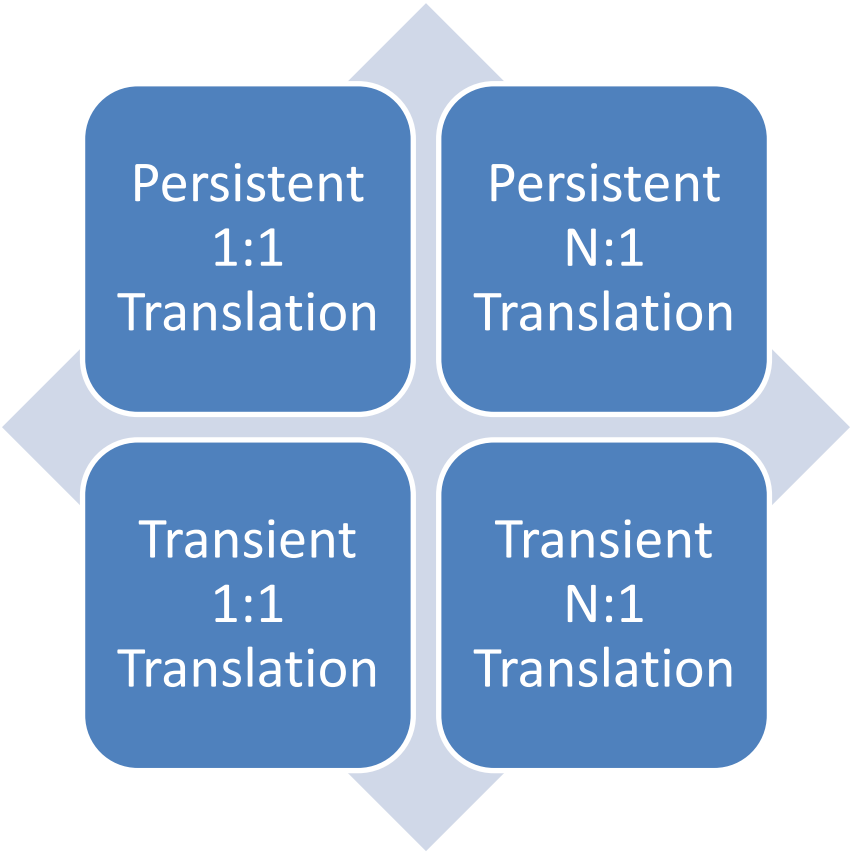
Multi-homing with IPv6-to-IPv6 Network Prefix Translation (NPTv6)

draft-bonica-v6-multihome-03

Status

- Presented at IETF 83
- Significant objections were raised
- Precludes BCP 38 filtering
  - Issue resolved in current draft version
- Proposal includes address translation
  - Objection requires serious consideration
  - More applicable to RFC 6296 than current draft
  - Topic of rest of presentation

Address Translation Types



- Transient N:1 Mapping
  - Much operational experience
  - NAT
- Persistent 1:1 Mapping
  - Less operational experience
  - NPTv6
- Analysis of operational issues follows

Operational Issues

- Transient N:1 Translation
  - Routing symmetry required
  - Connections can be initiated from one side only
  - State/scaling Issues
  - Accounting/logging/lawful intercept issues
  - IP addresses embedded in IP payload don’t get translated (aka, the referral problem)
- Persistent 1:1 Translation
  - The referral problem

The Referral Problem

- The referral problem exists today, in IPv4
  - Coping mechanisms exist (e.g., STUN)
  - More simple coping mechanisms are possible in the case of persistent, 1:1 translation
- The referral problem will be with us for a while
  - Stateful NAT64
- Symptom of a layer violation?
- Blocking the current draft won't make the problem go away

A Way Forward For The Current Draft

- Add a section describing the referral problem and its causes
- Progress draft as EXPERIMENTAL. Recommend experimentation with appropriate caveat
- Initiate inter-area work specifying a better way to make referral in new protocols
  - draft-carpenter-referral-ps ?