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

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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?