

# Tunnel Congestion Feedback

(draft-ietf-tsvwg-tunnel-congestion-feedback-00)

**Xinpeng Wei**

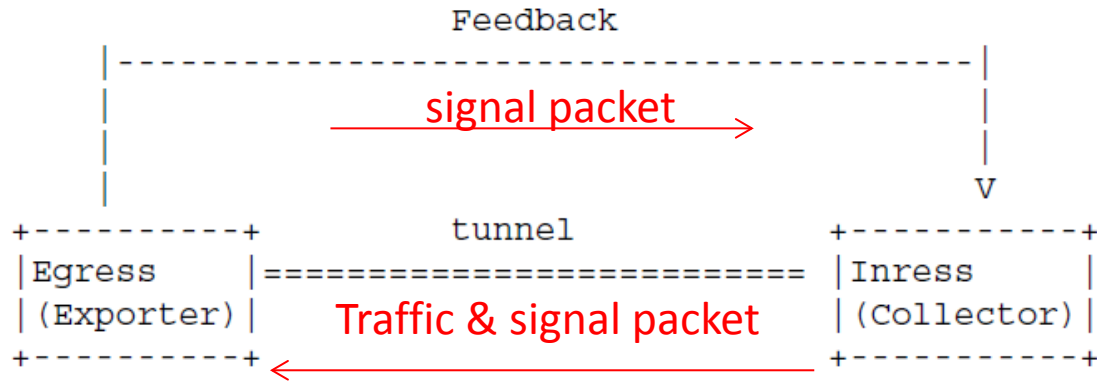
Lei Zhu

Lingli Deng

# Overview of the Draft

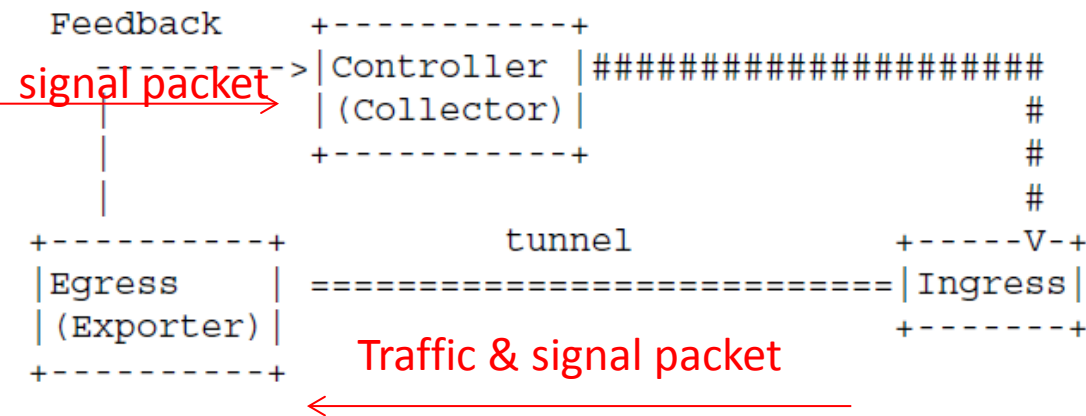
- The aim of document is to provide information for network congestion management to prevent the network fall into persistent congestion state.
- The document designs how to:
  - ①measure congestion level in the tunnel and
  - ②convey the congestion level information to the decision point.
- Adopted as WG draft after IETF93 meeting.

# Feedback Models



(a) Direct Feedback Model.

- Ingress cumulatively collects packet counts and inserts signal message packet into network traffic.
- After egress received a signal message packet, it will add cumulative packet counts of each ECN combination to the signal message packet and feed it back to ingress or controller.



(b) Centralized Feedback Model

# Measurement of Congestion Level

- Faked ECN
  - used at ingress to defer packet loss to egress.
  - When encapsulating packets, ingress first marks tunnel outer header according to RFC6040, and then remarks outer header of Not-ECT packet as ECT.
- Packet Loss
  - The packet loss from ingress to egress is also calculated.

# Congestion Information Delivery

- IPFIX is used for congestion information delivery.
- New IPFIX extensions:
  - ce-cePacketTotalCount
  - ect0-nectPacketTotalCount
  - ect1-nectPacketTotalCount
  - ce-nectPacketTotalCount
  - ce-ect0PacketTotalCount
  - ce-ect1PacketTotalCount
  - ect0-ect0PacketTotalCount
  - ect1-ect1PacketTotalCount

Questions & Comments