

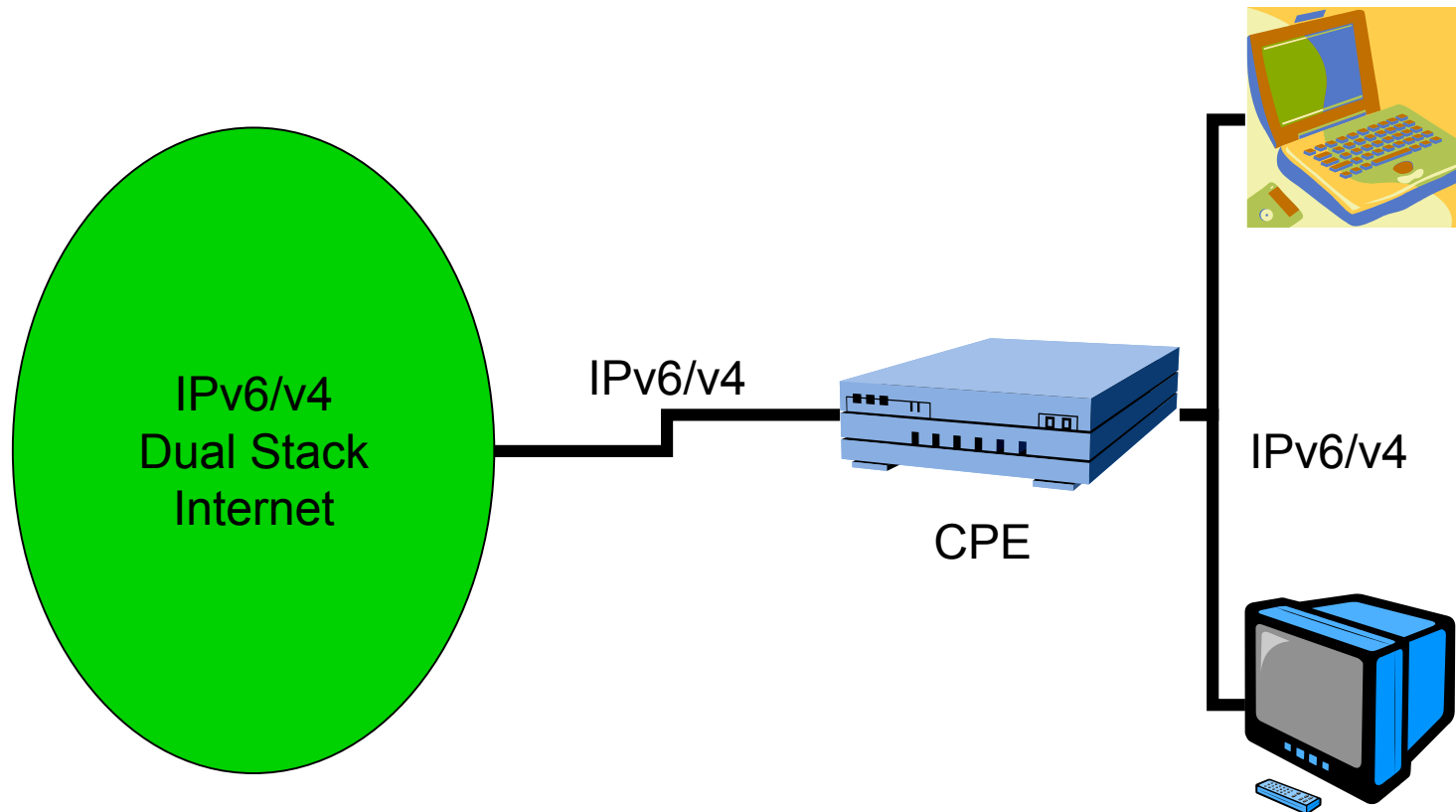
# On the tunnel service

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# Why tunnel ?

- Ideally, we'd like to let a user to use IPv6/v4 "native" service
- But from the users' point of view, it costs to replace their CPE (ex. ADSL router)
- Or just people dislike to change their ISP without certain reason
- So, let them put additional box or software onto their LAN to create IPv6 over IPv4 tunnel service to "taste" IPv6 easily

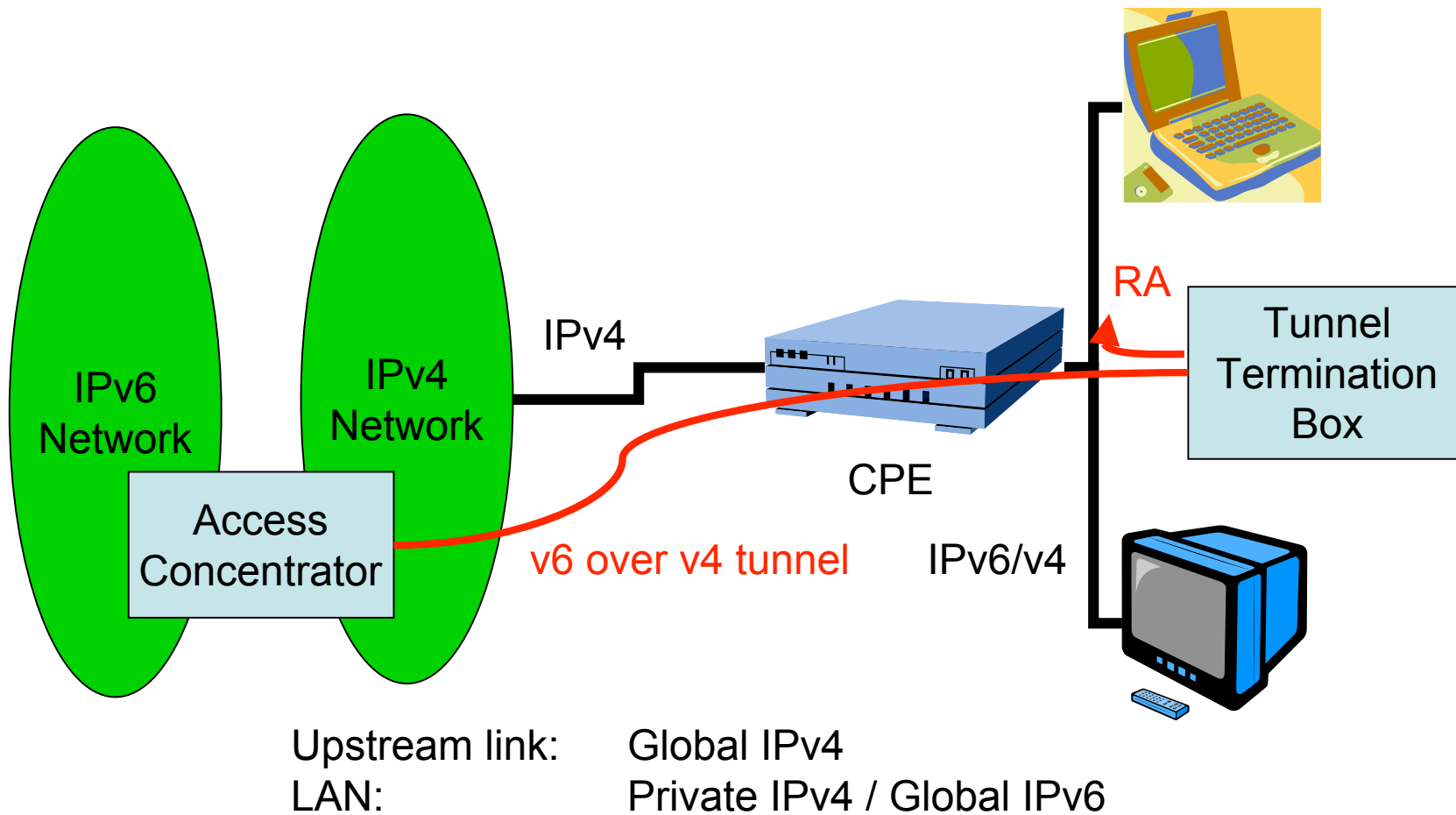
# Native IPv6 / v4 dual stack service



Upstream link:  
LAN:

Global IPv4 / { Global IPv6 | Link Local IPv6 }  
Private IPv4 / Global IPv6

# IPv6 over v4 tunnel service



# Requirement

- Protocol
  - “MUST” condition
    - NAT Traversable
      - Usually proto 41 is NOT NAT Traversable
      - UDP or TCP
    - If TCP based, there must be a solution for TCP over TCP problem (it reduces performance a lot)
      - So, UDP is likely solution but sometime UDP is blocked especially at office environment
    - Authentication mechanism
      - With radius
  - “Maybe” condition
    - Automatic Tunnel End-Point Finding Mechanism

# Semantics

- Router
  - Is uplink Link-Local only or Global ?
  - Or at least two /64 prefixes are needed
    - One for uplink
    - One for LAN
  - DHCPv6 PD
- Host
  - Do the end-point act as a host ?
  - RA

# Implementation

- Box
  - Tunnel Termination BOX act as router from IPv6 point of view
- Software
  - With Routing
  - Or Just Virtual Interface