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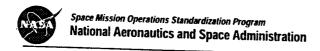
Mixing TCP And Satellites: A View From Above

(Irreverent Confessions From The Standards Trenches)

NASA LeRC Workshop on Satellite Networks Cleveland, Ohio June 2, 1998

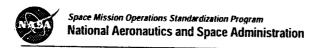
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Why Are Open Protocol Standards Important?

- The Vision:
 - Cheaper, better, faster
 - Risk reduction & stability
 - Interoperability
 - Efficiency
- Potential Problems In Realizing The Vision:
 - Broad applicability not recognized
 - Flexibility contends with simplicity
 - Deployment into an installed base
- Do You Get A "Big Tent" Solution Or Just A "Big Top" Oddity?
 - Candor, industry participation and feedback will make the difference
- A Parable For Our Times: Should The Tail Be Wagging The Dog?



Protocols Are Like Galoshes: One Size Does Not Fit All

- The Dynamic Range Of Network Environments Is Larger Than Ever
 - Satellite networks mirror the full spectrum: wireless to fiber, mobile to static
 - Environments are Opaque: "On the Internet, nobody knows you're In orbit"
- You Probably Own Only Part Of The Railroad
 - Actions at a distance can affect your bottom line performance
 - TCP Loss recovery is expensive and retransmissions are not always free
 - · Loss recovery is inherently unfair to long(er) paths
 - Localized performance tuning keeps the trains running on-time
 - Spoofing and proxies: The benefits of impedance matching
 - Balancing security, transparency and the end-to-end argument
- Seamless Integration Is A Matter Of Perspective (Theory and Practice)
- Bottom line For Performance And Efficiency In The Near Term:
 Tailor Your Solutions, Do So With Standardized Mechanisms Appropriate To The Environment

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