Tunnels in the Internet Architecture

draft-ietf-intarea-tunnels
Nov '14, IETF 91 - Honolulu

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Overview

- Tunnels are an INTAREA WG item
  - Enthusiasm in 2008-2010 dissipated
  - Recent flurry of tunnel docs renewed interest

  - Time for to wake the sleeping beast!
- Status
- Revised organization
- Plan

Status

- Extended offline discussions
  - Joe and Ron Bonica on GRE MTU
  - Joe, Ron, and Fred Templin on tunnel MTU
  - Joe and Mark on plan
- Plan to revise document based on discussions
  - Focus on a model as a way to discuss issues
  - Revise doc using the model as context
- Model
  - How the Internet expects tunnels to behave as links
  - How the concept of "Internet links" needs to be updated to account for variations that tunnels make possible

Revised organization

Current -00

- Intro
  - Survey of tunnel technologies
- Known issues
  - MTU discovery
  - Fragmentation
  - Signaling
- Current tunnel standards
  - IP in IP
  - IPsec
- Issues
  - Tunnel model
  - Parties participating

Planned -01

- Intro
  - Focus on tunnels that transit IP (i.e., IP over X)
- Tunnel model
  - Terminology
  - View from outside (i.e., a link)
  - View from inside (i.e., ingress to egress)
- Issues
  - Endpoint:
    - fragmentation/reassembly (incl. IDs), NAT/load balancing, congestion, signaling
  - Transit:
    - hopcount, MTU, signaling
- Summary of current protocols
  - Table of Issues, with discussion for each protocol
- Observations
  - For protocol designers, implementers, operators, standards bodies
- Summary

Plan

- -01 after I-D submission queue opens
  - Based on revised organization
- Focus on current behavior
  - Describe how tunnels impact the Internet
  - Describe ways tunnels "play nice" and not
  - Wait for the revision to discuss further
    - Revision will provide context for discussion
    - How/whether to address the issues tunnels raise…

11/14/2014

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