

Non Queue Building (NQB) Per Hop Behavior

[draft-ietf-tsvwg-nqb-07](#)

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Status

- Draft-05 published March 8, 2021
 - Discussed at IETF 110
- Draft-06 published July 12
 - Change of DSCPs to 45 & 5 (instead of 42 & 2) based on input from Ana Custura, Rüdiger Geib, Gorry Fairhurst and others (THANKS!!)
 - Edits resulting from detailed reviews by Stuart Cheshire, Bob Briscoe, David Black (THANKS!!)
- Draft-07 published July 28
 - Re-ordered several sections
 - Replaced para. on historical 3GPP networks, text provided by Kevin Smith (THANKS!!)
 - Additional edits from Bob Briscoe's on-list review
 - Additional edits to address David Black's comments
- Milestone: Submit as Proposed Standard RFC by Sept 2021

Significant Changes since draft-05

- Change of DSCP values, to 45 & 5
- §4.1: Added requirements on sender behavior, including packet/data rate (soft) limits (see next slide)
- Made it clear that marking traffic as NQB doesn't let you off the hook on implementing a congestion response
- Re-organized WiFi section to make it clear that full support of the PHB is possible in future equipment (including RFC8325 gear).
- §4.3 Changed "SHOULD preserve a DSCP marking distinction" to "MUST preserve a DSCP marking distinction"

NQB Sender rate requirements (§4.1)

... at most, the equivalent of a few well-spaced packets per RTT, even if the packets are not actually RTT-clocked. In today's network this corresponds to an instantaneous data rate (packet size divided by packet inter-arrival time) of no more than about 1 Mbps (e.g. no more than one 1250 B packet every 10 ms), but there is no precise bound since it depends on the conditions in which the application is operating.

...

If the application's traffic exceeds a few packets per RTT, or exceeds approximately 1 Mbps on an instantaneous (inter-packet) basis, the application SHOULD NOT mark its traffic with the NQB DSCP.

Comment from Bob Briscoe: Can we provide guidance on how this scales in the future?

Other open questions

- Ok to request early allocation of DSCPs 5 & 45 from IANA?
- Draft includes a requirement for RFC8325 gear
 - Recommendation to treat NQB traffic as AC_VI:
Similarly, systems that utilize [[RFC8325](#)] but that are unable to fully support the PHB requirements, SHOULD map the recommended NQB code point 45 (or the locally determined alternative) to UP_5 in the "Video" Access Category.
 - List RFC8325 as being updated by NQB?
- Thoughts on WGLC?