

# ECT(1) and the Internet

TSVWG Interim Meeting – Feb 20, 2020

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(on behalf of the TSVWG Chairs)



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Now this is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning.

-- Winston Churchill (1942)

# The End of the Beginning

- TSVWG needs to make a decision about ECT(1) usage in the Internet
  - Core element of Issue #20 in the Issue Tracker
- TSVWG Chairs: Propose to make that decision in Vancouver (March)
  - But, what exactly is to be decided?
- The End of the Beginning: Agreeing on the decision to be made.

# ECT(1): Agreeing on the Decision to be Made

- Next two slides: TSVWG Chairs attempt to state the decision
  - Goal of this Interim Meeting: Rough consensus on decision to be made
  - Non-goal of this Interim Meeting: Actually make the decision
- Vancouver meeting plan (in order):
  1. Begin with revised versions of next two slides
  2. L4S and SCE each present a few slides on best use of ECT(1) for the Internet
    - TSVWG Chairs set time & content guidelines, review and post in advance (1 week or more)
  3. TSVWG Chairs frame and moderate Vancouver meeting discussion
  4. A small miracle happens, and the decision is made (we hope)
- Now: Review next two slides for content
  - Do not attempt to make decision now.

# DRAFT Vancouver SLIDE 1:

## Framing the ECT(1) Codepoint Decision

Background: RFC 4774 “Specifying Alternate Semantics for the Explicit Congestion Notification (ECN) Field”

- RFC 4774 assumes DSCP as signal of alternate ECN semantics.
- TSVWG situation: Two proposals that use ECT(1) as that signal [L4S, SCE]

Decision: How ECT(1) signals alternate ECN semantics to network:

- A. Input, e.g., classifier for “queue” selection [L4S]
- B. Output, e.g., indication of lesser degree of “queue” congestion [SCE]

At Internet scope: Choose at most one, not both.

## DRAFT Vancouver SLIDE 2:

# Friendly Coexistence with Competing Traffic

Both proposals [L4S, SCE] employ RFC 4774 Option 3 (section 4.3):

- Incremental Deployment Option 3: Friendly Coexistence with Competing Traffic
- Competing Traffic uses existing TCP congestion control, e.g., Reno, Cubic, etc.

Coexistence Focus: Shared bottleneck queue with ECN AQM [RFC 3168]

- FQ network nodes: Not a significant cause of coexistence problems

Scenario: Traffic competition at shared bottleneck queue:

1. Starvation of one class of traffic is not an acceptable outcome.
  - a. Starvation may occur in network and/or at endpoints (e.g., caused by congestion response)
2. Competing Traffic drives bottleneck queue occupancy level.

Proposals need to explain how to deal with this scenario.