

+ Chapter 8 Operating System Support

Scheduling

Table 8.4 Types of Scheduling

Long-term scheduling	The decision to add to the pool of processes to be executed
Medium-term scheduling	The decision to add to the number of processes that are partially or fully in main memory
Short-term scheduling	The decision as to which available process will be executed by the processor
I/O scheduling	The decision as to which process's pending I/O request shall be handled by an available I/O device

Long Term Scheduling

Determines which programs are submitted for processing



Once submitted, a job becomes a process for the short term scheduler

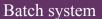


In some systems a newly created process begins in a swapped-out condition, in which case it is added to a queue for the medium-term scheduler



Time-sharing system

- •A process request is generated when a user attempts to connect to the system
- •OS will accept all authorized comers until the system is saturated
- •At that point a connection request is met with a message indicating that the system is full and to try again later



- •Newly submitted jobs are routed to disk and held in a batch queue
- •The long-term scheduler creates processes from the queue when it can

Medium-Term Scheduling and Short-Term Scheduling

Medium-Term

- ■Part of the swapping function
- ■Swapping-in decision is based on the need to manage the degree of multiprogramming
- ■Swapping-in decision will consider the memory requirements of the swapped-out processes

Short-Term

- Also known as the dispatcher
- Executes frequently and makes the fine-grained decision of which job to execute next

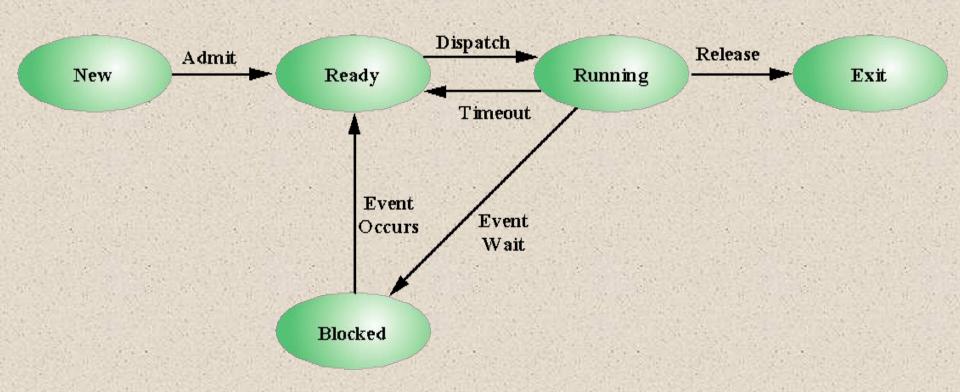


Figure 8.7 Five-State Process Model