



# Acknowledgment Delay Scaling

IETF 105 Montreal  
Martin Thomson

# Option A - No Scaling

Ack Delay expressed in units of microseconds

No scaling

- + Dead simple
- More bytes on the wire
- Change

Note: Adding a transport parameter later is complicated

# Option B - Exponential Scaling

Ack Delay expressed in units of microseconds

Transport parameter for exponential scaling:  $x \ll \text{scale}$

- + Can reduce bytes on the wire
- + Implemented with a shift
- + No change for existing implementations
- If native time is not in microseconds
  - bad rounding, have to multiply/divide instead of shift

# Option C - Multiplicative Scaling

Ack Delay expressed in units of microseconds

Transport parameter for multiplicative scaling: **x\*scale**

- + Can reduce bytes on the wire
- + Implemented with a divide (send) or multiple (recv)
- Most complex option (though still not that complex)
- Change

# Alternative Decision Making Process

Opinion on this is split on the issue

However, no one holds a strong view, so RFC 3929!

Proposed process:

Each hum for your **least preferred** option or options

We keep the option with the weakest hum

Step 1: Agree to this process

Step 2: Vote

Step 3: Confirm decision on list

# Vote!

A - No Scaling

B - Exponential Scaling

C - Multiplicative Scaling

Remember: hum loudest for your **least preferred** options