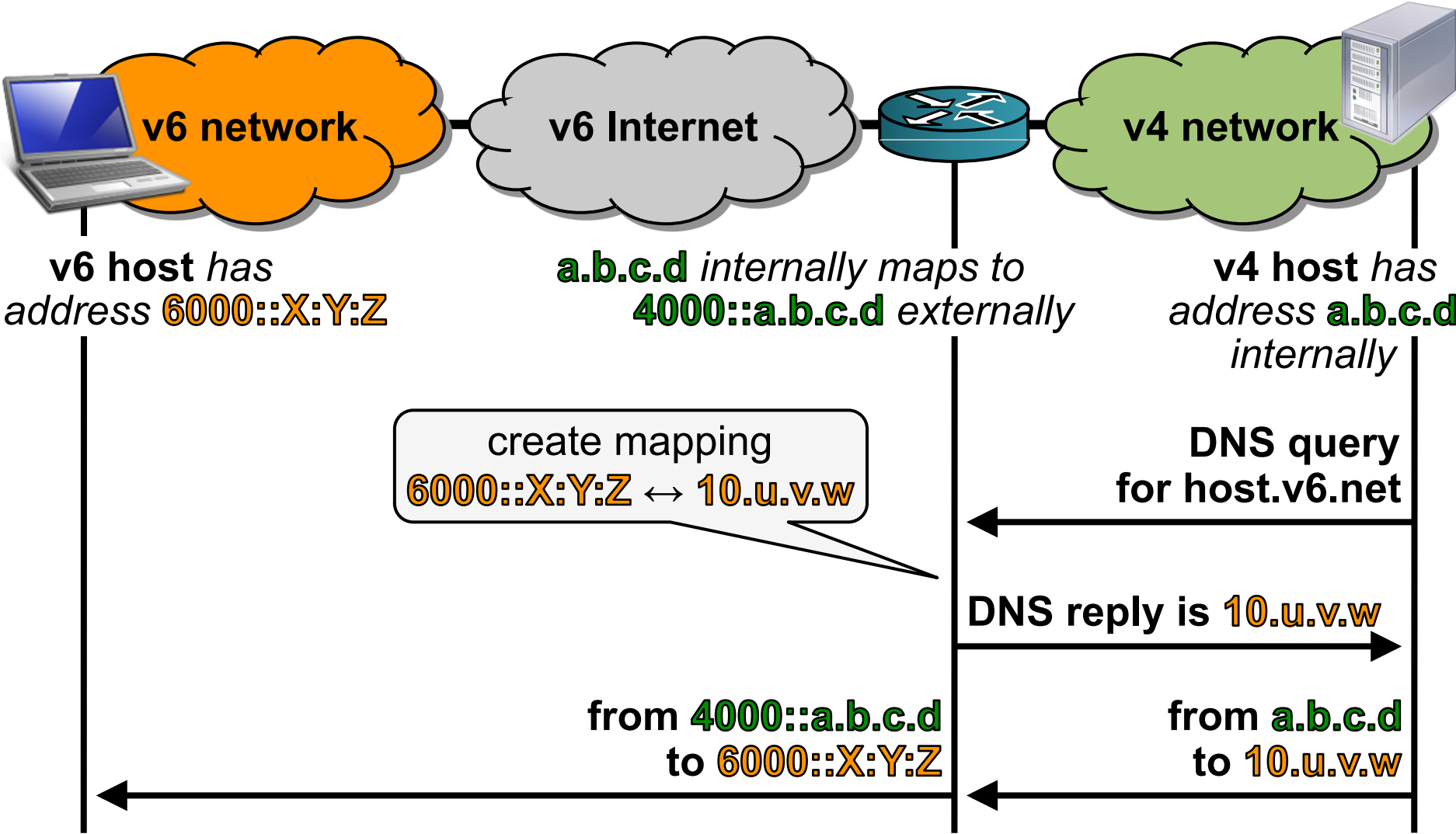
# Inbound Connections



# Outbound Connections



# Outbound Connections





# Conclusion and Next Steps

- v6-side interworking solutions needed now
- impetus will shift to v4 side
  
- Virtual IPv6 Connectivity for v4 side
  - for v4-only networks to be reachable via v6
  - without global v4 addresses
  
- add to IPv6 transition toolbox?