

ECN

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Is ECN bad?

Not used much (or at all?), after many years of standardization

ECN-marked packets contribute to router queues
- and create delay

A few packets that would otherwise have been dropped, make it:

Who cares? -- “Save every packet” is yesterday’s lore

ECN is Good!

Probably wrong to:

1. Let an AQM operate similar with and without ECN
2. Expect the same behavior
 - ECN changes queue or delay measurement; this should be reflected in AQM calculations

In TCP, saving packets means reducing delay:

- Retransmitting a lost packet causes more than 1 RTT head-of-line blocking delay for *all following packets* in the window

In UDP, loss may impact more than CC behavior:

- e.g. loss of a video I-frame can stall decoder.

Summary (extra slide)

Require updated systems to be transparent to ECN

Recommend AQM deployments support ECN

Encourage protocols to use ECN