第14讲 进程调度原则与策略

§2.3 Scheduling Criteria

User-oriented

- ***Response Time(响应时间)***

  - Elapsed time between the submission of a request until there is output.

  - 常用于评价分时系统的性能。

- ***Turnaround time （周转时间）***

  - 是指从作业提交给系统开始，到作业完成为止的这段时间间隔（也称为作业周转时间）

  - 常用于评价批处理系统的性能。

● *Deadlines* （*截止时间*）

- 是指某任务*必须开始执行*的最迟时间（ **Starting deadline** ），或*必须完成*的最迟时间 （ **Completion deadline** ）

- 常用于评价实时系统的性能。

- *Throughput （吞吐量）*
  - 单位时间内系统所完成的作业数
  - 用于评价批处理系统的性能

- *处理机利用率*

  - This is the percentage of time that the processor is busy.

  - Effective and efficient utilization of the processor.

System-oriented

- ***Balancing Resource （资源平衡）***

  - Keep the resources of the system busy.

  - 适用于长程调度和中程调度

- ***Fairness （公平性）***

  - Process should be treated the same, and no process should suffer starvation.

Priorities

- **Scheduler will always choose a process of higher priority over one of lower priority.**

- **Have multiple Ready queues to represent each level of priority.**

- **Lower-priority may suffer starvation.**

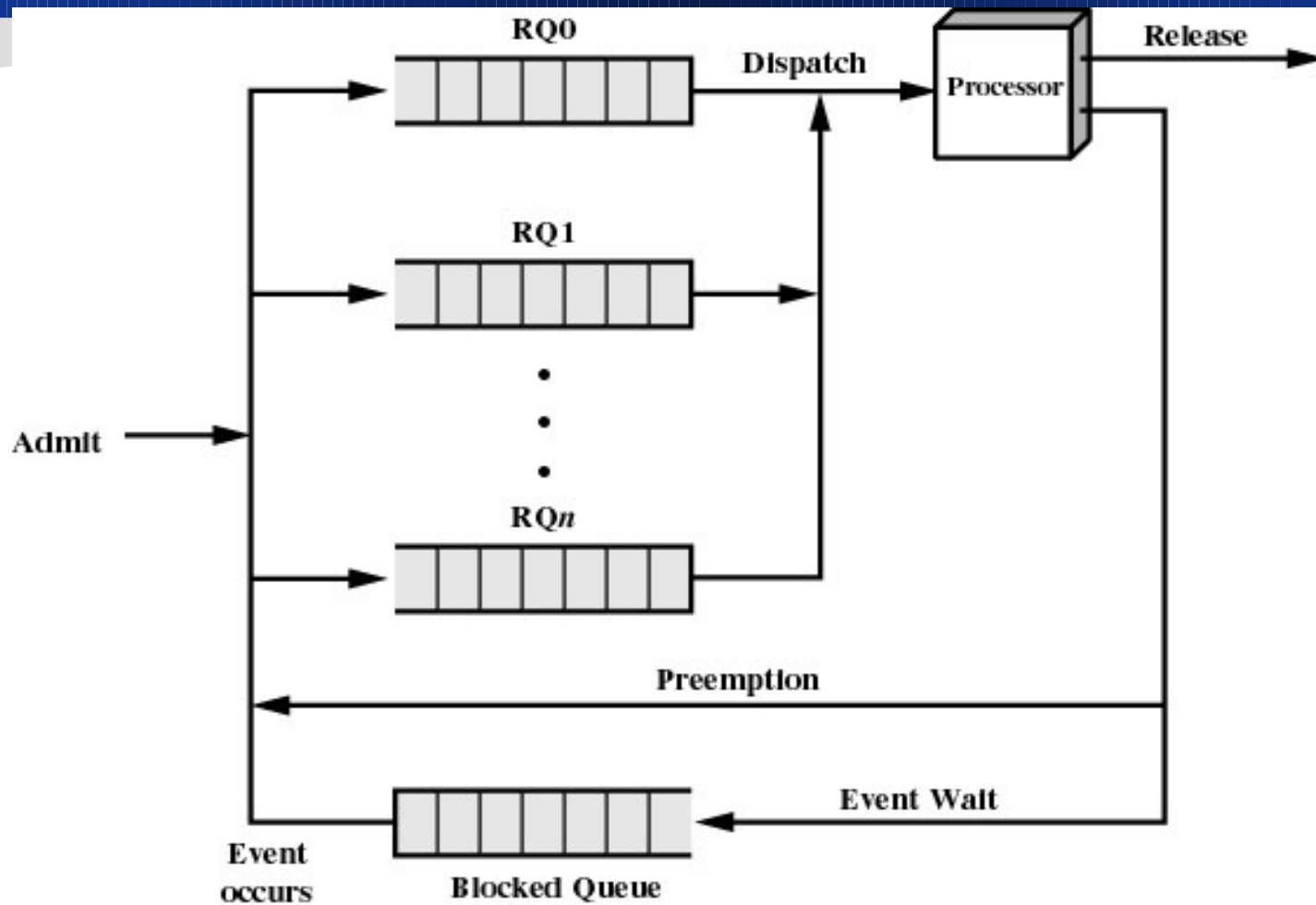 - **allow a process to change its priority based on its age （生存期） or execution history.**

Figure 9.4   Priority Queuing