

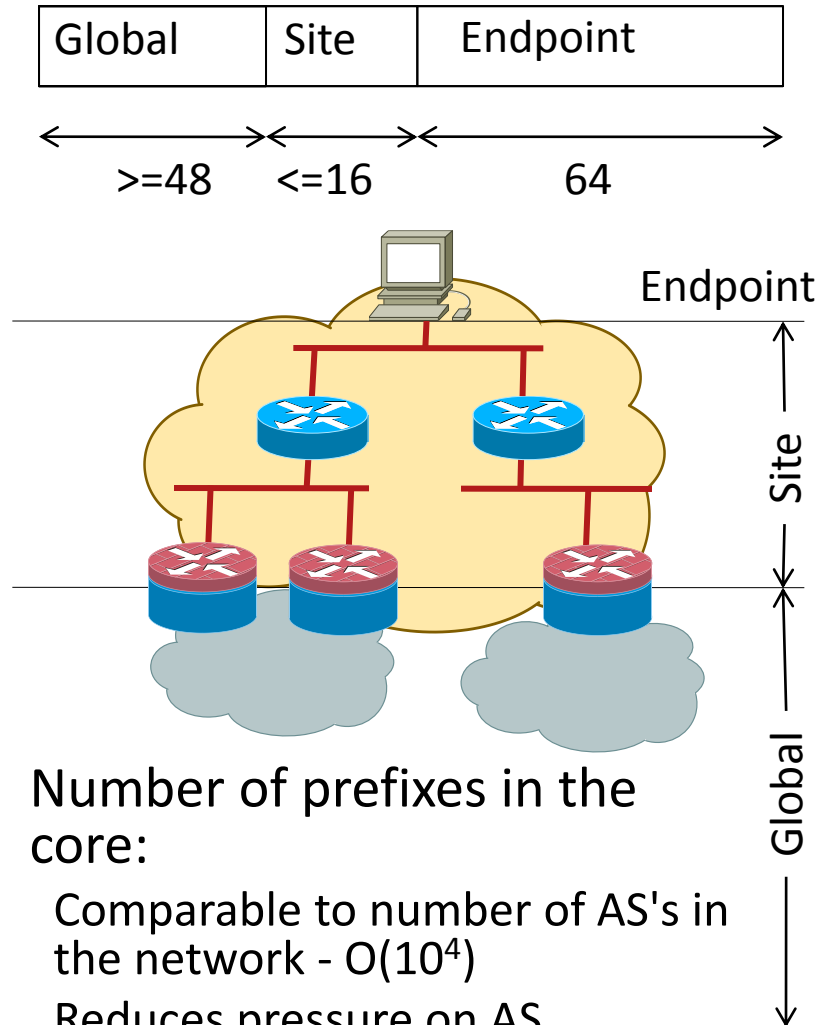
Fred Baker

Dan Wing

**draft-baker-pcp-nptv6-search**

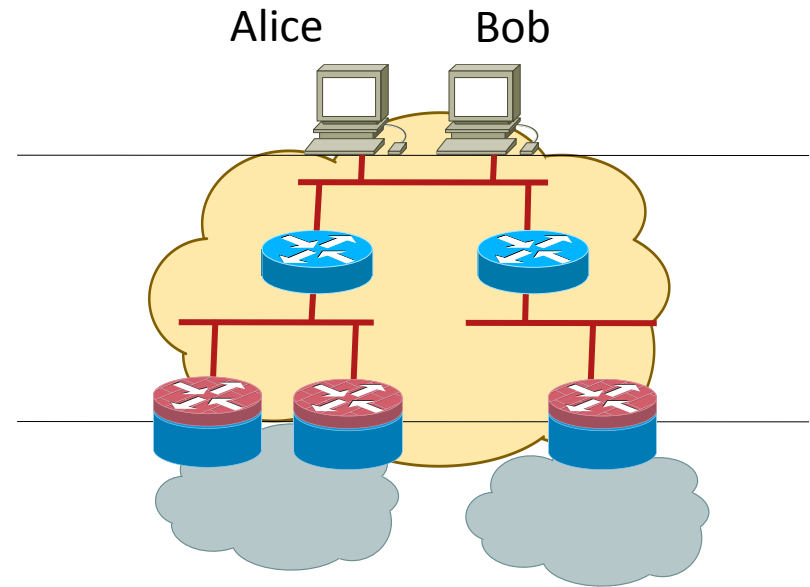
# RFC 6296: Network Prefix Translation

- Assumption: Prefix is mutable
  - Global part used in transit networks
  - Global and Site part changed at DMZ
  - Address in core is Provider-Allocated
  - Address in edge can be independent of the provider without PI allocation
  - No host changes
- Mechanism
  - Algorithmic translation of prefix between inside and outside
  - EID unchanged if /48 prefix
  - Translator adjusts end to end checksum in source/destination address
  - Addresses distributed in DNS in the normal way
- Address Mapping 1:1 per PA prefix
  - Load sharing among translators to same upstream prefix



# Issue pointed out (Keith Moore) during development of the RFC

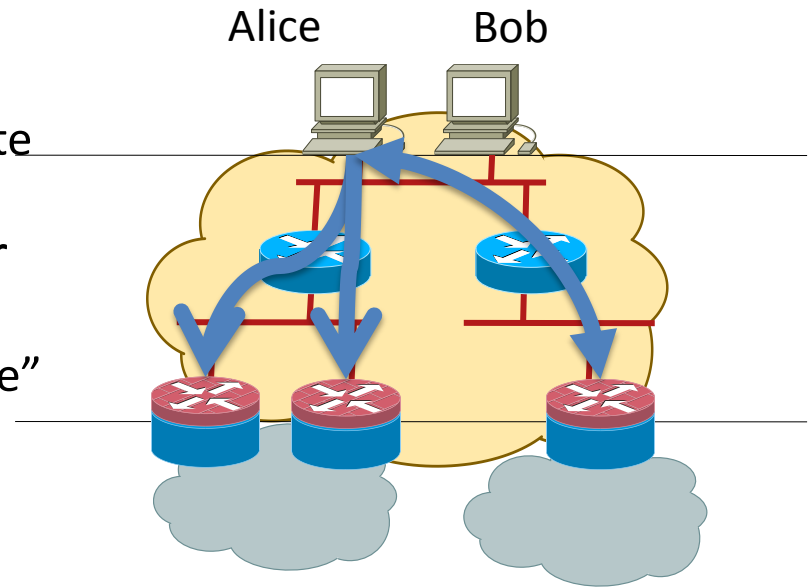
- Application layer protocol (such as SIP or HTTP) sometimes has to identify itself or another application instance by IP address
  - Redirect to another host
  - SDP identification of one-self
- *What is {my/his} IP address as seen by someone else?*



Carol

# Proposal: Why not ask the translators?

- Alice multicasts query to ALL-NPTv6-TRANSLATORS
  - “If a message went by you with <address>, what would you translate it to?”
- Each translator replies with one or more addresses
  - If no translators, ICMP “unreachable”
  - Result: Alice has list of addresses
  - Alice can tell Carol
- Common case: DNS
  - DNS enabled to respond with complete set of addresses
  - Disambiguate using Happy Eyeballs approach



Carol

# PCP proposal

- Presumption:
  - The system that implements a firewall likely also implements an NPTv6 Translator and a PCP server
- Proposal
  - Use of PCP as carrier protocol
  - Multicast request, unicast reply

**THAT'S ABOUT IT...**