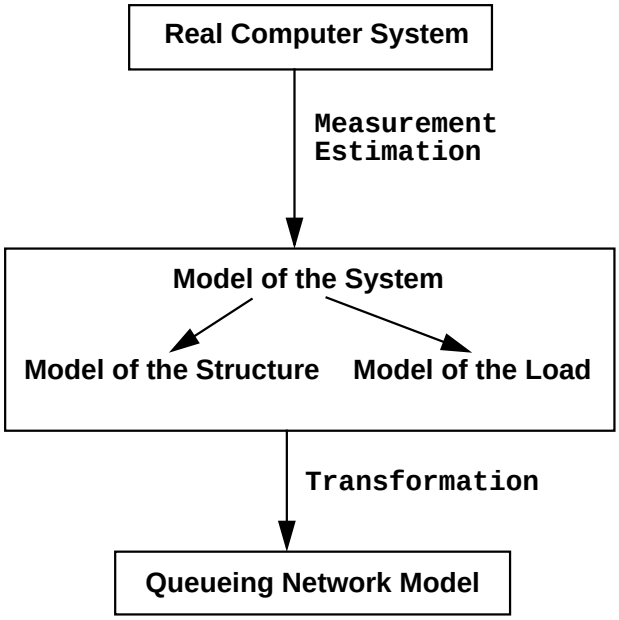
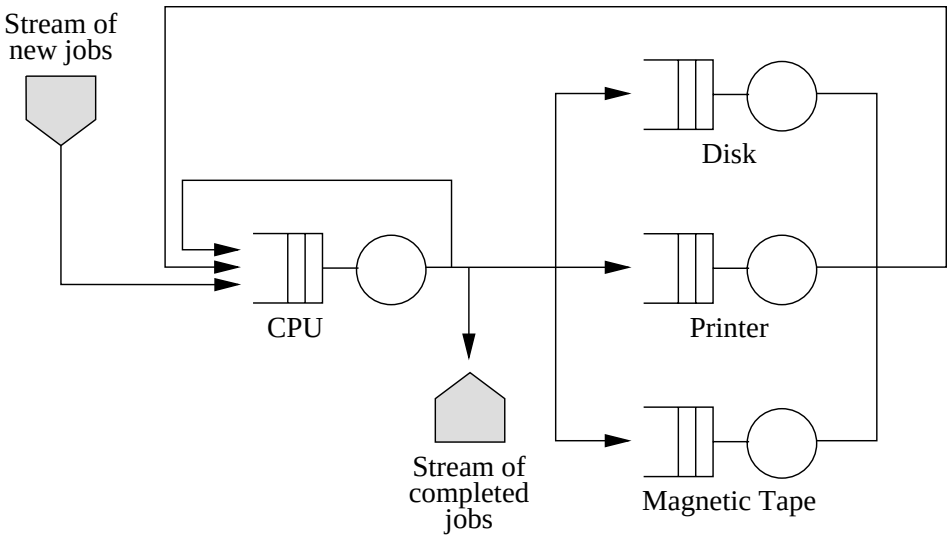
C Modeling Process



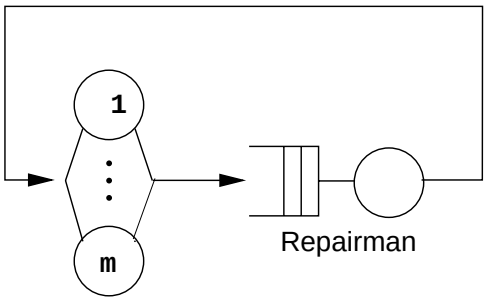
Central Server Model (CSM) of a Computer System:



Queueing Network Models

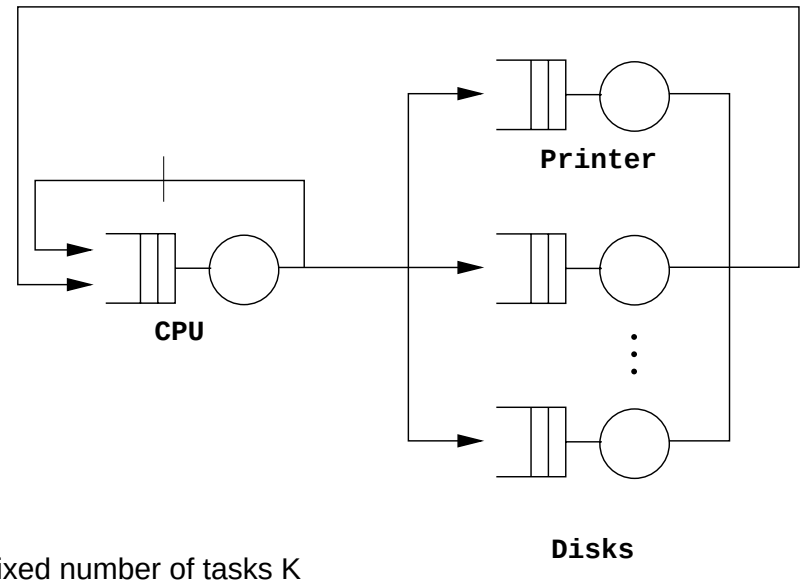
- are well suited for the modeling of computer systems
- the following important properties of computer systems can be considered:
  - many independent servers (CPU, peripheral devices)
  - sequential allocation of the servers by a job
  - parallel allocation of different servers by different jobs
- many properties cannot be considered, e.g.:
  - parallel allocation of several resources (e.g. MM + CPU)
  - memory constraints
  - blocking
  - synchronisation

Machine Repairman Model:



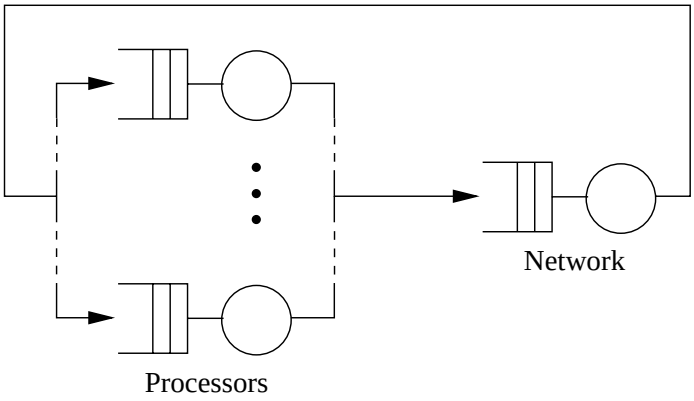
Machines

Closed Central Server Model:

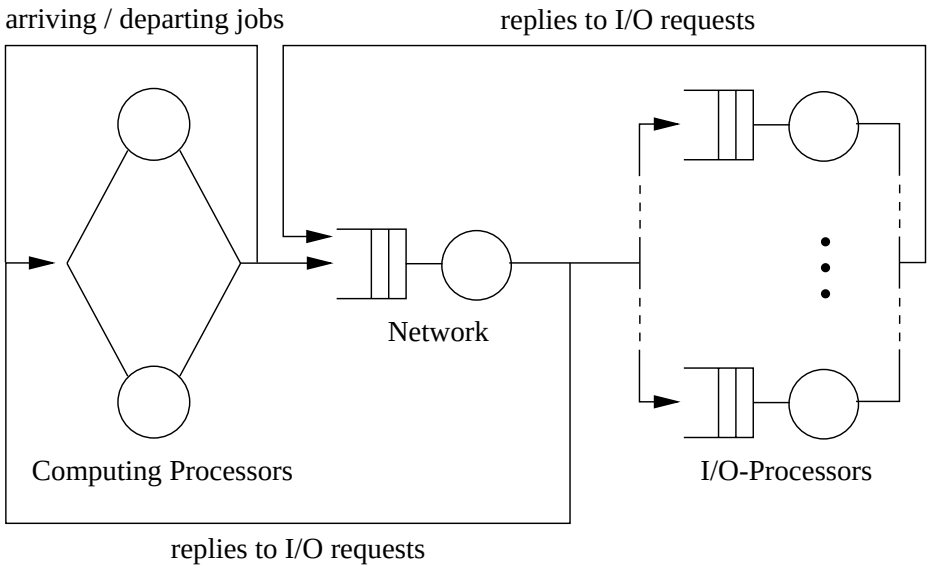


Fixed number of tasks K

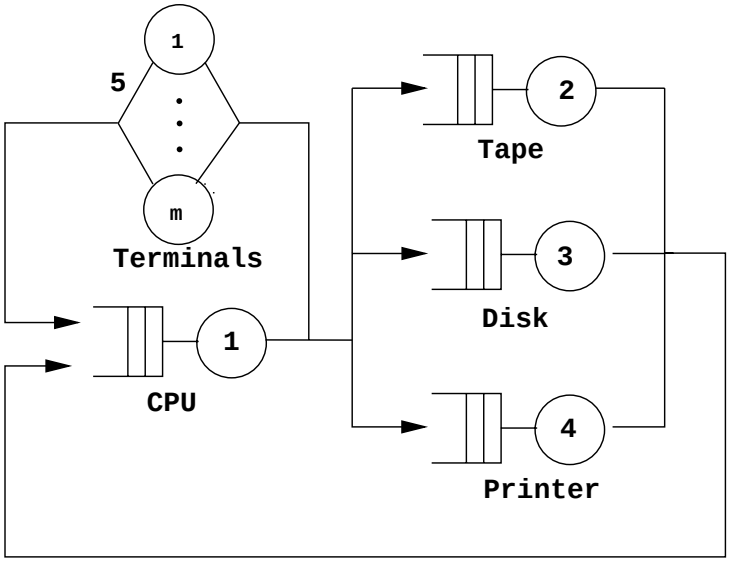
Multi Processor System:



Multi Prozessor System with I/O-Processors:



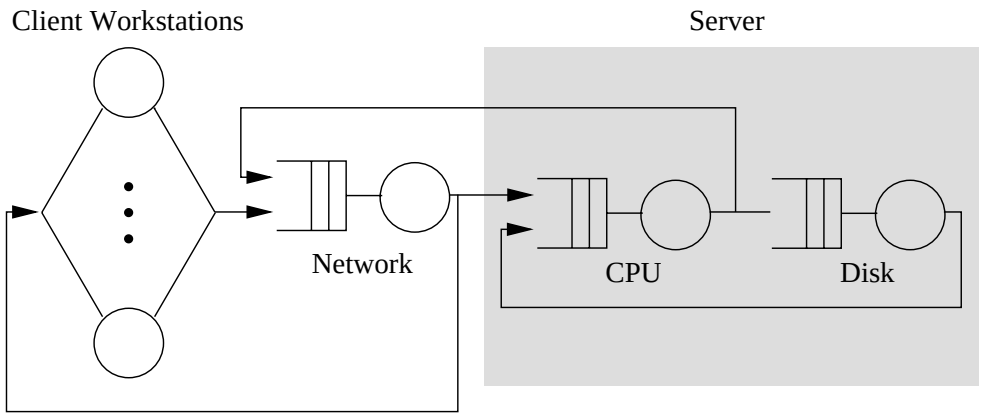
Terminal System:



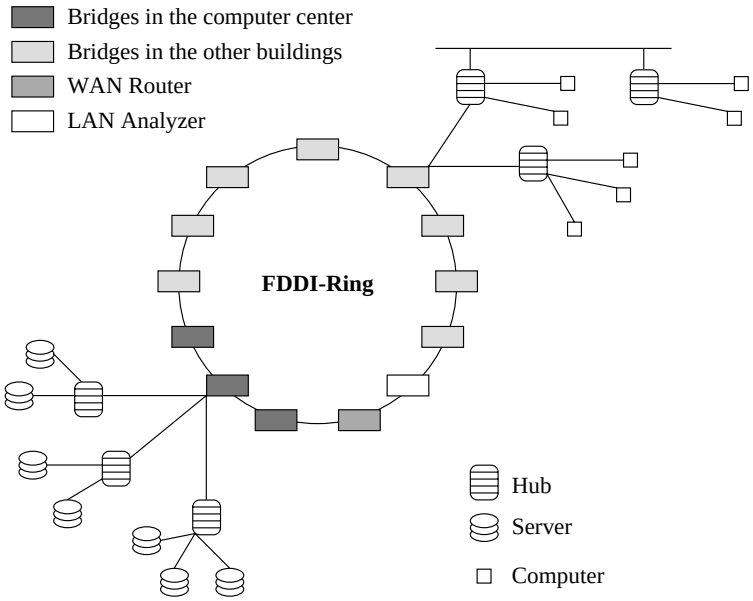
Parameter: Mean service time $\bar{s}_i$

Transition probabilities: p_{ij} i, j = (1, ... , 5)

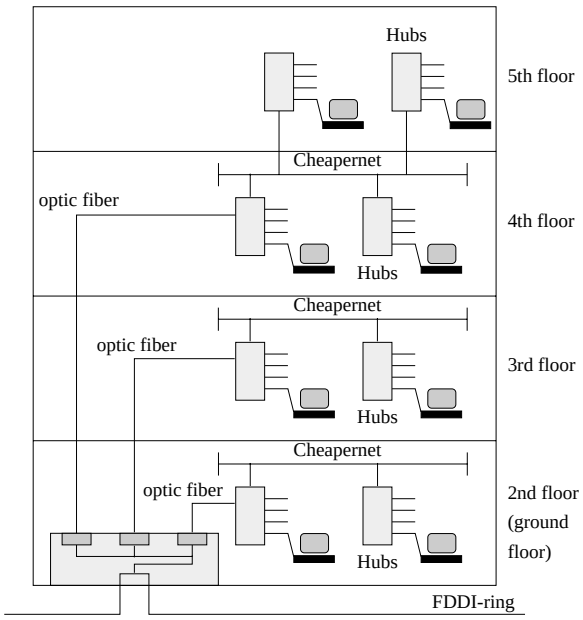
Client-Server System:



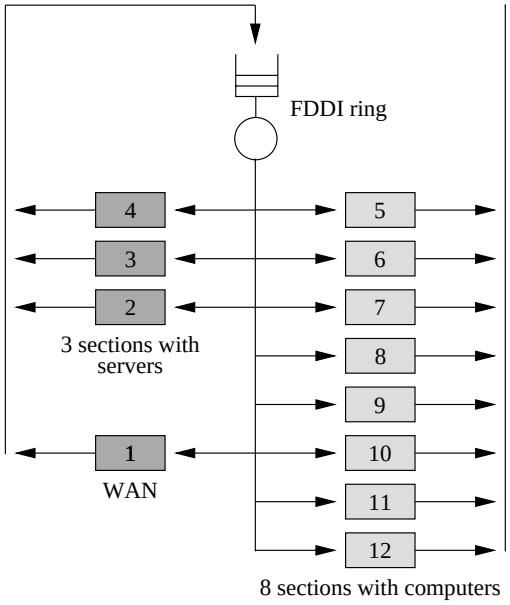
Communication System with FDDI-Ring and Ethernets:



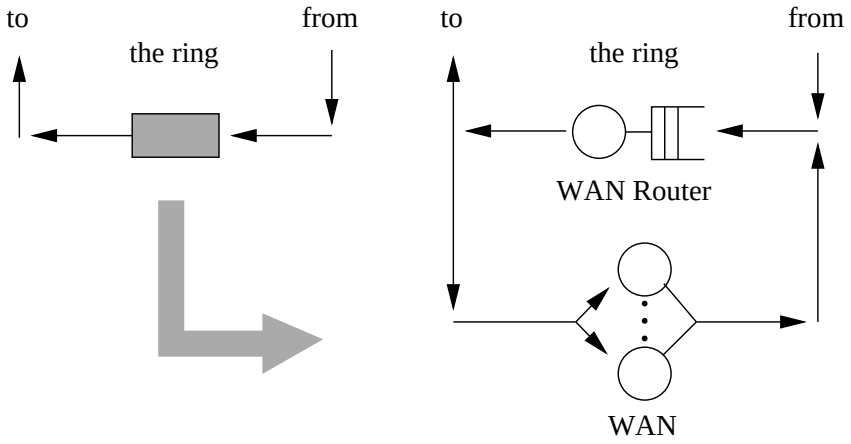
◆ Ethernet in a Building:



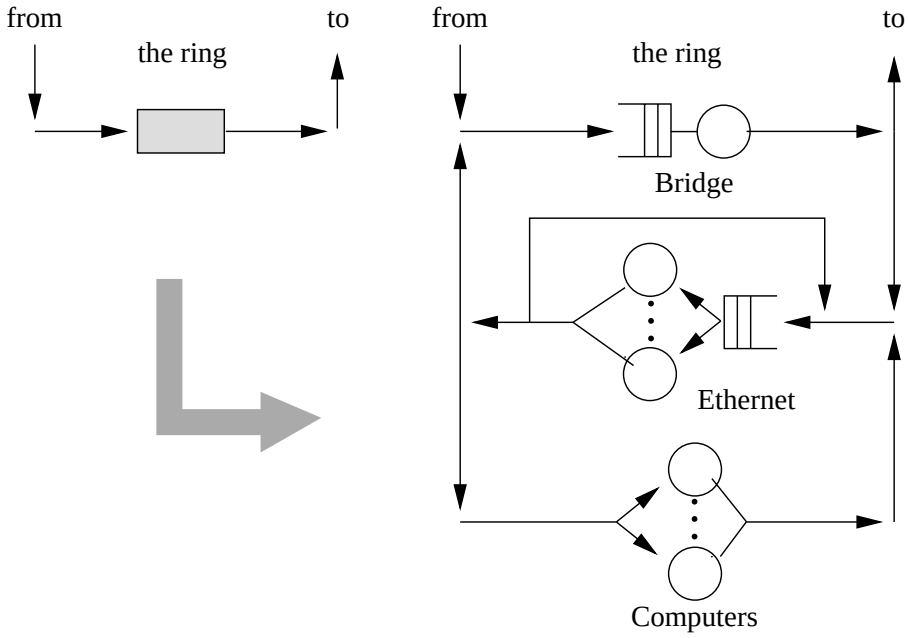
◆ Hierarchical Model:



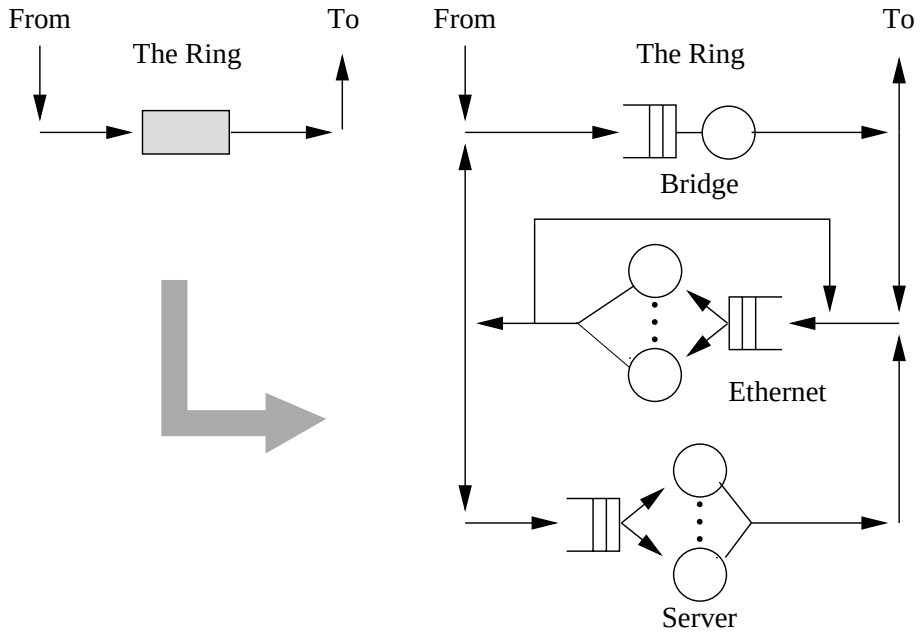
◆ WAN and WAN-Router:



◆ Model of a LAN with Computers:

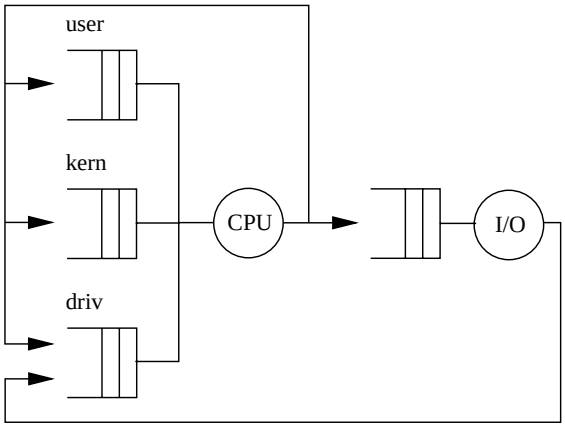


◆ **Model of a LAN with Servers:**

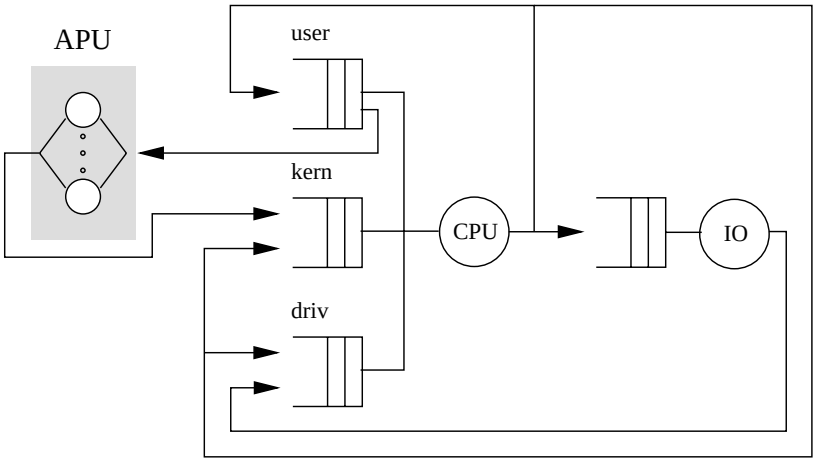


■ **Model of a UNIX-Kernel:**

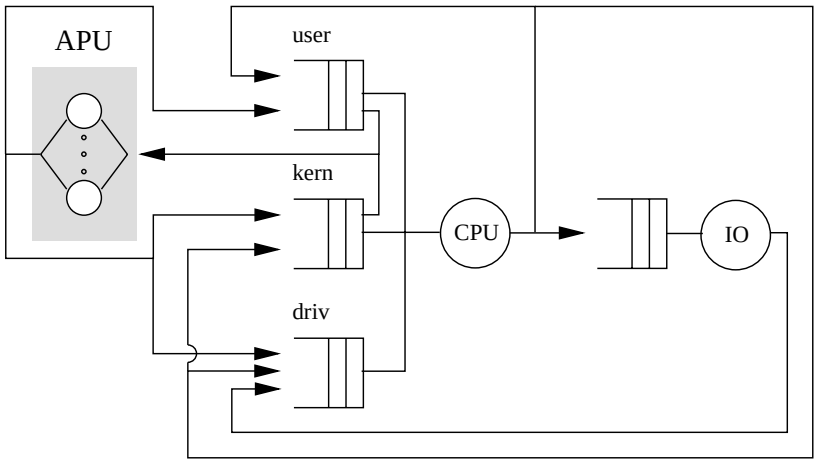
◆ **Mono Processor**:



◆ Multi Prozessor with Master-Slave-Configuration:



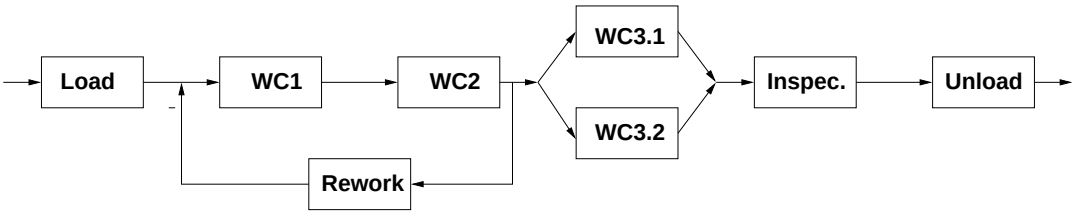
◆ Multiprozessor with extended Master-Slave-Configuration:



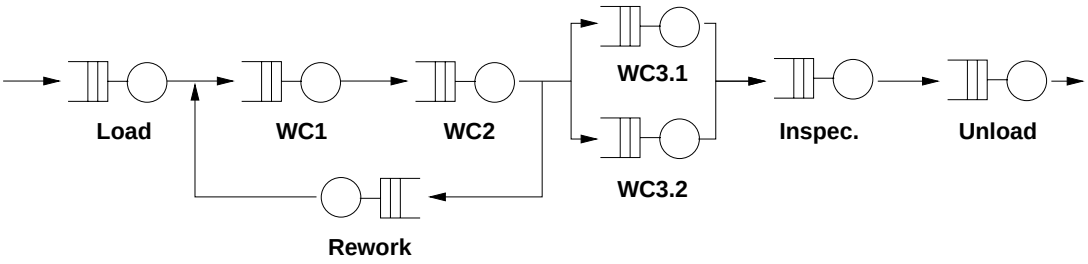
Production System:

◆ Production Line:

- System Model:

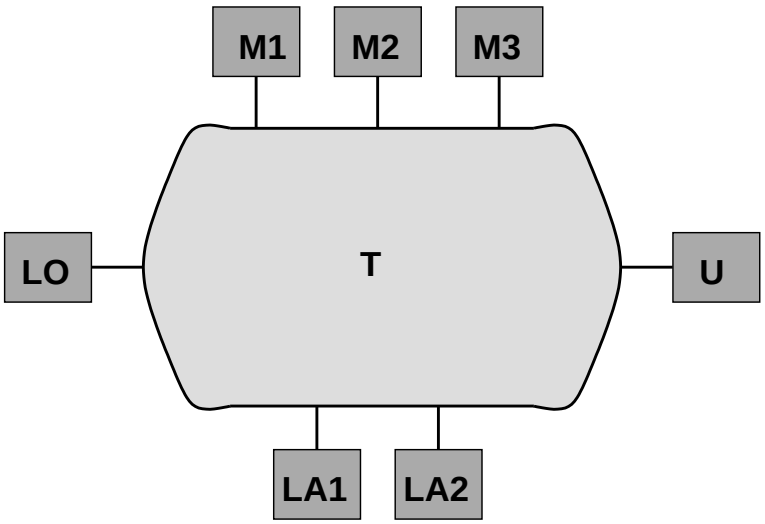


- Queueing Network Model:

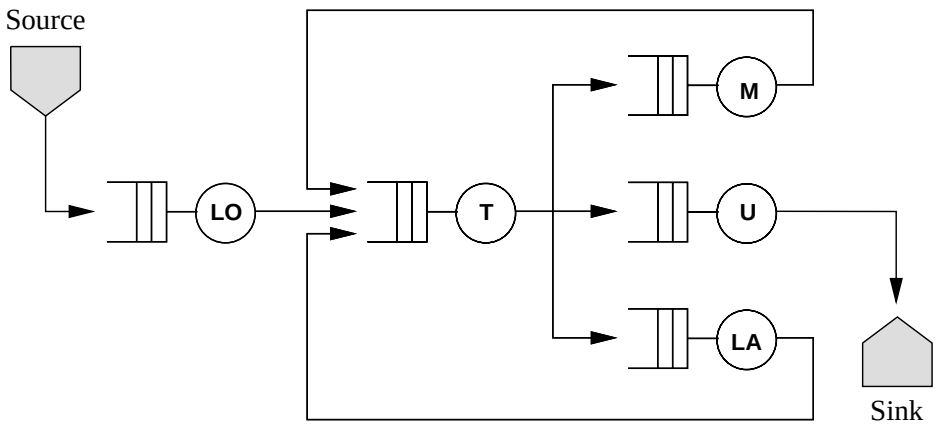


◆ Flexible Production System:

- System Model:



- Queueing Network Model:



◆ **Wafer Production System**: