

## Re: Month by month resource leveling results in overallocated reso

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- *From:* "Steve House" <[sjhouse.remove@xxxxxxxxxxxxxxxxxxxxx](mailto:sjhouse.remove@xxxxxxxxxxxxxxxxxxxxx)>
  - *Date:* Mon, 18 Dec 2006 06:22:48 -0500
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It does require some mental gymnastics to keep it all straight, at least for me. Your practice of assigning at a 70% level means that when you look at a plan that has Bill assigned to a task that shows a duration of 8 hours, starting Monday at 8am and ending at 5pm, it really means that Bill will work on it for 6 hours sometime between 8 and 5. The hours work out, of course, but it's going to be hard to be 100% consistent. It's not too bad for one day tasks but gets harder to wrap your mind around with longer tasks.

I agree with you about not micromanaging the employees, avoiding telling them in too much detail what hours of the day to work on something. But you need to do it a little since you not only need to schedule Bill's work but you also have to tell Mary, who's doing the task dependent on Bill's, when he'll be finished on his part so she can start on her's. With your method, you can't say if the task will be done at 3pm or 5pm. Not too bad for a 1 day task, you can just tell Mary to be ready to roll on Tuesday morning. But lets say the task is a week long – should Mary be ready to go on Thursday at noon or should we tell her not to worry about it until the following Monday at 8? That's bit more problematic if the objective is to develop the most efficient project work schedule that leads to the earliest finish date.

One thought I have regarding holding back time for legacy apps, email, etc starts with the notion of just how you are able to know how much work a task will require in the first place. It's especially difficult when it comes to managing intangible or creative work like programming – how do you accurately estimate just how long it will take someone to hatch an idea anyway? Whether tangible or intangible you have to fall back on history. If you have to wax 100 widgets and need to estimate the work required – what do you look at? You look for other times you've waxed widgets and see how long it took you then. But those records rarely detail hour by hour what the resource was doing – you know it took Bill about a week last year but you don't have a step by step record of his day, merely the fact he worked on it during the second week of March. So we estimate it'll take a week this year. But wait – last year he also had to maintain legacy apps, do email, chat a bit at the watercooler, etc. So that 2nd week of March was actually a combination of some hours working on widgets and some hours doing other stuff but we really just guessing about the mix. So for our project planning purposes we can just ignore the other stuff and assume all the hours of the week were spent in working on widgets – after all, the objective of project planning is to figure out a work schedule that lets us deliver the widgets by the contractually required dates along with giving us an estimate of what it's going to cost us to do it – the firm's detailed hour-by-hour staffing budgets really aren't part of the process. Estimate a week's duration with him at 100% and be done with it. We'll know that not all of those hours are spent physically working on the widgets but we don't really care – all we really care about in terms of completing the project is when he'll start and when he'll be done.

Just a few thought, hope they help

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Steve House [Project MVP]

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MS Project Trainer & Consultant

Visit <http://www.mvps.org/project/faqs.htm> for the FAQs

"AprilPM" <AprilPM@xxxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote in message  
[news:F9A24B75-71EC-4F97-9080-8BF0F28BE762@xxxxxxxxxxxxxxxxxxxx](mailto:news:F9A24B75-71EC-4F97-9080-8BF0F28BE762@xxxxxxxxxxxxxxxxxxxx)

Wow. I guess I've really been confused on the resource availability bit. (Though the priority explanation was as I expected it...thanks for the detailed explanation.) I have two people on the team who are part-time employees; that's how I get to 7.2 FTE's. On average, a programmer is only available for project work 70% of the time with the other 30% being used for support of legacy products, and stuff like education, PTO, etc. So I never have put a resource, say "Bill," as being 100% available; I always use 70% (or whatever number is right for Bill....when I get to assigning a specific programmer, I may know that that person is available for more or less than 70% of their time.) Still, I don't understand why this would not work out to essentially the same thing. My situation must be pretty common. How do you suggest I account for it? Do I use a shortened workday? I don't schedule tasks to the level of detail where the specific hours that an employee works during the day matter.

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April

"Steve House" wrote:

Summary tasks aren't really tasks ... in fact they more resemble reports, serving to rollup their subtasks which represent the real deal. In fact, in a properly designed and detailed plan, if you deleted all the summary tasks while leaving all the lowest level subtasks intact, all of the work in the project would still get done.

Task priorities control the scheduling of a resource's work when the resource exceeds his maximum due to being assigned to several concurrent tasks. But since summaries are a:reports, not physical work activities; and b: should never have resources assigned to them, their priority settings are meaningless. Subtasks don't inherit their parent's priorities, instead the summaries are driven by the priorities of their children.

I'm confused as to your resource availability setting as you described it in your initial post – I'm wondering if this has something to do with your issue. You said your resource was "software" with 7.2 FTEs available about 70% of the time to give you a maximum availability of 500%. The resource assignment percentage is fundamentally a measure of the rate at which a resource generates work output over time. A 70% assignment means that when the resource is working on something for a solid 8 hour day, for some reason they can only generate the amount of work that would normally only require

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about 6 hours to complete. While if you think in terms of days it seems to work out the same, it doesn't really mean they are available to work exclusive on the project tasks for 6 hours out of their 8 with the other 2 hours reserved for other activity. A task that requires 6 hours of work with the resource giving it his full attention is not an 8 hour duration task with a resource assigned 75%. Rather it is a 6 hour duration task that has the resource on it 100%. Also, I interpret an FTE as a warm body – when your plan gets to the point of assigning real resources, each FTE will become a real live human being Joe or Mary or Bill or a piece of equipment, bulldozer serial XXXXX. So how do you get a "0.2" person? You'd also expect Joe to devote his full attention to the work he's been assigned to, ie. work at a 100% level. So I wonder if it would help your situation to go ahead and reflect that in your planning now by making your resource 700% reflecting that the group is made up of 7 individuals, each of whom is available for task assignments which require their full attention from start to finish?

Just sharing some ideas – hope this helps

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Steve House [Project MVP]

MS Project Trainer & Consultant

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"AprilPM" <AprilPM@xxxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote in message [news:7050D9C5-3CA1-42E0-AA90-1123A18FEFCC@xxxxxxxxxxxxxxxxxxxx](mailto:news:7050D9C5-3CA1-42E0-AA90-1123A18FEFCC@xxxxxxxxxxxxxxxxxxxx)  
>A little more data. I played around with the priority. Everything >works  
>as  
> expected if I set the priority of this task to 500, ie, no resources  
> appear  
> to be over-allocated after leveling. However, as soon as I make its  
> priority  
> higher than 500 (600, 700, 800, or 900), the problem shows up again, > ie,  
> my  
> resource gets way over-allocated after leveling, and some of those  
> over-allocated months are not flagged with red. Of course, the start > date  
> changes every time I change the priority, as it should. I knew 1000  
> priority  
> was a magic number (ie, the tasks are not affected by leveling), but I  
> didn't  
> think there was anything special about the other priorities? It's > almost  
> like MSP has the mind of an executive: "Wow! This is a really > important  
> project! I better work my resources at 50% OT for the duration of this  
> project!" Also, does the priority of the summary task affect it at > all? I  
> leave the summary task at the default (500) and only assign priorities > to  
> the subtasks. I know under most circumstances that doesn't really make  
> sense  
> but in this case my summary task is "Future Projects" and I have the  
> future  
> projects listed underneath that, each with a gross  
> effort/duration/resource

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> assignment, and their own priorities.  
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> -- > April  
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> "AprilPM" wrote:  
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>> I am having trouble with resource leveling. I'm using MSP >>  
Professional  
>> Desktop edition.  
>> I have a resource, "software," who is available 500% (7.2 FTE's at >>  
about  
>> 70%  
>> utilization).  
>> I have a number of in-process tasks that I don't want to affect, so I >> set  
>> them to priority 1000.  
>> Future tasks have various priority, all less than 1000.  
>> I have "month by month" leveling set.  
>> The leveling order set to "Priority, Standard."  
>> All other checkboxes in "resolving allocations" are unchecked.  
>> I "clear leveling," then "level now."  
>> I would expect to see no more than about 860 hours per month for this  
>> resource after all the priority 1000 tasks are out of the way.  
>> However, I see 1012 hours in January '08. In fact, December through >>  
May  
>> are  
>> all over allocated with more than 900 hours (only December and >>  
February  
>> are  
>> flagged as red, but I ignore the colorÃ¢â¬ too deceiving.)  
>> Upon investigation, I see that MSP has started a 900 priority task >>  
which  
>> requires a big portion of my "software" resource at this point in >> time.  
>> Why would it not wait until resources are available?  
>> (My tasks are very long in duration in this timeframeÃ¢â¬ many  
>> monthsÃ¢â¬ I'm  
>> doing a program-level "look-sie" at my organizations long-range >>  
resource  
>> forecast, so each "task" in this timeframe is in fact a "project." >> The  
>> Priority 1000 tasks are from currently committed and executing >>  
projects.)  
>> Any ideas about what's happening?  
>> -- >> April