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