

# An Important and Impactful Paper

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**Abstract.** Stochastic control in multi-class queueing networks has been extensively studied primarily focusing on minimizing operational costs (e.g., waiting, abandonment). However, in many real-world applications, the system operator must balance the trade-off between waiting costs and maximizing immediate rewards when assigning customers to service units.

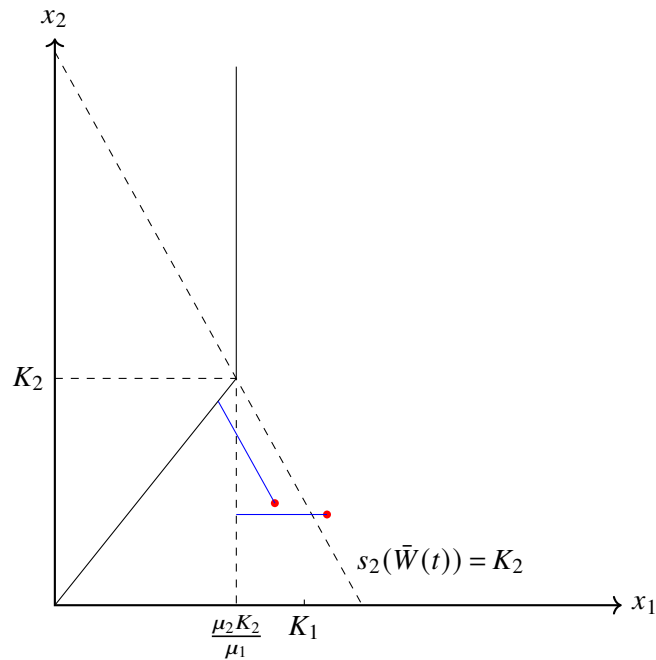
**Key words:** Stochastic control, Queueing network, Uncertainty, Online learning, Optimization

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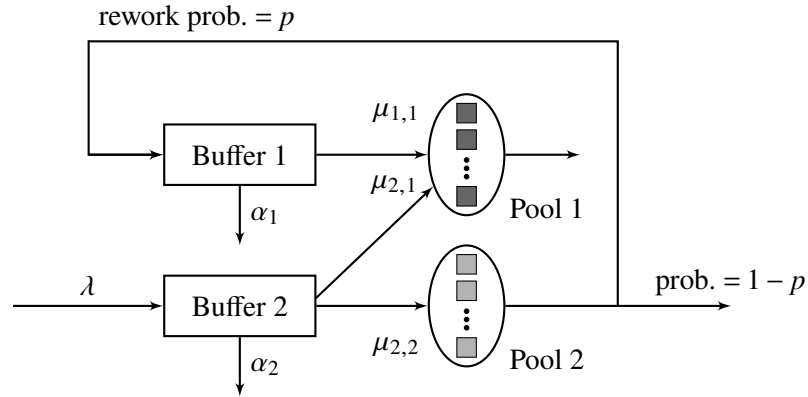
## 1. Introduction

Erlang (1948), Dantzig (1955), Dynkin (1956), Bellman (1957), Little (1961), Skorokhod (1961), McKean (1965), Iglehart (1965)

## 2. Model



**Figure 1** Sample x-y plot



**Figure 2** A schematic Model of Outsourcing with rework

### 3. Conclusion

### References

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## Proofs

### EC.1. Proof of Results

#### EC.1.1. Proof of Lemma

LEMMA EC.1. *As long as  $t > 8 \frac{d \log 9 + \log(T/\alpha)}{p_*^2}$ , the following lower bound*

*Proof of Lemma [EC.1](#)      $\square$*