Non Queue Building (NQB) Per Hop Behavior

draft-ietf-tsvwg-nqb-19

Greg White, CableLabs
Thomas Fossati, ARM
TSVWG @ IETF 117
July 27, 2023
Status

• Draft-14 published October 24
• WGLC started November 2
• Draft-15 published January 11
• WGLC ended February 22
• Draft-16 published March 13
• Draft-17 published March 25
• Draft-18 published July 10
• Draft-19 published July 26
• Milestone: Submit as Proposed Standard RFC by September 2023
Draft-17 status

• This draft included all agreed (as of March 25) changes arising from WGLC comments

• The remaining open topics were added to an issues tracker on GitHub: https://github.com/gwhiteCL/NQBdraft/issues
  • 13 Open issues - many were relatively uncontroversial
  • Others required reorganizing the document a bit (e.g. 24, 26, 29) or drafting some new text (e.g. 22, 32)
<table>
<thead>
<tr>
<th>Question</th>
<th>Resolution Proposed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>What additional text is needed regarding non-compliant traffic marked as both NQB and ECT(1)?</td>
<td>WGLC1</td>
<td>#33 opened on Mar 24 by gwhiteCL</td>
</tr>
<tr>
<td>Need to better describe the differences between EF and NQB</td>
<td>WGLC1</td>
<td>#32 opened on Mar 21 by gwhiteCL</td>
</tr>
<tr>
<td>Should we more strongly encourage NQB applications to implement L4S?</td>
<td>WGLC1</td>
<td>#31 opened on Mar 21 by gwhiteCL</td>
</tr>
<tr>
<td>Why do we need more burst tolerance in TP functions on low-rate networks?</td>
<td>WGLC1</td>
<td>#30 opened on Mar 21 by gwhiteCL</td>
</tr>
<tr>
<td>Low-Rate links - combine with guidance for controlled environments?</td>
<td>WGLC1</td>
<td>#29 by gwhiteCL was closed 2 weeks ago</td>
</tr>
<tr>
<td>Traffic Protection requirements aren't concrete enough</td>
<td>WGLC1</td>
<td>#28 opened on Mar 21 by gwhiteCL</td>
</tr>
<tr>
<td>Review the recommendation to rate-shape NQB traffic to 5% on egress to a IP Precedence network</td>
<td>WGLC1</td>
<td>#27 opened on Mar 21 by gwhiteCL</td>
</tr>
<tr>
<td>Move non-compliance topics to a separate section or appendix</td>
<td>WGLC1</td>
<td>#26 by gwhiteCL was closed 2 weeks ago</td>
</tr>
<tr>
<td>Aggregate NQB-traffic with real-time, latency sensitive?</td>
<td>WGLC1</td>
<td>#25 by gwhiteCL was closed on Mar 24</td>
</tr>
<tr>
<td>Should we cover &quot;controlled environments&quot;?</td>
<td>WGLC1</td>
<td>#24 opened on Mar 21 by gwhiteCL</td>
</tr>
<tr>
<td>Are all of the example applications really paced?</td>
<td>WGLC1</td>
<td>#23 by gwhiteCL was closed on May 23</td>
</tr>
<tr>
<td>Ensure that the side effects of 45 being given priority in non-compliant networks is adequately covered</td>
<td>WGLC1</td>
<td>#22 opened on Mar 21 by gwhiteCL</td>
</tr>
<tr>
<td>What is the upper bound on application data rate to be compliant to NQB sending behavior?</td>
<td>WGLC1</td>
<td>#21 opened on Mar 21 by gwhiteCL</td>
</tr>
</tbody>
</table>
Additional (post WGLC) comment

• Raised at the mic during IETF116

• #34 Some WG participants have the impression that NQB marking means no congestion control
Draft-18 highlights

• Reworked text to remove the impression that NQB is a license to not use congestion control, added recommendation to implement L4S
  • Sections 1, 3.1 & 4.1

• Significantly more guidance on implementation of a traffic protection function

• Reduced the current recommendation on max data rate for NQB marking
  • was 1 Mbps, now 500 kbps

• Added Appendix with comparison to Expedited Forwarding

• Improved the recommendations on handling of traffic marked L4S and NQB.

• Reworked text on aggregation of NQB in another PHB to improve readability
  • section 4.2
Draft-19 highlights

• Completed the discussion of handling of NQB traffic by an L4S node.
• Moved ‘alternative DSCPs’ text to an Appendix
• Several minor editorial clean-up and streamlining changes
Status of issues

- All WGLC issues have been addressed and will be marked closed.
- Additional issue regarding lack of congestion control will be closed.
- One new (minor) issue raised:
  - #38: [NQB updates to RFC8325 should point to UPs not ACs](#)
    - Suggested text has been provided.
    - Needs some discussion with Wi-Fi experts.
    - Expect to close this soon
Next Steps

• Resolve last open issue
• Begin final WGLC?