Chapter 6 - Resolving Resource Conflicts

Learning Objectives:

1. Understanding how resource conflicts occur
2. Spotting resource conflicts
3. Resolving conflicts

Resource allocation is the process of assigning resources to tasks in a project. Because the potential for resource over allocation always accompanies resource assignment,

Understanding How Resource Conflicts Occur

1. On assigning resource, Project checks the resource's calendar to make sure that the resource is working.
2. However, Project doesn't assess whether the resource is already assigned to a new task
3. If resource is already assigned, the additional assignment will probably lead to over allocating the resource.
4. Over allocation occurs when more work to a resource than the resource can accomplish in the time that you've allotted in resource sheet or resource calendar.

Spotting Resource Conflicts

In order to spot resource over-allocation use views or filters to help to identify resource-over allocation problems.

Using views to spot resource conflicts

You can spot resource conflicts in almost any view.

Gantt Chart

In the Gantt Chart view (see Figure 6.1) or the Task Usage view, a red indicator that looks like a person appears in the Indicators column.

1. The red person in the Indicators column flags a task containing over allocated resources.
2. In resource views such as the Resource Usage view
3. or the Resource Sheet, a caution sign appears in the indicator column beside an over allocated resource;

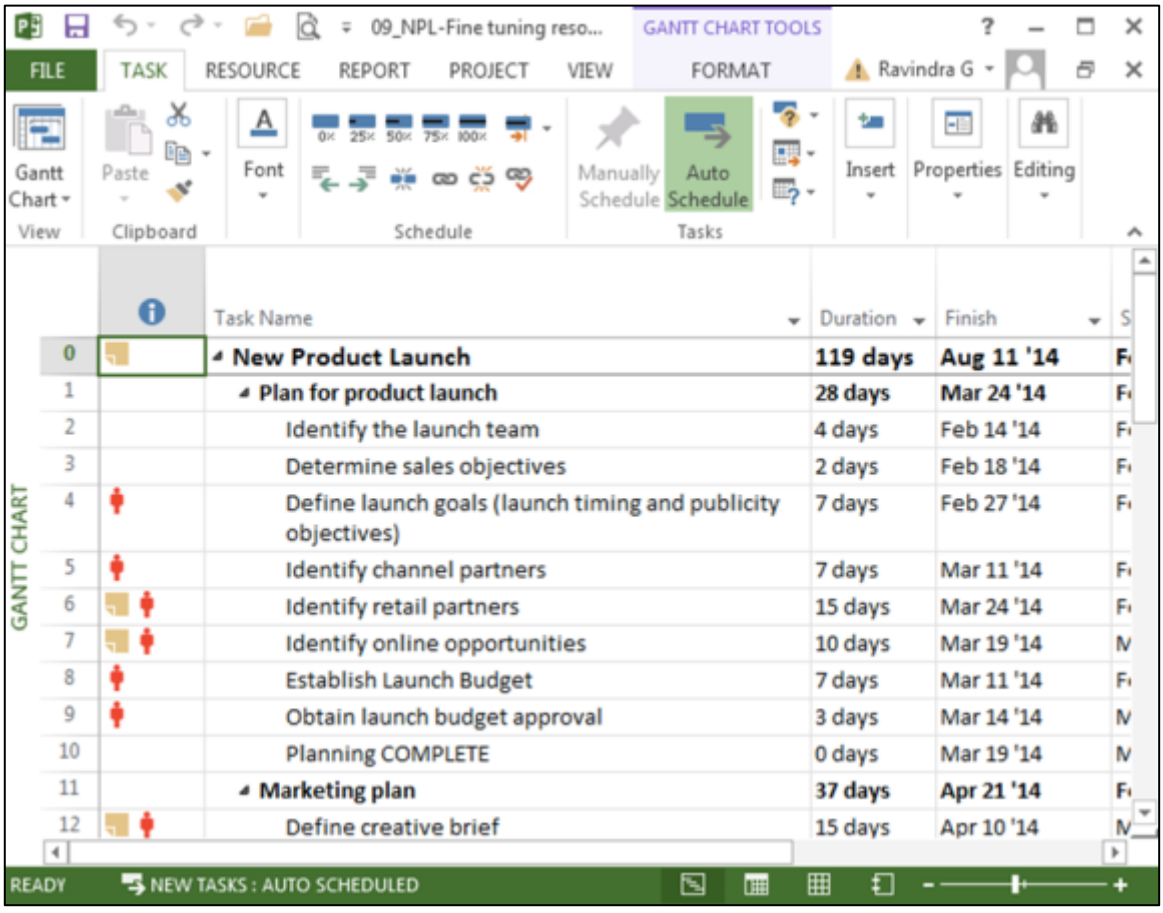

Fig.6.1: Spotting Resource Over allocation in Gantt Chart

Spotting over allocation in Resource Graph

1. You also can see a graphic representation of a resource's allocation by switching to the Resource Graph view.
2. To display the view go to Resource tab and choose Resource Graph (Fig.6.2).
3. Scroll through the resources assigned to tasks in your project by clicking the left and right scroll arrows that appear at the bottom of the left pane where the resource's name appears.

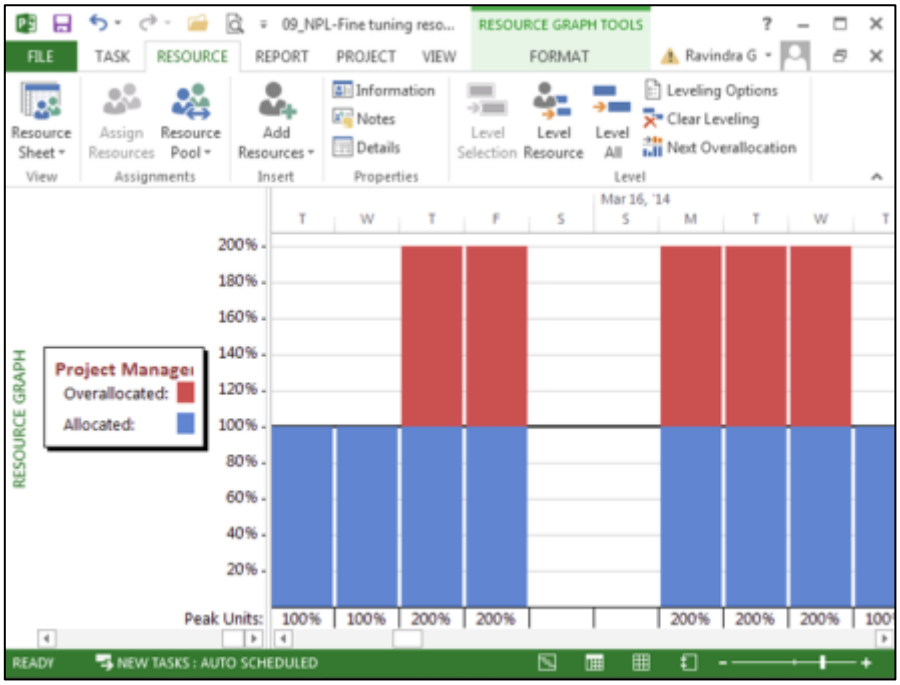

Fig.6.2: Graphical representation of Resource Over allocation

Using filters to spot resource conflicts

Use Resource Usage view to display only over allocated resources. To filter the view in this way, follow these steps: (Fig 6.3)

1. Click the View tab and, in the Resource Views group, click the Resource Usage button.
2. Click the list box arrow beside the Filter button in the Data and choose Over allocated Resources.
3. Add the Over allocation field to the view to identify the extent of the resource's over allocation: Right-click anywhere in the Details portion of the view and choose Over allocation.
4. As Figure 6.3 shows, Project adds a row to the timescale portion of the view to show you the number of hours that you need to eliminate to correct the over allocation.

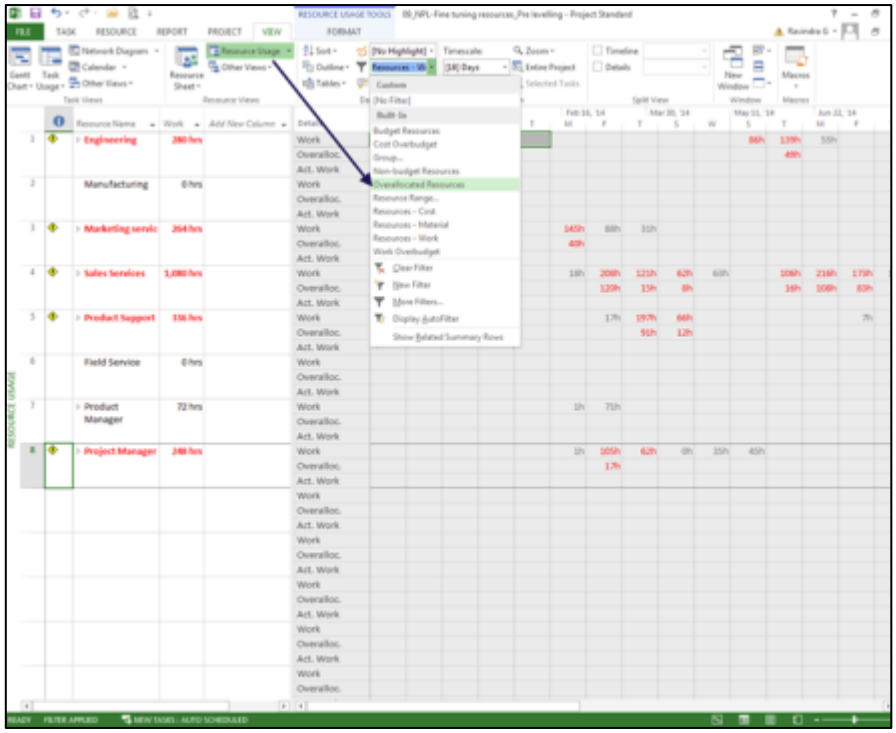

Fig.6.3: Spotting over allocation using filters

Changing resource allocations

1. Use the Task Inspector. Project displays more details about the over allocation that might help you decide how to approach solving it, as shown in the next figure.(Fig.6.4).You can use following options to resolve resource conflict

   a. Add a new resource if appropriate by using Assign Resource dialog box

   b. You can replace resource by using another more capable resource by switching resources

   c. Adding task assignment to resource using combination view of Gantt chart and Resource usage view

   d. Add/Delete resource assignment

   e. Schedule overtime to a resource (Fig.6.5)

   f. Redefine Resource Calendar using Exception/Working time

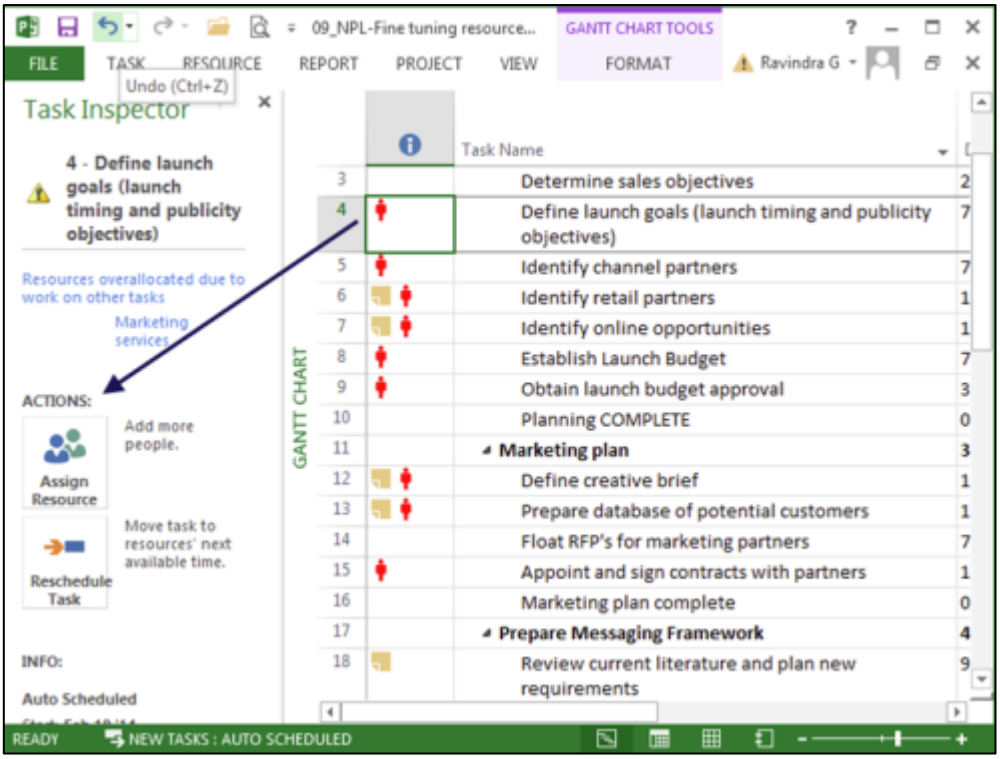

Fig. 6.4: Task inspector provides various options to resolve resource conflict

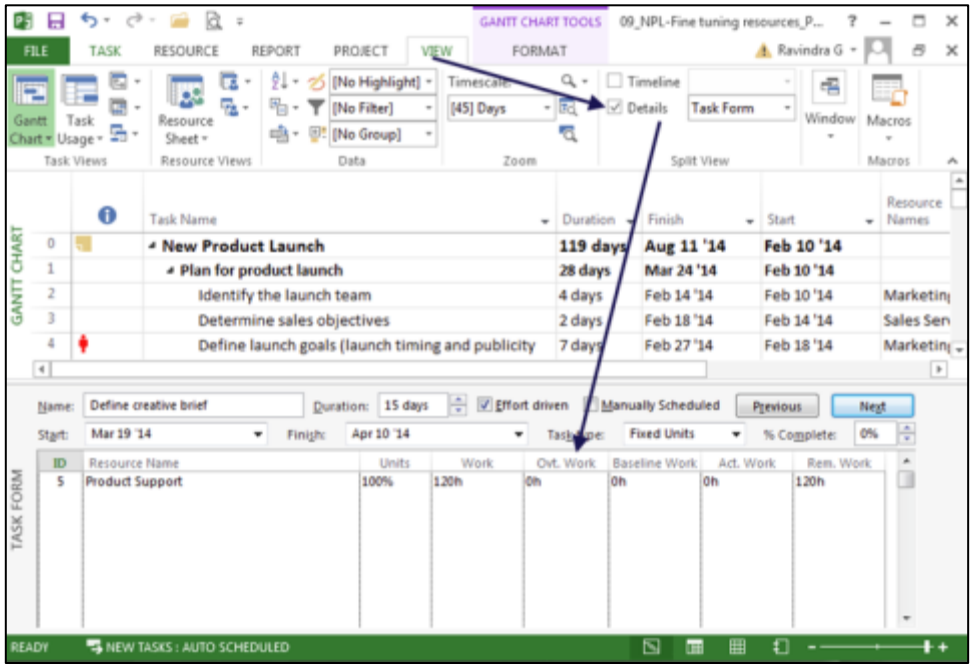

Fig.6.5 Add Overtime using Task Form

Delaying tasks by leveling resource workloads

Leveling is the process of resolving resource conflicts by delaying or splitting tasks to accommodate the schedules of assigned resources. The Project will

1. Select the tasks to delay or split by using its leveling feature, or
2. Control the process manually by examining the project to identify tasks that you are willing to delay or split.

Project will redistributes a resource's assignments and reschedules them according to each resource's working capacity, assignment units, and calendar. Project also considers the task's duration, constraints, and priority.

1. Click the Resource tab and, in the Level group, click Leveling Options to open the Resource Leveling dialog box (see Figure 6.6)

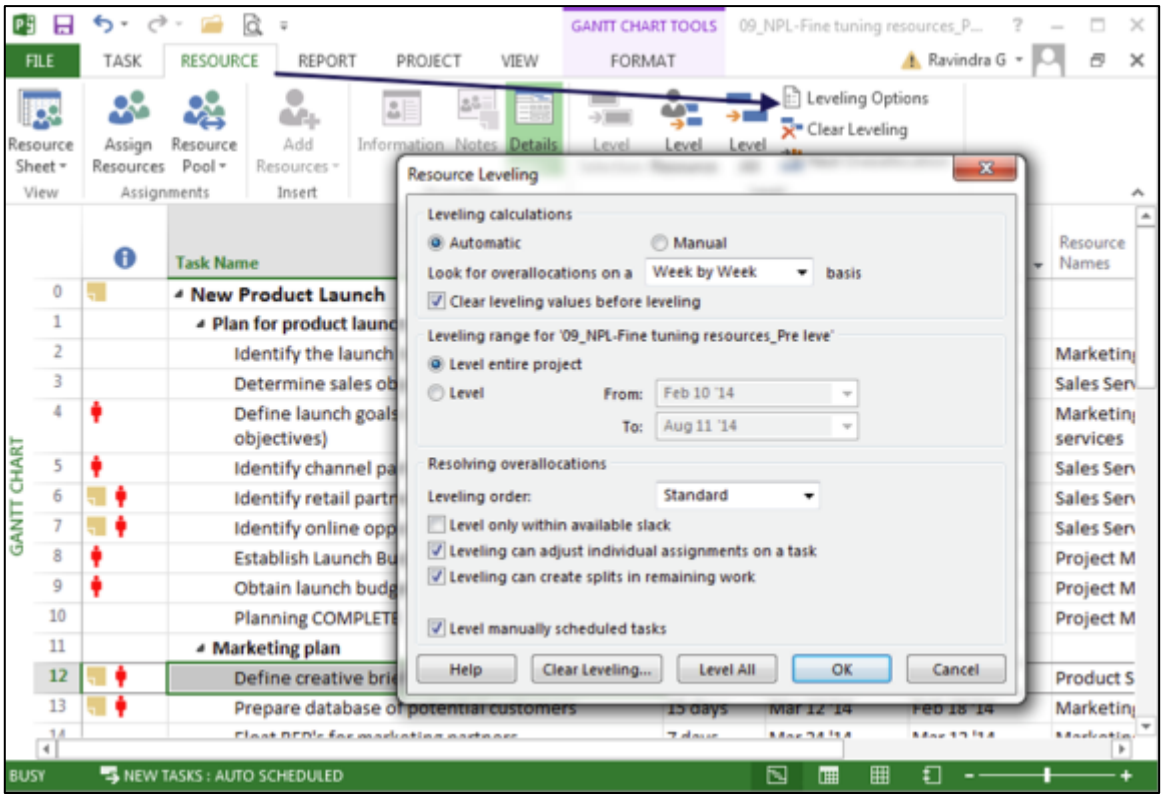

Fig 6.6: Resource Leveling Options

2. Select Automatic or Manual leveling. If you select the Automatic option button, Project automatically levels resources. Select the Manual option if you prefer to perform leveling only when you click the Level Now button in this dialog box.

3. Use the Look for Over allocations on a . . . Basis list box to select a basis. The basis is a time frame, such as Day by Day or Week by Week.
4. Select the Clear Leveling Values before Leveling check box to make Project reset all leveling delay values to 0 before leveling. If this box is not checked then Project does not reset leveling values but builds upon the values. During leveling, the scheduling for previously leveled tasks will probably not change.
5. In the Leveling Range For area, select either to level the entire project or to level only for specified dates.
6. In the Leveling Order list box, select the order that you want Project to consider when leveling your project:
7. Select any of the following options:
    a) Level Only Within Available Slack: This avoids changing the end date of your project.
    b) Leveling Can Adjust Individual Assignments on a Task: In this case, leveling adjusts one resource's work schedule on a task independent of other resources that are working on the same task.
    c) Leveling Can Create Splits in Remaining Work: This allows leveling to split tasks to resolve resource conflicts.
    d) Level Resources with the Proposed Booking Type: Check this box to have Project include tasks containing proposed resources during the leveling process.
    e) Level manually scheduled tasks: Check this box to include manually scheduled tasks when you level resource assignments.
8. Click Level All to apply leveling.

Figure 6.7 shows the effects on you plan post Resource leveling.

1. Select Leveling Gantt view
2. Project shows light-green bars above blue bars in the Gantt Chart; the light-green bars represent the duration of tasks before leveling and the blue bars represent the tasks after leveling
3. Depending on the nature of project, Project may build more slack into your tasks.(Shown with arrows in fig.6.8)

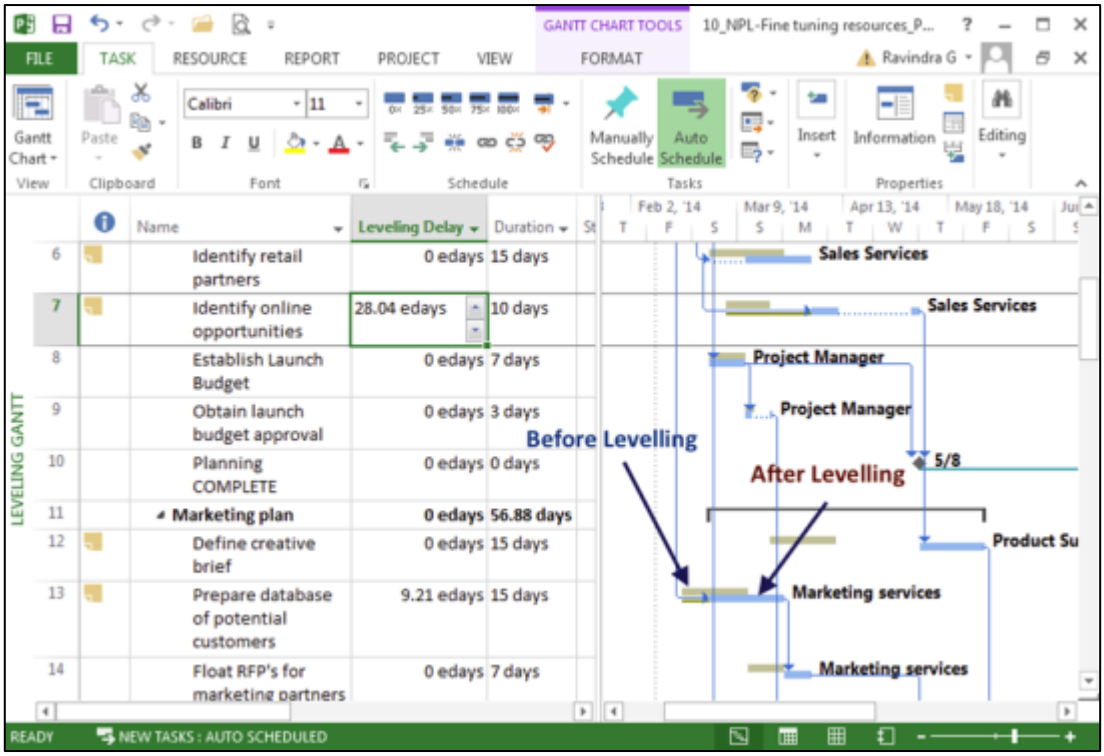

Fig.6.7: Pre and Post Leveling

4. If Project can't resolve an over allocation by leveling, It will show message to that effect during the leveling process and the over allocation indicator will remain for that task.
5. To remove the effects of leveling, reopen the Resource Leveling dialog box (on the Resource tab in the Level group, click Leveling Options) and click the Clear Leveling button. A subsequent dialog box enables you to clear leveling for the entire project or for selected tasks only.
6. Adjust leveling when automatic leveling doesn't provide acceptable results instead choose manual leveling options and adjust the resource allocation for the required task