

Jacobson/Karels Algorithm

$\text{Estimated_RTT} = (1-\alpha) \text{ Estimated_RTT} + (\alpha) \text{ Sample_RTT}$

In the original TCP Specification, $\alpha=.0125$

Jacobson/Karels included a variation component to the calculation for the Estimated_RTT

$\text{Estimated_RTT} = \text{Estimated_RTT} + \delta (\text{Sample_RTT} - \text{Estimated_RTT})$

$\text{Deviation} = \text{Deviation} + \delta (|\text{Sample_RTT} - \text{Estimated_RTT}| - \text{Deviation})$

$\text{Timeout} = \mu * \text{Estimated_RTT} + \phi * \text{Deviation}$

Typically $\phi=4$, $\mu = 1$, δ is between 0 and 1