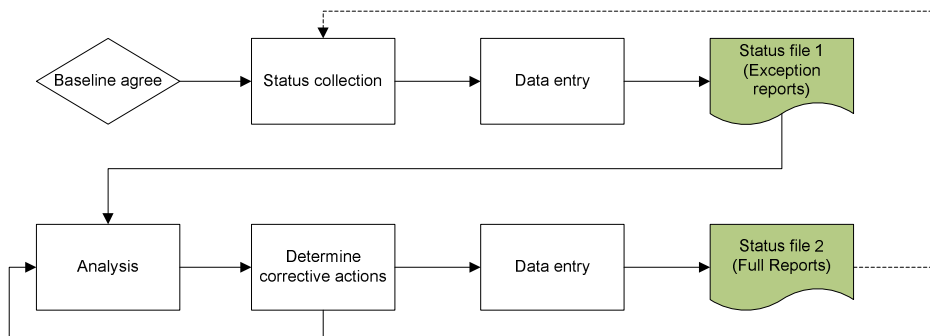


MSP How to guide – session 3 (Updating)

1. Introduction

Some people think planning ends once they gain agreement and pin up the schedule on the wall. On larger projects the schedule follows a defined update cycle. This update cycle could be on a weekly, fortnightly or monthly basis, typically we would recommend fortnightly. During this update cycle information is collected which invariably leads to schedule slippage, hence the second stage of the cycle shown below:

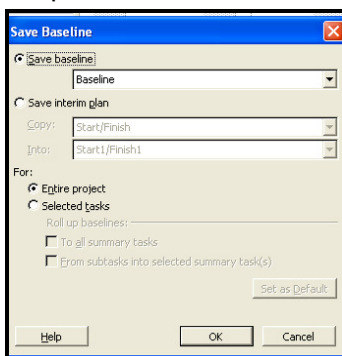


Implied by this diagram is an important aspect of reporting – only published files are used as the basis of reporting, not working files.

2. Establishing the Baseline

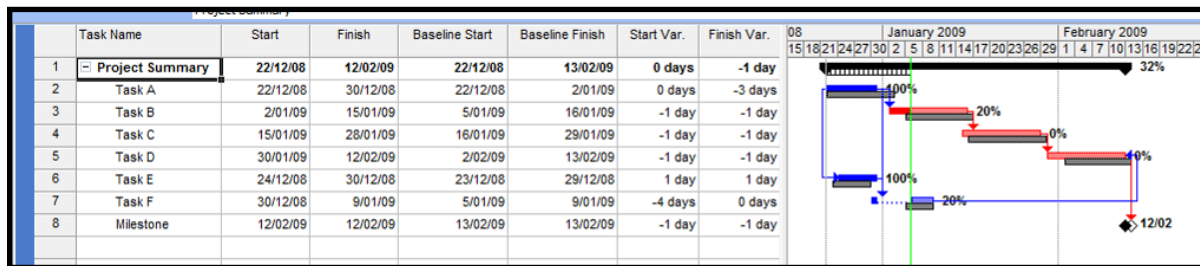
After gaining agreement and sign off, we set a Baseline for future comparison purposes. Conceptually Baseline is like a photo – its how the schedule looked when it was agreed. Baseline also implies a certain schedule model including all it's logic too. Baseline functions in Microsoft Project capture key schedule information such as start and finish dates, duration, work and cost. There are 11 Baseline fields and 10 interim Baseline fields. Using customized fields these can all be renamed if need be. Microsoft Project also includes calculated variance fields such as **Finish variance** which provides, in working days, the difference between Finish (Current forecast) and Baseline Finish.

Interim Baselines are sometimes used to “remember” a previous forecast or some other important published schedule. To set a Baseline, select **Tools, Tracking, Save Baseline**.



The Baseline fields can be edited but shouldn't be. Any new task entered after a Baseline is set will have a value of "N/A".

Baseline data can be shown on graphical reports, the following is an example using the **Tracking Gantt** view with the **Variance** table activated. Note the grey bars showing visually where the Baseline dates were vs the current Forecast.



3. Getting organised

For regular updates you need to get into a regular routine. Meet with the key managers (otherwise known as Primes, those responsible for completing major WBS elements) on a regular basis.

Agree with them the information you will collect from them (Task status, Issues, Actions), ideally this will be based on a filtered "look ahead" schedule published during the previous status cycle. Ideally they would come to your meeting with a marked up report.

4. Tracking theory

All tracking information is relevant to the "Status date" which is considered 5pm in Microsoft Project.

There are two options when using Microsoft Project for tracking progress:

- Option 1 – use % complete method (easy to do but of limited value), not too unlike using a texta color to highlight what has been done. Dates rapidly become irrelevant.
- Option 2 – use actual/remaining duration method (harder to do but provides much more value – recommended approach)

This document explains how to do option 2 "Actual/Remaining Duration method"

Microsoft Project will calculate % complete

$$\% \text{ Complete} = \text{Actual Duration} / (\text{Actual Duration} + \text{Remaining Duration})$$

Entering % complete after entering task status will therefore change remaining duration and hence forecast dates. In Microsoft Project % complete is % of time complete, not to be confused with physical % complete, % effort complete or % cost complete. For clarity we recommend removing % Complete from reports and status collection.

What to ask people

- Has the task started, if so when did it ?
- Is the task complete ? If so when was it ?
- If it is in progress, when do you think it will be complete ?

From the last point you need to determine remaining duration (number of working days between Status date and Finish date). Remember the priority is to have an accurate Finish date for the task.

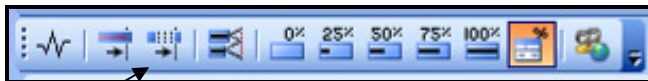
5. Data entry

MS Project preparation for data entry

- Enter status date – **Project, Project Information**, remember it is 5pm.
- Change views – **View, Tracking Gantt**
- Change tables – **View, Table, Tracking**
- Modify Table (change Actual Cost and Actual Work columns to Start and Finish columns, remove Phys % Compl, % Compl, add Resume column after Remaining Duration)
- Activate toolbar – **View, Toolbars, Tracking**
- Format gridlines – **Format, Gridlines** and then make Current date line blank and Status date line a bright solid line.

Task Name	Act. Start	Act. Finish	Act. Dur.	Rem. Dur.	Resume	Start	Finish
1 - Project Summary	22/12/08	NA	12.45 days	26.55 days	30/12/08	22/12/08	12/02/09
2 Task A	22/12/08	30/12/08	7 days	0 days	30/12/08	22/12/08	30/12/08
3 Task B	2/01/09	NA	2 days	8 days	6/01/09	2/01/09	15/01/09
4 Task C	NA	NA	0 days	10 days	NA	15/01/09	28/01/09
5 Task D	NA	NA	0 days	10 days	NA	30/01/09	12/02/09
6 Task E	24/12/08	30/12/08	5 days	0 days	30/12/08	24/12/08	30/12/08
7 Task F	30/12/08	NA	1 day	4 days	6/01/09	30/12/08	9/01/09
8 Milestone	NA	NA	0 days	0 days	NA	12/02/09	12/02/09

Tracking toolbar

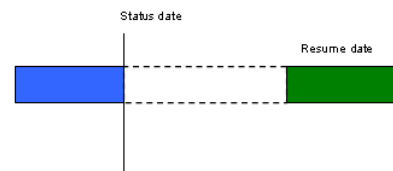


Note the tracking toolbar above. We often use the **0%** and **100%** buttons as well as the **Reschedule work** (which picks up the remaining duration and schedules it to resume at the Status date) and **Update as Scheduled** icons. Note the **Update Tasks** icon opens a form with similar fields to those in the **Tracking** table.

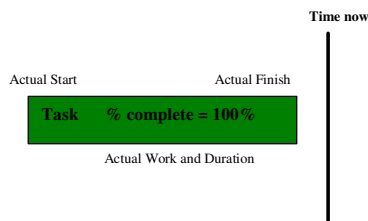
Resume field

There is a field buried deep down in Microsoft Project which allows you to “Resume” an in progress task at a particular point in the future. It is visible through the command Tools, Tracking, Update Project as well as being a column which can be added to a Task related view such as Tracking Gantt. When you click **Reschedule work** icon MS Project sets the Resume date to the Status date. It is particularly useful to model a gap in a task until a resource returns from leave for example.

For selected task(s) you can “Resume” after a specified date

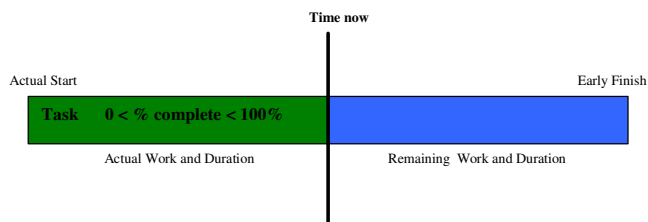


For Complete tasks



- Select task, click **100%**
- Record history by editing **Actual Start** and **Actual Finish**. Actual dates form historical records and are handy for learning (future estimating).

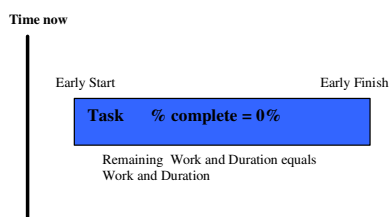
For In progress tasks



- Select task
- Record history by editing **Actual Start**
- Determine Actual and Remaining Duration, often based on estimated completion date. Sometimes a gap needs to be accounted for.
- Edit **Actual Duration** and **Remaining Duration**.
- Click **Reschedule work** icon to resume the Remaining duration at the Status date. Edit the **Resume** date or modify **Predecessors** if introducing a gap.
- Verify Finish date

Note some people simply enter an **Actual Start** date then modify Duration until Finish date is correct then click **Update as scheduled**. This may be acceptable if resource effort tracking isn't a requirement.

For Future (yet to start) tasks



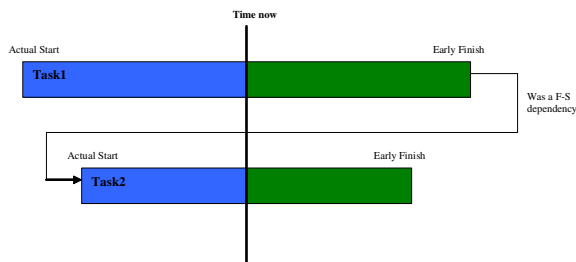
- Use "normal" scheduling techniques as per Session 1. Predecessors should determine Scheduled start unless a constraint has been added. Constraints are generally acceptable if within the 2 week look ahead window.
- Clicking **Reschedule work** for a 0% task will effectively commence the task after the Status date.

About milestones

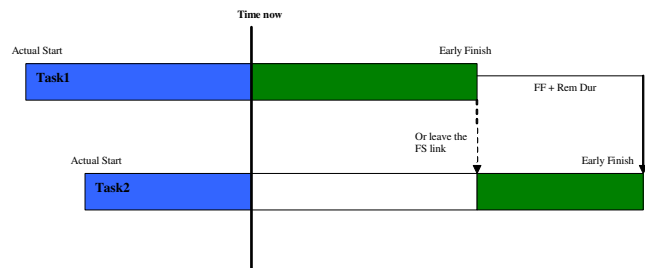
- Milestones have no duration and no effort, in schedules they are either complete or not complete (0% or 100%)
- Microsoft Project quirk turns Milestone into task if you enter an **Actual Start** and **Actual Finish** – annoying !! The Actual Start date field is considered 8am, the Actual Finish date field is considered 5pm. As a work around, click on the milestone, click 100% complete then enter an **Actual Start** but include “5pm” after you type in the date. Actual finish will change too and it will remain a milestone.

Out of sequence logic

MS Project will adopt a “retained logic” approach to out of sequence tasks.



You may expect this



MS Project does this

What do you want to happen ?:

- You may need to remove predecessor since MS Project will retain the intent of the original dependency if you leave it a FS.
- You can only have one dependency between two tasks. You could change to a FF+lag with the lag value being the same as the remaining duration.

Other changes likely during updating

- You may be asked to add tasks. Remember basics like Predecessors, Successors, duration and any customised field content. New tasks will not have Baseline data if a Baseline has already been set.
- You may be asked to remove tasks. Remember to verify remaining dependencies and dates after deletion of task(s) since deleting may create problems. Be careful not to delete key reporting milestones or inter dependencies.

6. Basic checks and review

After status update check your work:

- Are any tasks left in the past which are not complete ? (hint - filter for “complete” and look to the left of the Status date). Stating these tasks properly may well affect future forecasts
- Are any tasks in the future which are not 0% ? (hint – look at % complete column or Gantt display). This can really affect scheduling since Actual dates over ride dependencies
- Beware the “bow wave”. Often when stating we reschedule tasks into the 2 week look ahead window and end up with an unachievable schedule in the near term. This results in continually shifting schedule with a resource histogram that looks like a bow wave. We recommend you review this prior to publishing.

Next step prior to publishing is to review impacts of the revised status. Typically one would look at:

- Look for slippage of project completion date and major milestones
- Look for slippage in major dependencies between Primes
- Look at resource profiles, particularly near term and consider the affect of slippage on any resource agreements/contracts
- Review float and critical path
- Review remaining schedule contingency

7. Recommended reports

Once the schedule file is published, reports can be generated. Session 4 provides details around formatting and reports. The following reports would be typical on a larger project:

- Completion report showing what was completed since last update. Key part of this report is a filter selecting based on Actual Finish date being after the previous Status date
- Near term report showing what is due to be completed or started in the next reporting period. Key part of this report is a filter selecting based on % not = 100 and Start being before the next Status date. This may be further split by responsibility
- Remaining work report showing all incomplete tasks. The filter is the default "Incomplete tasks" filter. This may be further split by responsibility
- Critical path report showing what is driving the end date of the project. The filter is the default "Critical" filter
- Dependency report showing all key interdependencies between Primes. The Key part of this report is to have a common string of text such as 'INPUT" in the task description then write a filter selecting based on "Name" "contains" the word "INPUT"
- Key Milestone report similar to the above but for key reporting milestones. Again use a common string of text in the description field such as "KEY MILESTONE"
- Exception report showing what wasn't completed since last update. This may include commentary as to why not and what is the impact of delay in the notes field. Tricky report to produce (beyond the scope of these notes)
- Graphical high level schedule for senior management using Microsoft Project and selecting key milestones and summaries (heavily formatted) or via a graphics tool such as Visio
- Statistics relating to % of tasks actually completed within the previous reporting period. Tricky to produce (beyond the scope of these notes)

8. Alternative (more advanced) Actual/Remaining Work tracking method

It is possible in Microsoft Project to track work at an individual assignment level. This is only useful if you are able to capture actual work information from timesheets and/or where you are tracking costs in Microsoft Project. It is questionable whether this would add value but for completeness we have shown the technique for doing so.

Step 1 – Capture actual work information

At an individual assignment level you will need to capture actual hours worked against each task by each resource by each day (good luck !!). This may come from timesheet data or by asking people to track their time in diaries or some other method. Ideally you will want to also verify an estimate of remaining work and get an estimated completion date from them.

Step 2 – MS Project preparation

- Change View – **View, Resource Usage** or **View, Task Usage**, whatever you feel more comfortable using.
- If not already shown, include **Remaining work** on the left hand table
- **Format, Details** to show **Actual work** only on the right hand side of the display
- Expand timescale to Daily (hint use magnifying glass icons)
- Enter Status date – **Project, Project Information** remembering it is 5pm.

Step 3 – Enter actual and remaining work

- For each resource assignment enter the Actual work hours for each task and each day in the right hand side of the display. Remember to keep Actual hours to the left of the Status date.
- Change **Format, Details** to show **Work** rather than **Actual Work**. For each resource assignment verify or modify the Remaining work in the left hand side of the display (note Remaining duration will be calculated as per normal resourcing theory assuming the task is “Fixed Work” or “Fixed Units”).

	Resource Name	Remaining Work	Details	5 Mar '07							12 Mar '07									
				S	S	M	T	W	T	F	S	S	M	T	W	T	F			
	Unassigned	0 hrs	Act. W Work																	
1	Project Manager	43.6 hrs	Act. W Work				2h	4h	7h	3h										
	Project & Technical Management	30.6 hrs	Act. W Work				2h	4h	7h	3h							2.8h	1.8h	0.8h	0.8h
	Prepare for Requirements Workshop	0 hrs	Act. W Work				1h	0h	2h	0h							0.8h	0.8h	0.8h	0.8h
	Conduct Requirements Workshop	0 hrs	Act. W Work				1h	4h												
	Develop Business Requirements L	3 hrs	Act. W Work						5h											
	Conduct Business Acceptance Te	4 hrs	Act. W Work							3h							2h	1h		
	Operational Readiness review	2 hrs	Act. W Work																	
	Verify build rather than buy strateg	4 hrs	Act. W Work																	
2	Dave Dread	17.2 hrs	Act. W Work				1h	0h	0h	1h										
	Stakeholder Review Design docum	2.4 hrs	Act. W Work				1h	0h	0h	1h							0.4h	0.4h	0.4h	0.4h
	Project & Technical Management	14.8 hrs	Act. W Work				1h	0h	0h	1h										

Step 4 – Reschedule and verify remaining work

- Change back to **Tracking Gantt** view as per section 5
- Status any milestones as per section 5
- Reschedule Remaining work by highlighting and using **Reschedule work** icon as per section 5
- Verify dates and modify predecessors if need be
- Verify resource workload using **Resource Usage** view