

MTU and Fragmentation Issues with In-the-Network Tunneling

draft-savola-mtufrag-network-tunneling-04.txt

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The draft in short

- There are a number of different tunneling protocols
 - IP-IP, GRE, L2TP, IPv6-in-IPv4, ...
- Many of those are used in router-to-router tunneling
 - All the protocols need to discuss and address the same issues
 - This document aims to spell out the issues and describe the options
- Tunneling can be tricky. Four different solutions:
 - Fragmentation and reassembly by tunnel endpoints
 - Problem: hardware reassembly, buffers and lost packets
 - Signalling the lower MTU to the sources
 - Problem: potentially millions of sources
 - Encapsulate only when there is free MTU
 - Problem: assumptions about the network's MTU sizes
 - Fragmentation of the inner packet (when possible)
 - Problem: available for v4 only; DF bit incompiancy may cause PMTUD issues
- The aim is to publish as individual, Informational RFC
 - Feedback welcome!