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Unidirectional and bidirectional optimistic modes IP header compression for real-time video streaming
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Abstract

Communication over Internet Protocol (IP) networks, has become crucial component of day everyday activities. They are utilized over the Internet to support a wide range of services. The flexibility of this kind of transmission relies on the IP User Datagram Protocol (UDP), IP/UDP/Real-time Transport Protocol (RTP) and IP/Transmission Control Protocol (TCP). Unfortunately, the weight of encapsulated protocol headers affects the transmission efficiency. This research aims at improving a technique that reduce the packets header size by compression. Performance analysis of the enhanced efficient techniques in both unidirectional and bidirectional optimistic modes applied to real-time video streaming traffic for UDP/IP and HTTP/TCP flows over free error channel has been conducted. The finding shows that the header compression ratio in each case is good and better than the previous studies. The technique achieved a reduction up to 90% for RTP/UDP/IP, 89% for UDP /IP and 77.5 to 86.5 % for TCP/IP profile. This research contribution is restricted to compression gain and saving for 0 × 0000, 0× 0001, 0× 0002 and 0× 0006 profiles in the unidirectional and bidirectional optimistic modes. © 2013 IEEE.

Author Keywords

Datagram protocol; protocol headers; real-time transport protocol; transmission control protocol

Index Keywords

HTTP, Transmission control protocol; Control protocols, Header compression, Internet protocol networks, Performance analysis, Real-time videostreaming, Transmission efficiency, Transport protocols, User datagram protocol; Video streaming

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