

Stochastic networks in the presence of heavy tails: details, results, conjectures

Karl Sigman
Department of Industrial Engineering and
Operations Research
Columbia University
New York, USA

1. Heavy-tailed distributions; examples (Regularly varying tails, Subexponential distributions, and \mathcal{S}^*)
2. Delay, and workload asymptotics for FIFO single-server queue
3. Queue length is different, busy-period is different, different disciplines (Processor Sharing (PS)) yield different results
4. Connections with “Fluid Models”
5. Multi-class models; stability issues, complications.