

IMDb queueing system analysis

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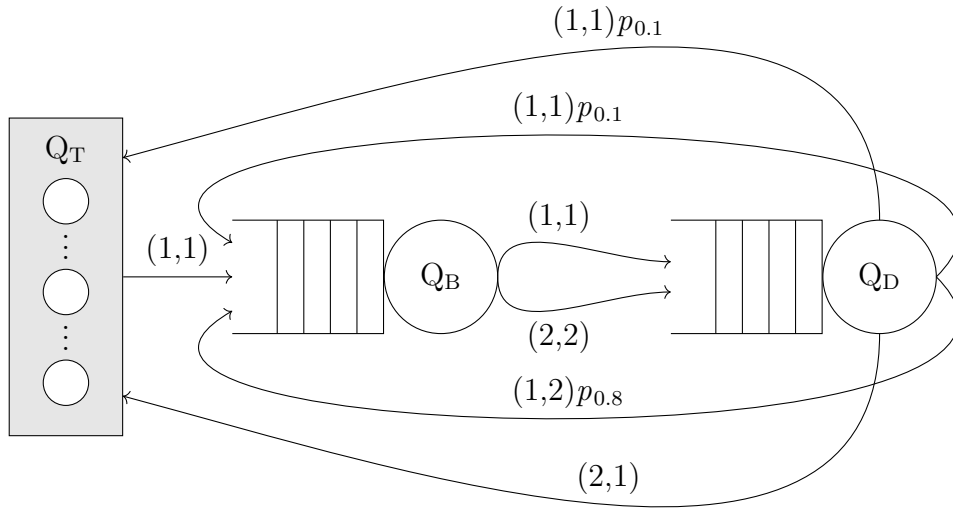
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Abstract

Analyse the IMDb replica system performance: identify the bottleneck, measure the maximum system throughput and the optimal number of users.

1 Queueing network model

1.1 Network graph



1.2 Traffic equations

$$\begin{cases} e_{B1} = e_{T1} + (0.1 \times e_{D1}) \\ e_{B2} = 0.8 \times e_{D1} \\ e_{D1} = e_{B1} \\ e_{D2} = e_{B2} \\ e_{T1} = e_{D2} + (0.1 \times e_{D1}) \\ e_{T1} = 1 \end{cases}$$

2 Bottleneck identification

3 Miscellaneous

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