

RTCWeb Use of DSCP

draft-ietf-tsvwg-rtcweb-qos-02

Cullen Jennings

IETF 90

V5



What this is...

- WebRTC has “flows” of Audio, Video, and Data between browsers
- JavaScript applications running in the browser have an API to provide relative importance of flows with the enumerated values “very low”, “low”, “medium”, and “high”
- The browser knows if the packet contains audio, video, or data
- This draft takes recommendations from existing RFCs to tell browser implementers how they should mark packets



Objective and Summary

Encourage adoption of QoS with Browsers and WebRTC implementation. Keep it simple and easy to use.

Data Type	Very Low	Low	Medium	High
Audio	CS1	DF	EF	EF
Interactive Video with/without Audio	CS1	DF	AF42, AF43	AF41, AF42
Non Interactive Video with/with out Audio	CS1	DF	AF32, AF33	AF31, AF32
Data	CS1	DF	AF1X	AF2X



Use of EF

- When the EF traffic exceeds whatever is allocated for it, bad stuff happens and this draft uses EF for med & high voice
- This recommendation comes from RFC 4594 section 4.1 and is widely implemented without problems in VoIP systems
- Recommendation: Add text to draft explaining what may happens to EF traffic when allocated bandwidth is exceeded.
- Question: does it get dropped or treated as BE?

“BE” (Best Effort) Service

- Comment: “I also struggle to understand the meaning of the reference to “BE”. I presume it means “Best Effort”. RFC 4594 does not describe a “Best Effort” DSCP or traffic class; it does describe “Default”, which I think this is referring to.”
- Proposed Changes :
 - ✓ BE → DF.
 - ✓ In the table, changed BE to DF and explained it in the note above.
 - ✓ Added DF (Default Forwarding) along with Best effort in other parts of the text.

Re-marking in the Network

- Comment: “The document should describe how traffic should be marked, and what traffic so marked expects from the network. The network will then do whatever it thinks is appropriate to satisfy that requirement. “
- Proposed Changes:
 - ✓ The current text reads: “Therefore, the DSCP value may be re-marked at any place in the network for a variety of reasons to any other DSCP value including default forwarding (DF) which indicates basic best effort service.”

Priority

- Comment : “RFC 4594 has no corollary concept of “priority” of the data traffic. ... So I struggle to determine how the browser would decide whether a given session was “very low”, “low”, “medium”, or “high” priority, and what the concept of “priority” means in the context.”
- Response:
 - ✓ The Application provides information to the browser about the relative priority of the media stream within the application. The browser uses this to select the right DSCP value. The network only sees the resultant DSCP value
 - ✓ For example: In streaming a Football game, one audio stream captures the live sounds and another may be from a commentator. The relative importance of these streams are communicated to the browser to assist in selection of the DSCP

Operator

- Comment: “need an operator to respond”
- Response:
 - The folks implementing this draft are the Browser vendors. This draft was reviewed by browser vendors when it was in RTCWeb WG.
 - For the network operator, this is just a media stream with the right DSCP values as recommended by RFC 4594 and other RFCs.



CS1 Treatment

- Comment: “The document also makes a statement that I think is unnecessary: The above table assumes that packets marked with CS1 is treated as “less than best effort”. However, the treatment of CS1 is implementation dependent. If an implementation treats CS1 as other than “less than best effort”, then the priority of the packets may be changed from what is intended.”
- Response: Should we add a note to point out that this can happen?