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?