

draft-khademi-tsvwg-ecn-
response-~~00~~
01

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Context

- draft-khademi-alternativebackoff-ecn-03 replaced by:
 1. *draft-khademi-tsvwg-ecn-response-00*
 2. *draft-khademi-tcpm-alternativebackoff-ecn-00*
- We want to let the TCP sender react differently to an ECN mark than it does to loss
- Some text in RFCs 3168 and 4774 prohibits this.
This limits experimentation.
- *draft-khademi-tsvwg-ecn-response-00* attempts to change these problematic text passages so as to allow experiments

Problematic text #1: RFCs 3168 and 4774

Upon the receipt by an ECN-Capable transport of a single CE packet, the congestion control algorithms followed at the end-systems **MUST be essentially the same as the congestion control response to a **single** dropped packet**. For example, for ECN-Capable TCP the source TCP is required to halve its congestion window for any window of data containing either a packet drop or an ECN indication.

Problematic text #2: RFC 3168

If the sender receives an ECN-Echo (ECE) ACK packet (that is, an ACK packet with the ECN-Echo flag set in the TCP header), then the sender knows that congestion was encountered in the network on the path from the sender to the receiver. The indication of congestion **should be treated just as a congestion loss in non-ECN-Capable TCP**. That is, the TCP source halves the congestion window "cwnd" and reduces the slow start threshold "ssthresh".

List discussion with John Leslie

- Confusion due to early mention of cwnd and ssthresh: some text is general, some is about TCP
 - Will address by explaining this in the introduction
- Missing paragraph after end quote after second proposed text change
 - Will fix
- “... ECN-Echo flag (with the semantics defined in [RFC3168]) ...” not helpful
 - Suggest to remove

draft-khademi-tsvwg-ecn-response-01

*Updating the Explicit Congestion Notification (ECN)
Specification to Allow IETF Experimentation*

2 more RFC3168 rules are too limiting: #1

- Limitation regarding usage of ECT(1)
 - Related to downward compatibility with routers that don't think ECT(1) should exist: drop
 - Really inappropriate. Such routers.... below.

L4S is a great opportunity that we don't want to lose because of such devices



2 more RFC3168 rules are too limiting: #2

- RFC 3168 prohibits usage of ECT(0) or ECT(1) on control packets
- If we do know how to do it (or the arguments are invalid), being able to use ECN on these segments can be very useful
 - Very wrong to drop such “invalid” packets!
- Arguments laid out in [draft-bagnulo-tsvwg-generalized-ecn-01](#)