

Mean Value Analysis and Related Techniques

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Audio/Video recordings of this lecture are available at:

<http://www.cse.wustl.edu/~jain/cse567-11/>



1. Analysis of Open Queueing Networks
2. Mean-Value Analysis
3. Approximate MVA
4. Balanced Job Bounds

Analysis of Open Queueing Networks

- Used to represent transaction processing systems, such as airline reservation systems, or banking systems.
- Transaction arrival rate is not dependent on the load on the computer system.
- Arrivals are modeled as a Poisson process with a mean arrival rate λ .
- Exact analysis of such systems
- **Assumption:** All devices in the system can be modeled as either **fixed-capacity service centers** (single server with exponentially distributed service time) or **delay centers** (infinite servers with exponentially distributed service time).