

On the Validation of TCP Sequence Numbers

(draft-gont-tcpm-tcp-seq-validation)

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Motivation

- There is a well-known bug in RFC 793
- Unless addressed, it could result in ACK wars
- Virtually all stacks have addressed these issues for years now

Support for TCP self-connects

- Current text says:
“TCP MUST support self-connects”
- Some folks argue that:
“TCP SHOULD support self-connects” (i.e.,
s/MUST NOT/SHOULD NOT/.

Simultaneous ZWPs

- Current proposed text allows

$$\text{RCV.NXT} - 1 \leq \text{SEG.SEQ}$$

- This doesn't allow ZWPs that contain more than 1 byte of data
 - the “1” above considers the de-facto 1-byte ZWPs
- Accommodating non-zero ZWPs would require additional state
 - e.g. record SND.NXT when entering the persist state

Moving forward

- Adopt as a tcpm wg item?