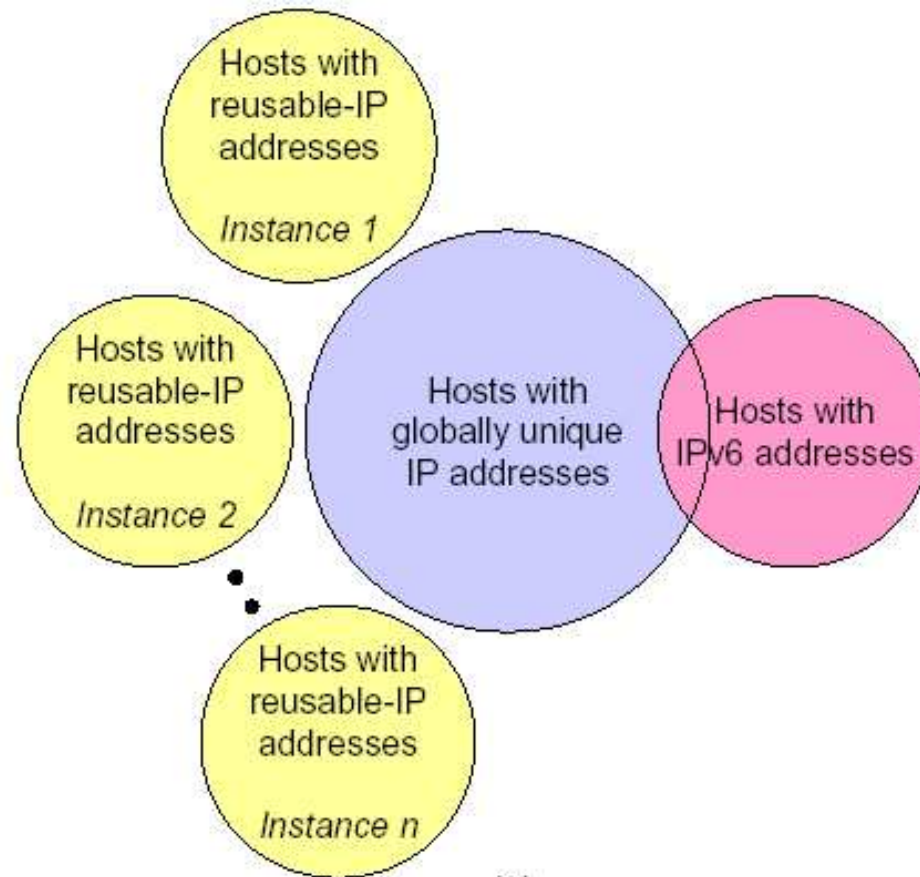


# A Waypoint Service Approach to Connect Heterogeneous Internet Address Spaces

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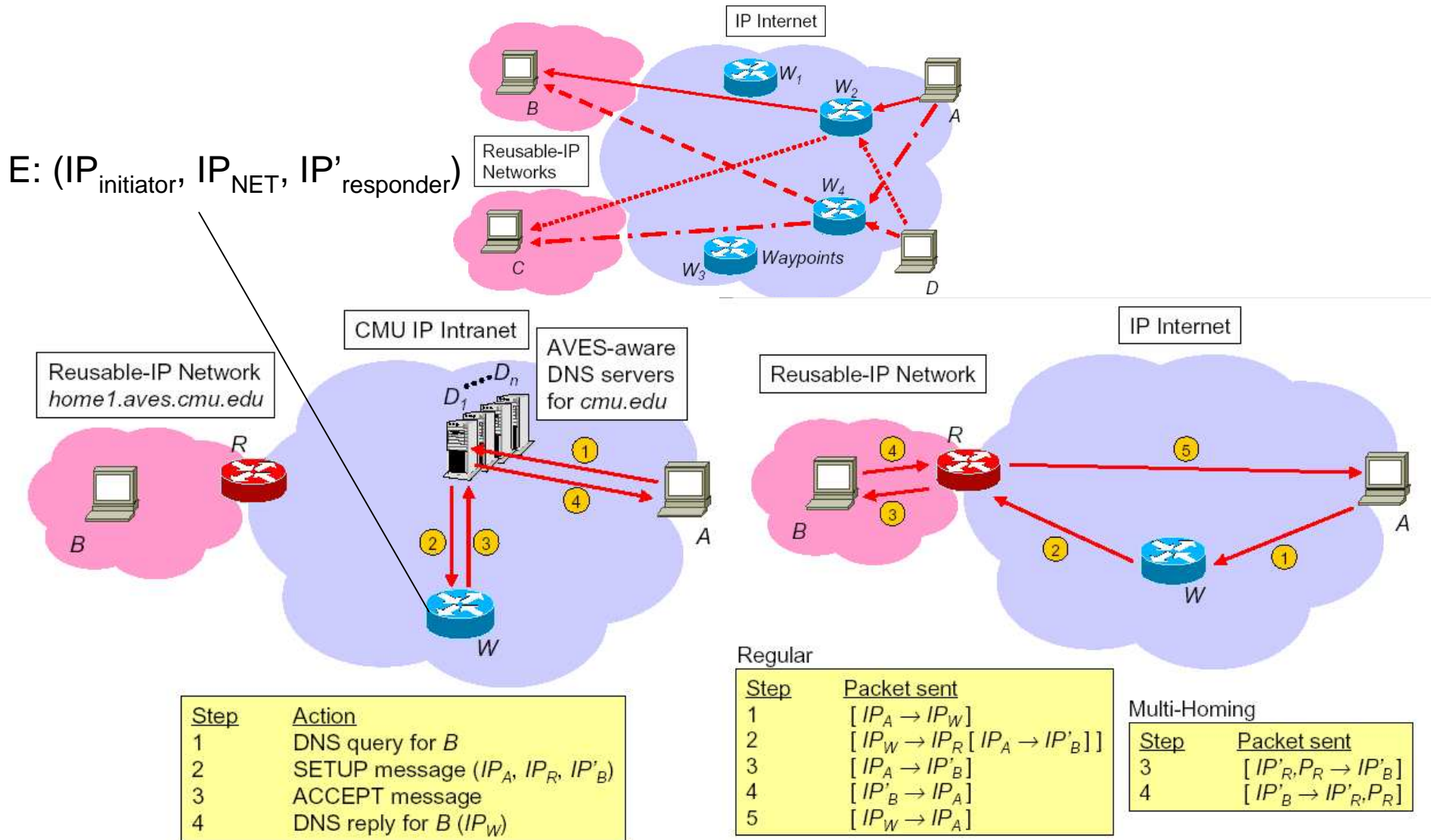
T.S. Eugene, Ion Stoica, Hui Zhang. "A Waypoint  
Service Approach to Connect Heterogeneous  
Internet Address Spaces." USENIX, pp. 319-332,  
June 2001.

# Problem



(a)

# Solution (AVES)



# Characteristics

- All non-IP hosts simultaneously reachable regardless of N.
- Each IP host can simultaneously reach up to N non-IP hosts.
- If multihoming is used
  - Each port on each non-IP host simultaneously reachable by up to 65,000 TCP, 65,000 UDP, and 1 each port-less protocol connection.
- Trade performance for deployability.

# Implementation

- AVES-Aware DNS: Modified BIND
- AVES Waypoint: ipfw (Linux 2.2)
- AVES NAT: presumably also ipfw (Linux 2.2)
- 41-80 Mbps TCP and 96 Mbps UDP on 100Mbit Ethernet LAN.

# Related Work

- Port forwarding on NAT gateway
- SSH port forwarding
- SRV DNS records
- IP server (UDP only)
- Host Identity Payload
- HTTP/1.1
- SOCKS
- TRIAD and IPNL

# Conclusions