

### Identifying and Reducing the Critical Path

A project consists of a combination of critical and non-critical tasks. Critical tasks are tasks that, if delayed, can cause the entire project to be delayed. Critical tasks have no *slack time*. Slack time refers to the amount of time a task can slip before it delays another task or the project. Non-critical tasks are tasks that can be delayed or completed at any time before the project finish date. Non-critical tasks may have *Total slack time* and/or *Free slack time*. Free slack time is the amount of time the Edit Introduction task, shown in Figure 4-18, can be delayed before affecting the start time of the Edit Chapter 1 task. Total slack is the amount of time that the Edit Introduction task can be delayed before affecting the finish date of the project.

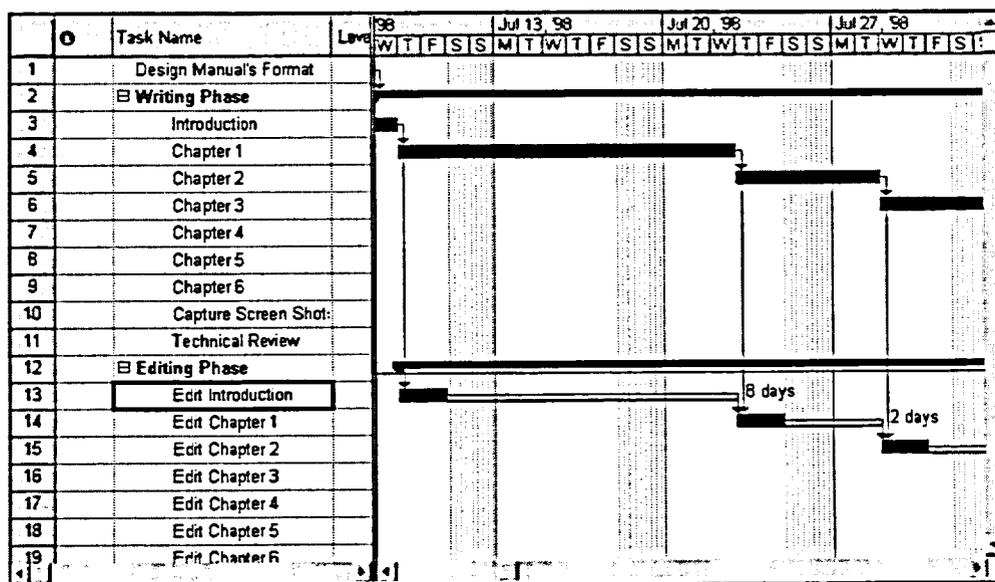


Figure 4-18: Free Slack Time Displayed

If you want to make changes to the schedule without affecting the project finish date, you can delay non-critical tasks. If your objective is to pull back the project finish date (or shorten the critical path), you may want to make adjustments to one or more critical tasks on the critical path.

There are several methods to shorten the critical path. You can shorten the duration of one or more critical tasks, add additional resources to the project, change task dependencies, or modify resource calendars so that certain individuals or groups of people work slightly longer hours. Some of the reasons for why you may want to shorten the critical path might include cost limitations, no authority to hire more resources, or the union not allowing an increase in work hours.