

# Scope

The interactivity requirements of some emerging services (VoIP, videoconferencing, telemedicine, video vigilance, online gaming, etc.) make them send high rates of small packets, to transmit frequent updates between the two extremes of the communication. They also demand small network delays. In addition, some other services also use small packets, although they are not delay-sensitive (e.g., instant messaging, m2m packets sending collected data in sensor networks using wireless or satellite scenarios). For both the delay-sensitive and delay-insensitive applications, their small data payloads incur significant overhead.

When a number of small-packet flows share the same path, bandwidth can be saved by multiplexing packets belonging to different flows. If a transmission queue has not already been formed but multiplexing is desired, it is necessary to add a multiplexing delay, which has to be maintained under some threshold to meet the delay requirements. Some examples of the scenarios where grouping packets is possible are:

- aggregation networks of a network operator
- an end-to-end tunnel between appliances located in two different offices of

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[RFC4170](#) (TCRTP) defined a method for grouping VoIP packets considering three different layers: header compression by means of EC RTP; multiplexing by means of PPPMux; tunneling by means of L2TPv3.

However, in the last years, emerging real-time services which do not use UDP/RTP have become popular: some of them use UDP or even TCP. In addition, new header compression methods have been defined (ROHC).

So there is a need of widening the scope of [RFC4170](#) to consider not only UDP/RTP. but also other protocols. The same structure of three layers will be considered: header compression, multiplexing and tunneling.

The BOF aims for the creation of a Working Group to specify the protocol stack, signaling mechanisms and maximum added delay recommendations for tunneling, compressing and multiplexing traffic flows (TCMTF).

# Proposed Milestones

TCM-TF Reference Model: 9-12 months

TCM-TF Negotiation protocol: 18 months

TCM-TF Recommendations: 12 months

# Questions

Is there a ***need*** for new standards in this space?

Is this a ***problem*** that the IETF should solve?

Is this approach a good ***starting point***?

Are there ***people willing to work*** on this topic at the IETF?