

# AQM

# Recommendation

draft-ietf-aqm-recommendation-00

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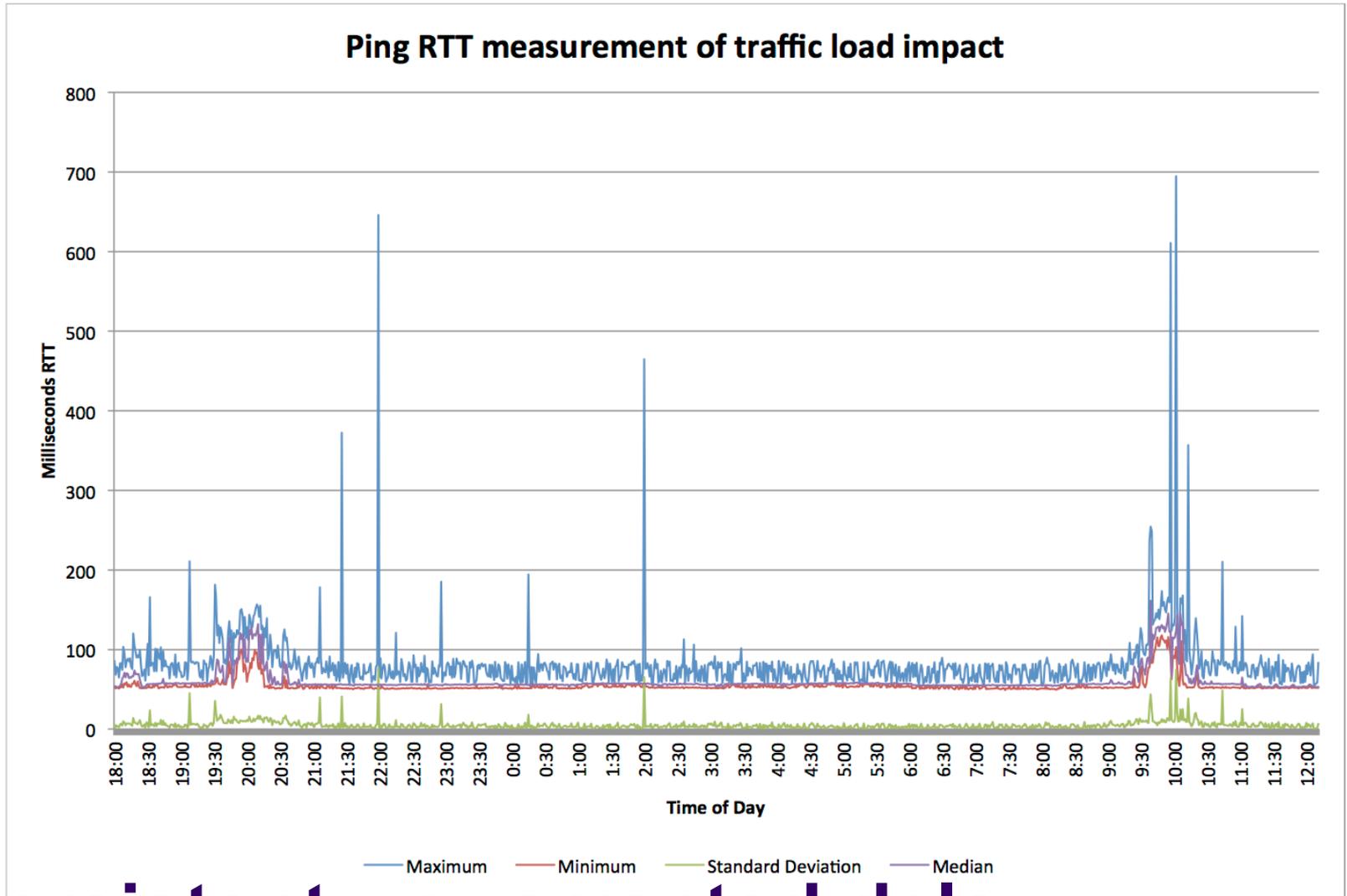
Gorry Fairhurst and Fred Baker





# History

- At IETF 86, TSVAREA decided to update the recommendation of RFC 2309 to not recommend the use of RED
  - Argument: operational utility was low because of difficulty in configuration
- So what algorithm do we replace RED with?
  - More to the point, what should be true of algorithms that the IETF would recommend?



**Persistent unwarranted delay  
disrupts competing applications**



# **DRAFT RECOMMENDATIONS**

draft-ietf-aqm-recommendations-00

# Changes since draft-baker-aqm-recommendation-02



1. S4.3, elaborated intention of auto-tuning requirement for deployment:
  1. SHOULD NOT require tuning
  2. MAY support further manual tuning
  3. MAY provide logging and alarm signals
2. S4.6, tells about impact on transport does not specify transport CC requirements
3. Updated security considerations

Further review appreciated (see next slide for recommendations)

# Conclusions/ Recommendations



1. Network devices **SHOULD implement** some **AQM** mechanism
2. Deployed AQM algorithms **SHOULD** support Explicit Congestion Notification (ECN) as well as loss to signal congestion to endpoints.
3. The algorithms that the IETF recommends **SHOULD NOT require** operational (especially manual) configuration or tuning.
  1. May have knobs, but in general playing with them should be unnecessary
4. AQM algorithms **SHOULD** respond to measured congestion, not application profiles.
5. AQM algorithms **SHOULD NOT** interpret specific transport protocol behaviors.
6. Transport protocol congestion control algorithms **SHOULD** maximize their use of available capacity (when there is data to send) without incurring undue loss or undue round trip delay.
7. Research, engineering, and measurement efforts are needed regarding ... flows that are unresponsive to congestion notification or are responsive, but are more aggressive than present TCP.