A Lower Effort Per-Hop-Behavior
draft-ietf-tsvwg-le-phb-01

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Changes draft…-00 ▭ -01 (1/3)

- Now obsoletes RFC 3662, updates RFC 4594
- Section 1.1 (Applicability)
  - Main difference to BE: application/transport must be able to deal with periods of excessive packet loss and long interruptions
  - Congestion control SHOULD be used, esp. useful in case of DSCP bleaching
- Change section 2 (PHB Description) according to R. Geib's suggestions
  - LE marked traffic SHOULD be dropped prior to dropping any default PHB traffic. Ideally, LE packets SHOULD be forwarded only if no best-effort packet is waiting for its transmission.

Changes draft...-00 � -01 (2/3)

- Added RFC 2119 language to several sentences.
- Detailed the description of remarking implications and recommendations in Section 5.
  - DSCP bleaching (remark to 000000) NOT RECOMMENDED
  - Two possible semantics for LE:
    - **LE-min** = LE, better treatment allowed ⬠ remark to BE ok
    - **LE-strict** = LE, better treatment NOT allowed ⬠ only transmit if resources otherwise unused
  - In order to signal the intent of the LE user two DSCPs for LE-min/LE-strict would be useful
  - Current suggestion: just use LE-min and background transport (e.g., LEDBAT) in addition if LE-strict is desired

Changes draft…-00 ⬌ -01 (3/3)

- Section 5 (continued)
  - A DS domain that still uses DSCP CS1 for marking LE traffic (including Low Priority-Data as defined in [RFC4594] or the old definition in [RFC3662]) MUST remark traffic to the LE DSCP '000010' at the egress to the next DS domain.
  - See comment next slide
- Added Section 6 to explicitly list changes with respect to RFC4594

Comments from David Black

- Need better distinction between networks in general and networks with full support for LE

- "MUST remark" requirement sec. 5 needs to be discussed

- More precise IANA considerations

- I will incorporate all suggestions into the next version

Comments from Rüdiger Geib

- Discussion of ECN and LE suggested
  - "should any LE traffic be dropped prior to ECN marks for any other PHB? I think, that is true if ECN is used to indicate congestion." ⬚ I agree, however, I'm not sure that we need to specify this as it will happen automatically
  - "should LE be able to support ECN? Or are LE packet drops the only reaction in the case of congestion." ⬚ ECN would be useful within the LE aggregate too

- I will provide text in the next draft version

DSCP Choice

- suggested 000010 (DSCP= 2)
    - Removes ambiguity
    - Is allocated from the DSCP Standards Action pool xxxxx0
    - Should not be bleached in case upper bits are cleared, so 000xx0 remain as potential choices
    - Can we come up with better choices?
- See presentation in MAPRG about DSCP measurements
    - Quite useful to predict deployment problems
    - IMHO we should not design around broken implementations or wrong configurations too much
(e.g., use of unallocated standard DSCPs),
better try to contact vendors and network operators