Requirements for Time-Based Loss Detection

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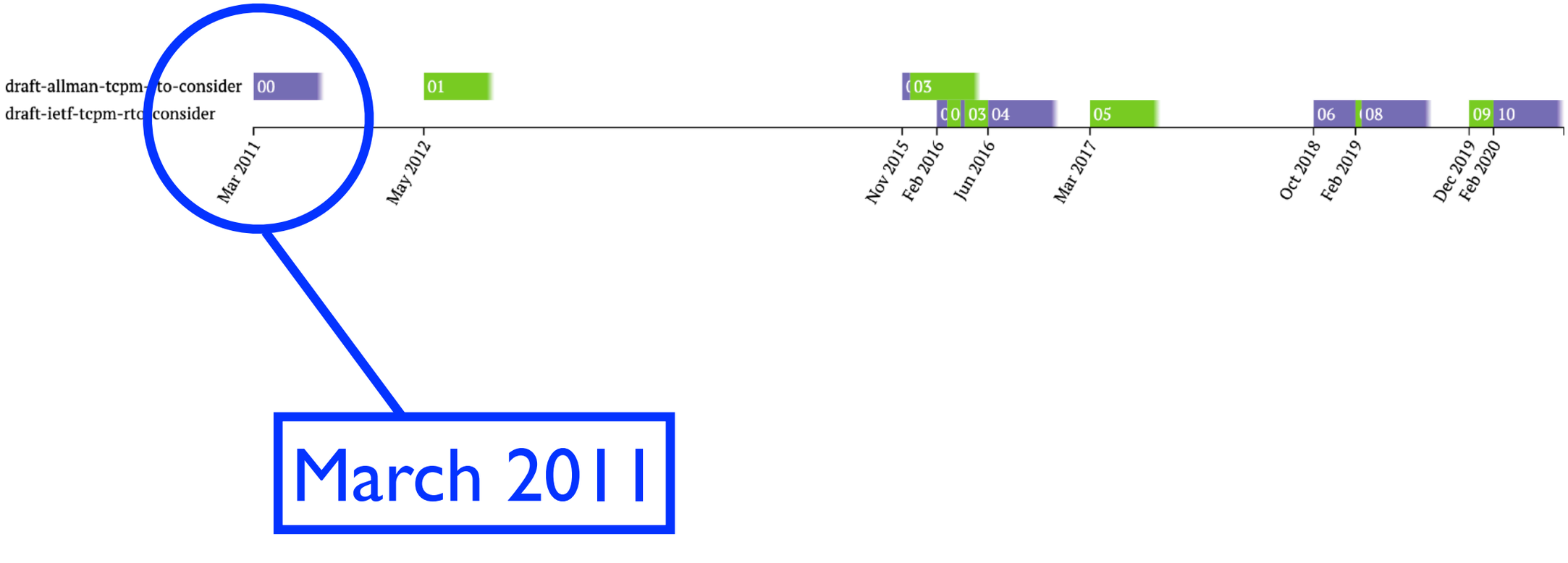
"Tomorrow there'll be sunshine,
And all this darkness past …"

What a LONG, Strange Trip...



- Seemed like we understood RTOs enough to make some general requirements to get away from algorithm specifics

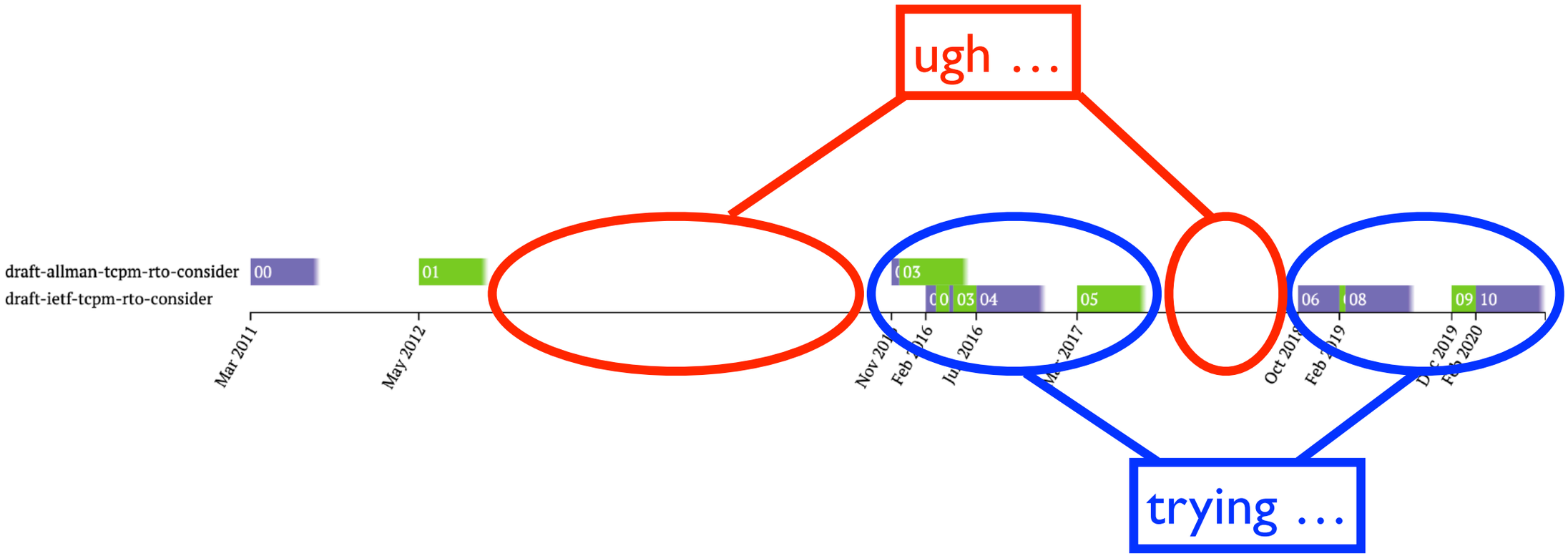
What a LONG, Strange Trip...

- For instance …
  - instead of:
    `RTO <- SRTT + max (G, K*RTTVAR)`
  - we can say:
    the RTO SHOULD be set based on observations of both the feedback time and the variance of the feedback time

Status

- For ***many years*** we have agreed on the technical guidelines

Status



- We have struggled with positioning the document in the right context within the standards framework to get (rough) consensus
  - although, there has been no lack of trying!

Recent Changes

- Gorry's review around IETF 106 …
  - the document needs to explicitly state its position relative to existing RFCs

- Section 2 in -10 significantly re-worked

Context Bit #1

- This document does not update or obsolete any existing RFC. These previous specifications---while generally consistent with the requirements in this document---reflect community consensus and this document does not change that consensus.

Context Bit #2

- The requirements in this document are meant to provide for network safety and, as such, SHOULD be used by all time-based loss detection mechanisms.

Context Bit #3

- The requirements in this document may not be appropriate in all cases and, therefore, inconsistent deviations may be necessary (hence the "SHOULD" in the last bullet). However, inconsistencies MUST be (a) explained and (b) gather consensus.

Recent Changes

- Jana's review around IETF 106 …
  - the document is really about time-based loss detection, not about retransmissions
  - so, re-position the document around loss detection and not loss repair so it is useful in more contexts
- -10 re-centers around loss detection

WGLC

- The WGLCs produced some minor suggestions that will be incorporated

WGLC

- Other comments?
- All good?
- Ready to forward to IESG?

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Questions? Comments?

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EXTRA SLIDES

Guidelines

- the initial RTO MUST be set to no less than 1 second
- the value of the RTO MUST be exponentially backed off on repeated loss
- loss detected by the RTO MUST be taken as an indication of congestion

Guidelines

- the RTO SHOULD be set based on observations of FT and the variance of the FT
- FT observations SHOULD be taken at least once per RTT
- FT observations MAY be taken from non-data exchanges
- an RTO mechanism MUST NOT use ambiguous FT samples