

Can Congestion-controlled Interactive Multimedia Traffic Co-exist with TCP?

Dr Colin Perkins
School of Computing Science
University of Glasgow
Glasgow G12 8QQ, UK
colin.perkins@glasgow.ac.uk

ABSTRACT

The WebRTC activity in the Internet Engineering Task Force (IETF) and World-Wide Web Consortium (W3C) is adding standards-based interactive multimedia conferencing features to web browsers. WebRTC systems are expected to see extremely wide deployment, starting in the next year. This deployment poses a challenge, since congestion control algorithms for interactive multimedia have not been standardised. The nature of interactive multimedia traffic complicates congestion control, and the interactions between WebRTC traffic, TCP flows, and the modern network worsen the problem. The region where congestion-controlled interactive multimedia traffic can feasibly co-exist with TCP is outlined, and areas where additional development seems necessary are highlighted.

Categories and Subject Descriptors

C.2.6 [Internetworking]: *Standards (e.g., TCP/IP).*

General Terms

Performance, Standardization.

Keywords

Capacity Sharing, Interactive Multimedia, Congestion Control.

BIOGRAHY

Dr Colin Perkins is a Senior Lecturer in the School of Computing Science at the University of Glasgow. His research interests are real-time networked multimedia, next-generation Internet routing, and the use of high-level languages for low-level network protocol implementations. He is heavily involved in standards development relating to the Real-time Transport Protocol (RTP) and other networked multimedia transport protocols in the IETF, where he was previously chair of the Audio/Video Transport working group. He received his BEng in Electronic Engineering in 1992, and his DPhil in 1996, both from the Department of Electronics at the University of York. He is a member of the IETF and the ACM, and a senior member of the IEEE.