The Benefits and Pitfalls of using Explicit Congestion Notification (ECN)

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R/TE
Reducing Internet Transport Latency

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Draft goals

- ***Point of draft:***
  - document gains of ECN
  - includes less obvious gains
  - Could include deployment scenarios to illustrate benefit
  - NEW: now also “pitfalls” (next slide)

- ***Out of scope:***
  - To recommend a specific behavior

Pitfalls

- Policies that bleach and middlebox requirements to deploy
  - Also points to RFC6040 for correct use of tunnelling
- Cheating by hosts
- Possible need for mechanisms to verify if a path really supports ECN

New conclusion (not “turn it on”, but “don’t break it”)

- People configuring host stacks and network devices should ensure that their equipment correctly reacts to packets carrying ECN codepoints.
- This includes:
  - **routers not resetting the ECN codepoint to zero**
  - **middleboxes not resetting the ECN codepoint to zero**
  - correctly updating the codepoint when congested
  - routers correctly supporting alternate ECN semantics ([RFC4774])
  - **hosts receiving ECN marks correctly reflecting them**

Next Steps

- Aim to WGLC after next (Dallas) IETF!
- Deployment scenarios / use cases still pretty empty
  - This section could be small
  - Text donations welcome

- Other comments?