Non Queue Building (NQB) Per Hop Behavior

draft-ietf-tsvwg-nqb-05

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Status

• Draft-04 published February 22, 2021
  • Aligned terminology with RFC2474 ("standardized PHBs", "recommended DSCPs")
  • Reworked mention that DiffServ was not intended to be used end-to-end
  • Added: Networks that don’t support the PHB SHOULD aggregate NQB with Default, and SHOULD preserve the NQB marking.
  • Added text discussing where aggregation with Default is fine
  • Removed mention of aggregating Network Control with NQB
  • Added new requirements around 2 DSCP assignments and interconnection (see next slide)

• Draft-05 published today
  • Cleaned up WiFi section to recommend PHB compliance more strongly
  • Wordsmithing of DSCP recommendations & re-marking

• Milestone: Submit as Proposed Standard RFC by Feb 2021
DSCP Recommendation – TWO DSCPs

• Rationale for recommending DSCP 42 (101010):
  • The end-host/application chooses DSCP for upstream traffic, no DSCP remapping possible prior to WiFi link. Choosing a value that maps to AC_VI in existing WiFi networks is critical for adoption.
  • Existing Access Network technologies can easily classify/aggregate a lot of “NQB-compatible” traffic (CS7, CS5, EF) with 42 via a masked classifier (i.e. 101xx0)

• Rationale for recommending DSCP 2 (000010):
  • Some existing DSCP interconnections and backbone routers (e.g. MPLS) can easily aggregate NQB(2) with Default, while carrying the DSCP through unbleached

• Current Proposal (included in draft-04/05):
  • Recommend DSCP of 42 for end-hosts (senders)
  • Recommend remapping 42 to 2 prior to interconnection
  • Recommend remapping 2 to 42 prior to customer WiFi networks
Remaining Work (from IETF109)

1. Align terminology with RFC2474 (“standardized PHBs”, “recommended DSCPs”)  DONE
2. Eliminate implication that DiffServ was not intended to be used end-to-end  DONE
3. Clarify aggregation of NQB traffic with Default & discuss backbone nets  DONE
   • Networks that don’t support the PHB SHOULD aggregate NQB with Default, and SHOULD preserve the NQB marking.
   • Describe in more detail where full NQB support is needed vs. where aggregation with default is likely fine.
4. Discuss interworking with practices in place in some interconnects/backbones regarding DSCP aggregation  DONE
   • Use of a 000xxx DSCP in these locations makes compliance with #3 much easier.
5. Fix mention of aggregating Network Control with NQB  DONE
   • Either remove it, or provide sufficient context and warnings
6. Clean up WiFi section to recommend PHB compliance more strongly  DONE
   • Both for “default mapping” devices and RFC8325 devices
7. Do NQB & Default form a PHB Group?  Not recommended
Next Steps

• WG ok with proposal for two DSCPs?
• Which DSCPs? 42 & 2? (see next talk)
• Start WGLC soon?