# Comparative Analysis of Optimal Policies for

# Loss Queues in Tandem

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## Abstract

In this paper, we focus on the call admission control (CAC) problem for a finite number of multiserver loss queues in tandem. Optimal policies of two different scales are considered. The global optimal policies maximize the total discounted revenue collected from all of the stations. The decision logic consists of a set of maps that are the functions of the number of requested service in progress [5]. However, the local optimal policies implemented in each station maximize the total discounted revenue collected from the corresponding station individually. It can be shown that these local policies depend on the status of all of the upstream stations. Furthermore, a comparison study was taken to gauge the performance of local optimal logic in distributed control structure against a benchmark scenario of the global optimal logic in a centralized architecture.

*Keywords:* Call Admission Control, Local Optimal Policy, Global Optimal Policy, Dynamic Programming, Loss Queues in Tandem.