

## Re: How Does Project calculate

**Source:** <http://www.tech-archive.net/Archive/Project/microsoft.public.project/2004-07/0370.html>

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**From:** Deluth ([Deluth\\_at\\_discussions.microsoft.com](mailto:Deluth_at_discussions.microsoft.com))

**Date:** 07/09/04

Date: Fri, 9 Jul 2004 01:06:02 -0700

Steve,

Thanks. I never knew that Project can do this.

Would you expand on "used very sparingly"? I manage a very large team of SW engineers and they are all on this schedule. Managing the dependencies has been a nightmare – it doesn't help when they switch tasks around all the time. However, with this method, it seems that I just tell Project to "level" the whole project (2000+ tasks) each time I receive status from the engineers and everything would just calculate – right? Since Project allows up to 1000 priorities, it seems to me that I can prioritize 1000 tasks per resource in any given project, right? BTW, I am currently using MSP2003.

If this Priority/Leveling method is not feasible for such a large implementation, would you recommend another method? Thanks!

"Steve House" wrote:

> *There are such things as "discretionary links" which is what you are*  
> *describing but IMO they should be used very sparingly. Take this*  
> *example of an alternate approach. I have programmer Jim who needs to work*  
> *on several 5 day long tasks A, B, C, and D. Each will require his undivided*  
> *attention so he can't work on them concurrently. The preferred sequence for*  
> *the first 3 is A-B-C but it is not mandatory that they be done in this*  
> *order, they are essentially independent of each other and there's no*  
> *mandatory process reason one must be done before the other. All three,*  
> *OTOH, must be done before task D – the program rollout perhaps – can be*  
> *started. The whole thing kicks off next Monday so that's the Project start*  
> *date. My initial project plan would show tasks A, B, and C all starting*  
> *next Monday and running concurrently through the week. None of them are*  
> *linked to each other, but all three have links FS as predecessors to task D*  
> *so D would start the following Monday, giving a total project timeline at*  
> *this point in the planning cycle of 2 weeks. Now I assign Jim to all 4*  
> *tasks. Because he's assigned 100% of his workday to each of A, B, and C,*  
> *he's overallocated to the tune of 300% all next week. Resource levelling*  
> *will fix that but first I want to look at the desired sequence the tasks*  
> *should be performed if they can't be done all at once and I decide I'd like*  
> *A to go first, then B, then C. Of course if they \*could\* be done together*  
> *I'd go that route since the overall planning objective is to finish the*  
> *project in the shortest possible time consistent with staying in budget. So*

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> before levelling, I designate A as a high priority task, B somewhat lower,  
> and C a bit lower still. Now when we level, Project delays work to resolve  
> the overallocation, pushing out C first, then B. So we end up with a  
> Project schedule running 4 weeks, in the sequence A-B-C-D \*without\* any  
> links between A, B, and C. Now we find another fellow available in the 2nd  
> week that can do similar work. I substitute him for Jim on task B, C jumps  
> forward a week with Jim still on it and our schedule immediately revises  
> showing B & C running concurrently in the 2nd week, and the overall schedule  
> shortens by one week.  
>  
>  
> --  
> Steve House [MVP]  
> MS Project Trainer/Consultant  
> Visit <http://www.mvps.org/project/faqs.htm> for the FAQs  
>  
>  
> "Deluth" <Deluth@discussions.microsoft.com> wrote in message  
> news:67BD0ADF-BF58-4691-8721-7C6EF1FD83E3@microsoft.com...  
> > Steve,  
> >  
> > Perhaps I am using Project incorrectly. I am managing a software team. I  
> > set precedences for the tasks in order to try to set the sequential order of  
> > tasks to be completed by any given resource – this is how the resource knows  
> > what to tackle next. There are linkages in there that are strict, by this I  
> > mean that the preceeding tasks absolutely need to complete before the  
> > succeeding tasks can occur. However, most of the tasks are linked to  
> > determine the sequence of events to occur. The linkage also allows me to  
> > figure out when the project would complete. using this method, the resource  
> > can easily move around on the tasks since they're weakly linked. If the  
> > resource feels that they want to complete the tasks out of order, I just  
> > re-order it the way they need to get it done. This is almost as if you  
> > would start working on assembling the roof while you wait for more woods to  
> > arrive for the completion of the wall, once you complete the wall, you can  
> > finish up on the roof and assemble the house... :-)  
> >  
> > If you can suggest how I can make sure the resources are utilized  
> > correctly without linking sequential tasks, please let me know. I am  
> > anxious to learn any new concepts.  
> >  
> > Thanks!  
> >  
> > "Steve House" wrote:  
> >  
> > > Alarm bells are going off here. You say "a later task is being done  
> > > before  
> > > the earlier task." That may be the proximate cause of the splits you  
> > > are  
> > > getting but it should not be happening. Predecessor/successor links  
> > > mean  
> > > there is a real physical reason that the later task cannot, under any

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> > > *circumstances, start until the predecessor has finished (assuming a  
> > > finish–start link for simplicity). Putting on the roof is not a  
> successor  
> > > to erecting the walls because that's the order we want to do it in. It  
> is a  
> > > successor because the law of gravity doesn't give us the option of  
> building  
> > > the roof in midair and stuffing the walls in later <grin>. If it  
> possible  
> > > for that later task to start before the earlier one (and it obviously  
> is, or  
> > > else your resources would not have been able to do what they're  
> reporting to  
> > > you that they did), you should not have the link there in the first  
> place.  
> > > I'd strongly suggest you review the dependencies in your project plan to  
> > > make sure they are valid, serving the function of making the plan a real  
> > > engineering model of the physical process of creating the project's  
> > > deliverables and are not in there to force the plan into some  
> pre–conceived  
> > > idea of the way the work "should" progress.  
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> > > --  
> > > Steve House [MVP]  
> > > MS Project Trainer/Consultant  
> > > Visit <http://www.mvps.org/project/faqs.htm> for the FAQs  
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> > >  
> > > "Deluth" <Deluth@discussions.microsoft.com> wrote in message  
> > > news:0DA0AC89–EE27–4261–A4EA–80AA0CE6C54A@microsoft.com...  
> > > > I would like to know when and how Project does its calculations. My  
> > > > resources sometimes change the order of the tasks they're doing.  
> > Sometimes,  
> > > a later task starts before the earlier task. When this occurs, I enter  
> > the  
> > > percent complete into the later task. When I open up the project again,  
> > the  
> > > end date seemed to have been recalculated based on the percent completed  
> > and  
> > > the remaining duration. Unfortunately, when I try to repeat this to see  
> > how  
> > > Project calculates, it doesn't. As if it only calculates when there's  
> > been  
> > > some time passed since the last time the project was opened.  
> > > >  
> > > > I know that Project calculates when the actual finish (or 100%  
> > complete)  
> > > has been entered. But I am seeing that it sometime calculates on  
> > > percentages as well. I would like to know when does it do this and how*

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> *does*  
> > > *it calculate, as well as, why sometimes and not others...*  
> > > >  
> > > > *Thanks in advance for any help...*  
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