Path Aware Networking: A Bestiary of Roads Not Taken
(draft-dawkins-panrg-what-not-to-do-01)

Spencer Dawkins
Things to remember about this draft

- This draft was an outcome of the first PANRG meeting at IETF 99
  - "We keep encountering the same problems. We should write them down"
- Don't describe every idea, but capture every lesson
  - There is no shame in describing your learning experience!
  - This stuff was research, even if we were trying to engineer it in the IETF
- Please contribute subsections from your own experience
  - Please send github pull requests to do that
  - Requested format for contributions is in Section 3 of the draft
  - Please send comments on draft contents to the mailing list
Status of draft-dawkins-panrg-what-not-to-do-01

- Update -01 submitted prior to IETF 102
- Added pointers to IAB documents on protocol design and adoption
  - Not specific to Path-aware Networking, but worth reading
- Section 2 (Summary of Lessons Learned) builds on new contributions
- Now includes contributions on
  - Integrated Services (IntServ), provided by Ron Bonica
  - Quick-Start TCP, provided by Michael Scharf
  - Triggers for Transport (TRIGTRAN), mostly unchanged from -00
  - Shim6, based on input from Erik Nordmark
- I do want to get these descriptions right. Please send corrections!
Summary of "Summary of Lessons Learned" in -01

- Benefits of adoption must be big enough to overcome inertia
- If you can't trust middleboxes, middleboxes can't help you
- Benefits must be big enough for operators to justify deployment
- Current operational practices can prevent deployment of good ideas
- Per-connection state in intermediate devices is an impediment
- Increasing distance from sources makes path information less useful
- Many applications don't know things they need to tell PAN transports
Spencer's understanding of where the goalposts are

- I'd like for this document to be useful advice from PANRG to IETF
  - IETF developed these protocols that were not implemented and deployed
  - There's no reason to think IETF will not "learn these lessons" again
  - So, what other guidance can we give to the IETF?
- I'd like for this document to be useful advice to PANRG
  - [Open Questions in Path Aware Networking](#) to guide PANRG research
  - This document could help identify other open questions to guide PANRG
  - So, what other guidance can we give ourselves? :-(
What Next? Questions

- Are there more Path Aware Networking lessons to document?
- Are there more places to look for lessons? I'm looking at
  - NSIS - Martin Stiemerling to provide contribution
What Next? Clues

- Is additional work on this document valuable?
- Is adoption by the Research Group valuable?