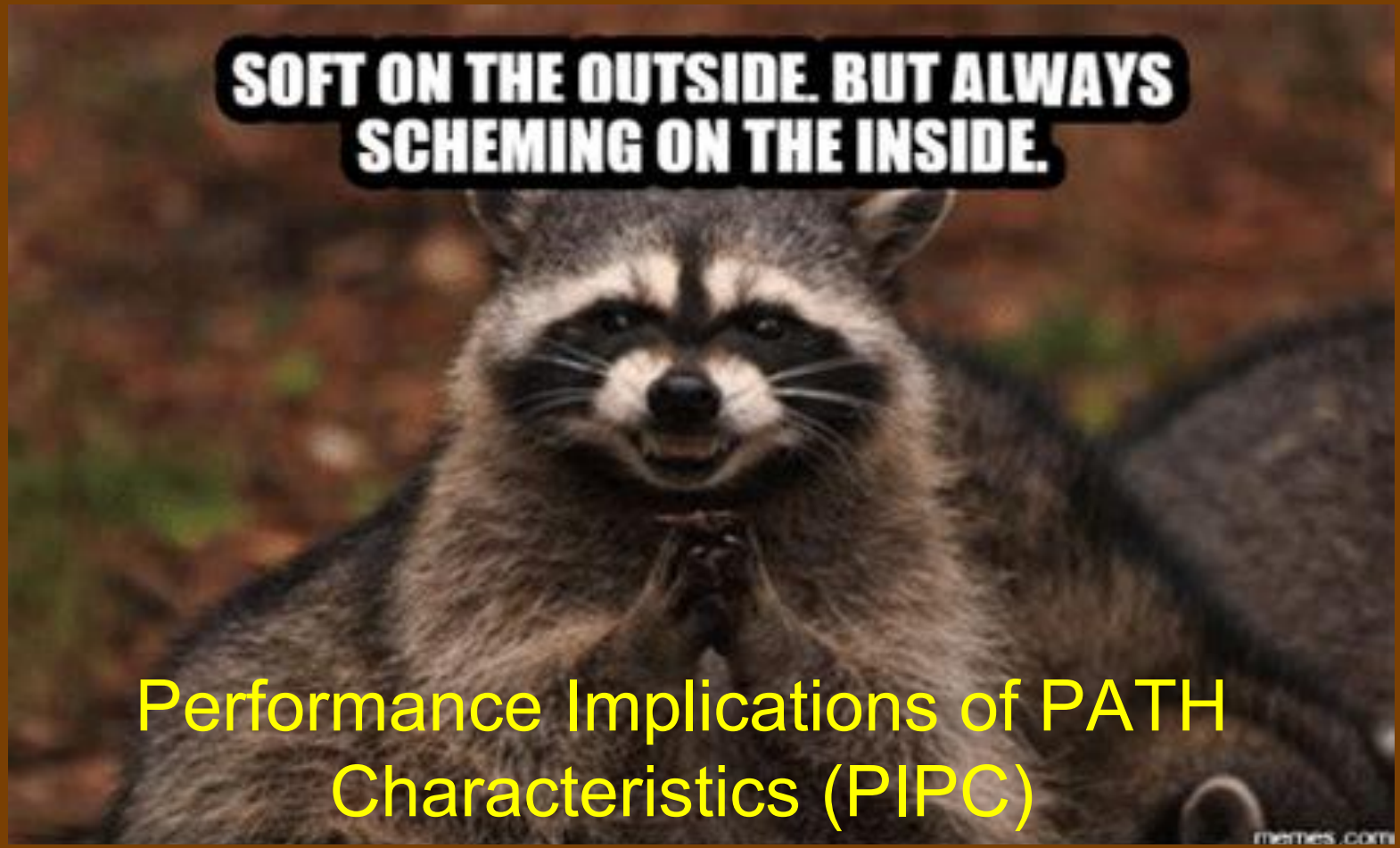

Performance Implications of PATH Characteristics (PIPC)

Spencer Dawkins (spencerdawkins.ietf@gmail.com)

How We Got Here

- Follow-on to TCP over Satellite (TCPSAT) working group (1997-2000)
  - Key problem was very long RTT interaction with slow loss recovery
  - Are we ever going to use more than a few percent of expensive satellite links?
- Proposal for "TCP over Cellular"
  - ADs suggested structured approach instead of "TCP over Foo Links"
- Performance Implications of LINK Characteristics (PILC) working group (1999-2004)
  - Links that were Slow, Asymmetric, with Errors
  - Advice for Subnetwork Designers, Advice about Automatic Repeat reQuest (ARQ)
  - Advice about Performance Enhancing Proxies (PEPs)
- Recommendations adopted in Wireless Application Protocol (WAP) Forum v2
  - Life was good ... for a while

Has anything in networking changed since 2004?

- Bandwidth capability has risen astronomically, both wireline and wireless
- Bandwidth demand increases kept pace with bandwidth capability increases
- Our focus has turned from LINK characteristics to PATH characteristics
- Multihomed hosts are now the rule, rather than the exception
- Transport protocols now more likely to provide multipath capability
- Increased use of transport encryption interferes with PEPs (for better or worse)
- Many paths have extremely low bit error rates ... but others still have high error rates
- And, of course, satellites still have nice, long RTTs ...

What I'd like to do at IETF 104

"The Code Lounge is for brainstorming", so, let's brainstorm a bit.

Side meeting ***in the IETF Code Lounge Thursday at 18:20-19:00,*** to discuss

- Whether it's time for a discussion about paths and performance, and if so,
- What problems should be in scope?
- What is research, and what is engineering?
- Which parts of the problem space fit in already-chartered WGs/RGs.
- What are next steps between IETF 104 and IETF 105?


AND NOW
we wait.