

GridPP

UK Computing for Particle Physics

Jumbo Frames (MTU=9000) on the WAN

Christopher J. Walker



Queen Mary
University of London

- What are Jumbo Frames
- Why Jumbo Frames
- Problems
- Conclusions recommendations

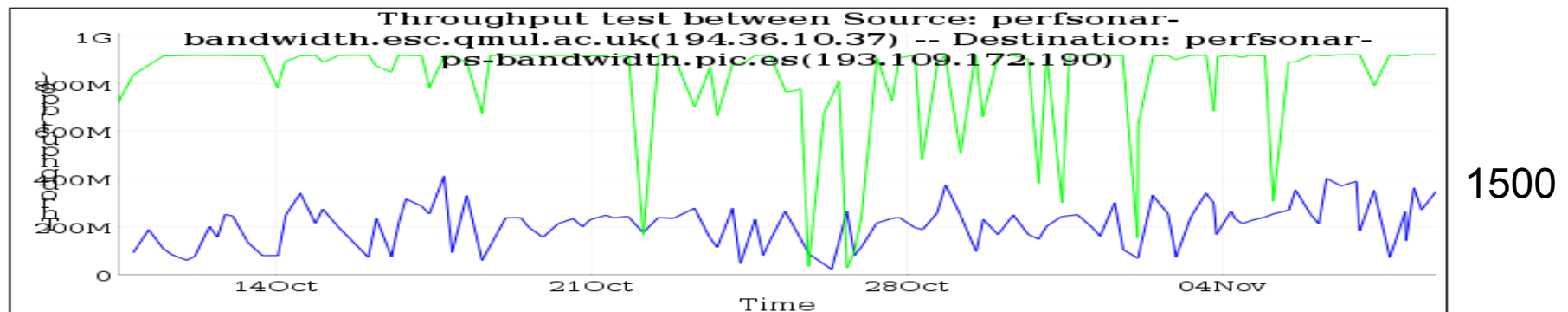
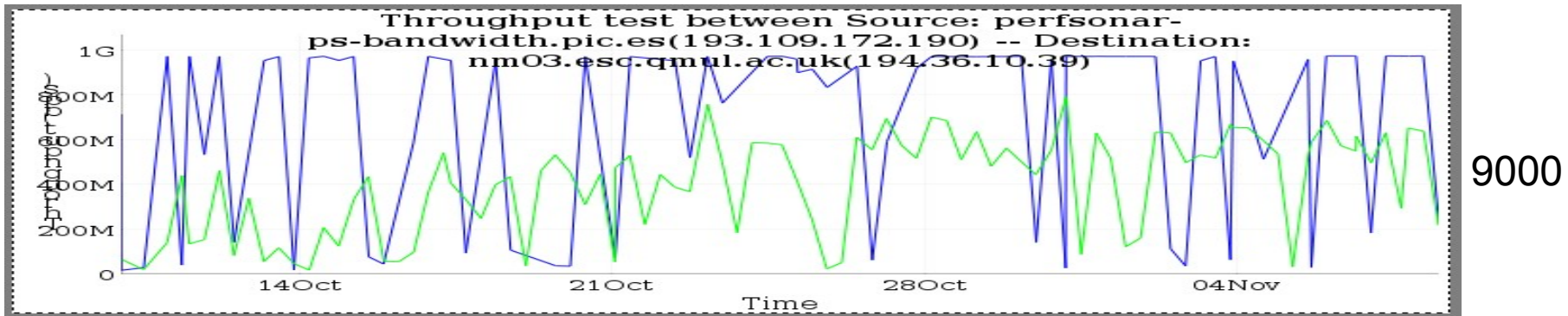
- Large Packets
 - Maximum Transmission Unit (MTU) >1500
 - Usually MTU=9000
 - MSS=8972
- Why?
 - Fewer packets for same data
 - 6* faster recovery from packet loss
 - Lower CPU load
 - But LRO/TSO
 - LHCONE propose to use it
- Details
 - Fasterdata.es.net

- Path MTU discovery
 - ICMP packets with don't fragment bits set
 - But blocked by some sites
 - Some sites broken:
 - Imperial/RHUL
 - 9000 Broken
 - 1500 OK
 - Brunel/Glasgow
 - 9000 Broken
 - 1500 Still broken (but gets further)



- Tests to PIC at MTU=9000

- Works well sometimes, but not others
- See different path on traceroute - is it broken sometimes and not others.



- Potentially faster
- No quick fix
 - Lots of the net is broken
 - Please fix Path MTU discovery
- Read fasterdata.es.net