Motivation

• Push TCP congestion control along the standards track
• Fix some of the stuff we botched the first time
Touchstones

• Make very modest changes

• Fix bugs in the document

• Roll in very small changes that are already at PS
  ▶ Initial cwnd value (RFC 3390)
  ▶ Limited Transmit (RFC 3042)

• Keeping the diffs very small
Duplicate ACKs

- Clarification of what constitutes a "duplicate ACK" and how fast retransmit is triggered
- Seems to have been resolved with Ethan's new text
Setting ssthresh

• Proposal: do not lower $ssthresh$ for backed off RTOs
  ▶ I.e., set $ssthresh$ on the first RTO and then do not touch it again while retransmitting the given sequence number

• Authors muddled
  ▶ seems out-of-scope, but it’s so small
• Others have argued both sides: saying it both OK and inappropriate

• Suggestion: an appendix that discusses it but does not make it part of the standard

➤ (Is this different from another document?)
Setting ssthresh, part 2

• Change in the strength of the ssthresh initialization statement
  ▶ from: "MAY" initialize ssthresh to infinity
  ▶ to: "SHOULD" initialize ssthresh to infinity

• Should have been a SHOULD all along
  ▶ comes up because some stacks initialize to 64KB and we want to say this is not the most generally desirable way to go
Counter argument: hosts may have good reasons for not doing this

- why it’s a SHOULD not a MUST
- the document should be more verbose about these reasons
Defining Infinity

- RFC 2581 notes that infinity can be approximated by the advertised window

- Some stacks do advertised window tuning
  - advertise a small window, then expand

- Suggestion: change the note to recommend using the maximum advertised window given the scale factor in use
  - seems like a reasonable suggestion
  - in line with the original intent
Define what happens if a duplicate ACK with a DSACK arrives

1. ignore
2. reset ’dupack’ counter
3. count as duplicate ACK

DSACKs are new since RFC 2581

We should probably say *something* in this case

- RFC2581 would use option (3) above
Duplicate ACKs After RTOs

• Define what to do with duplicate ACKs received after a timeout?

• Seems out of scope to the authors