Quantitative
Modeling
In
Parallel
Systems

A polling model with threshold switching

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Abstract We consider a polling model of two $M/G/1$ queues, served by a single server. The service policy for this polling model is of threshold type. Service at queue 1 is exhaustive. Service at queue 2 is exhaustive unless the size of queue 1 reaches some level T during a service at queue 2; in the latter case the server switches to queue 1 at the end of that service. All switches are instantaneous.
We determine the joint queue length distribution at customer departure epochs, the sojourn time distributions and mean sojourn times.
Keywords: ATM, polling, threshold service, queue length distribution.

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