Enhancing TCP Over Satellite Channels Using Standard Mechanisms

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Mark Allman
NASA Lewis Research Center
`mallman@lerc.nasa.gov`
http://gigahertz.lerc.nasa.gov/~mallman

Work done with Dan Glover (NASA Lewis).

Purpose

- Outline *standards* and/or *very common* practices that will help satellite networks.
  - Must be IETF standards track mechanisms (e.g., window scaling)
  - Must be very widely accepted (e.g., FEC)
- Nothing "undecided" or "researchy" included in this document.
  - Including IETF experimental mechanisms (e.g., T/TCP)
- Gives people with satellite networks a good idea about the TCP mechanisms that will improve performance.

Draft Overview

- List satellite characteristics that have an impact on TCP.
  - Long feedback loop
  - Large delay*bandwidth product
  - Transmission errors
  - Asymmetric use
  - Variable Round Trip Times
  - Intermittent connectivity

Draft Overview (cont.)

- Lower Level Mitigations
  - Path MTU Discovery (RFC 1191)
  - Forward Error Correction
- TCP Mechanisms
  - Standard congestion control algorithms (RFC 2001)
  - Window Scaling (RFC 1323)
  - Selective Acknowledgements (RFC 2001)

Issues

- Include a table of TCP implementations and which mechanisms they support.
  - NO!
  - Future versions of the draft will include a pointer to the PSC WWW page that tracks current TCP implementations.
- Others?