

# Fast-Slow Retransmission Timeout and Congestion Control Algorithm for CoAP

**draft-ietf-core-fasor-02**

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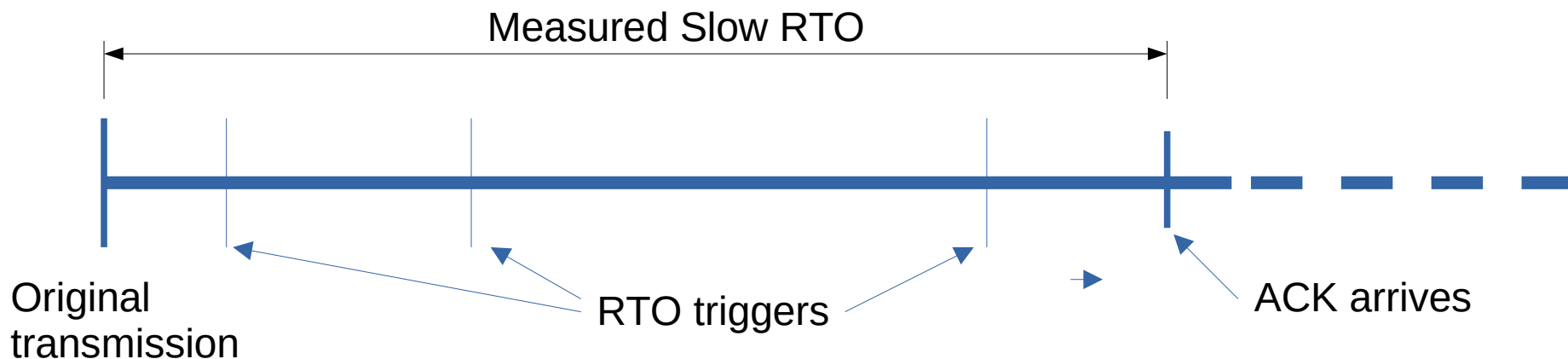
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IETF core wg

Interim mtng June 7, 2023

# FASOR (Fast-Slow RTO)

- FASOR is an alternative Retransmission Timeout (RTO) and congestion control algorithm for CoAP
- Optional to implement in CoAP
- Replaces the default RTO and CC algos specified in RFC 7252
- Two ways to calculate RTO
  - **FastRTO** (normal RTO ~ RFC 6298 TCP RTT/RTO computation)
  - **SlowRTO** (measured as the time elapsed from the original transmission, including all retransmissions)



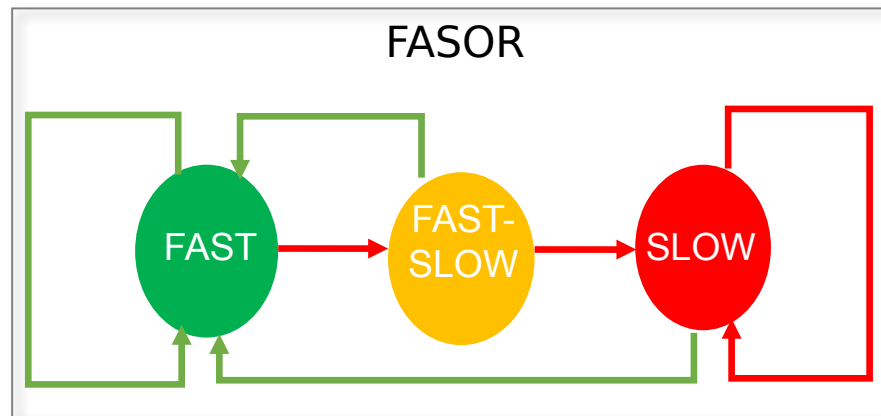
# FASOR (Fast-Slow RTO)

- 3-state RTO logic each with its own back off series:

**FAST:** FastRTO, FastRTO \* 2<sup>1</sup>, FastRTO \* 2<sup>2</sup>, ...

**FAST\_SLOW:** FastRTO, max(SlowRTO, FastRTO \* 2), FastRTO \* 2<sup>1</sup>, FastRTO \* 2<sup>2</sup>, ...

**SLOW:** SlowRTO, FastRTO, FastRTO \* 2<sup>1</sup>, FastRTO \* 2<sup>2</sup>, ...



No retransmission 

Retransmission 

# I-D History

- -00 submitted in March, 2020 (after WG adoption)
  - Addressed feedback from Christer regarding the Retransmission Count option
- -01 submitted in Oct 2020
  - Clarified the use of the Retransmission Count Option value
  - Some editorial changes
  - Authors considered pretty close to be ready for WGLC, asked for more reviews, including TSV area
  - Got thorough review by Carles and TSVart early review by Yoshi
  - Document went dormant for a long period
- -02 submitted in March 2023
  - Addresses the points raised in the reviews
  - Will add more explanation and justification for the FASOR back off series logic (asked by Yoshi)

# Next Steps

- More reviews and feedback would be appreciated
- Will submit -03 and then maybe ready for WGLC?