The Efficiency of Transport Protocols in Current and Future Mobile Networks for Logistical Processes

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TCP Cubic over cellular

Etisalat 3G Highway

Highly inefficient
Verus: A new congestion control protocol

• Verus* is an adaptive congestion control protocol for cellular networks

• Design goals:
  1. Track fast channel changes
  2. Balance throughput and delay
  3. Provide fairness between competing flows

• No prediction/modeling of the channel

• Learns the relationship between delay and sending window
  – Reflects the network characteristics

• Enforces a delay estimate
  – Fast decisions over 5 ms epochs with a step based increase/decrease

*latin for: right, fair, proper, suitable
Verus performance

Etisalat 3G Highway

Throughput (Mbps)

Time (s)

Delay (ms)

Time (s)
Verus source code is open source and available on github: http://github.com/thp-comnets/verus

Thank you