

Project Portfolio Management and Progress Tracking using Microsoft Project

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OVERVIEW: This document outlines the problems associated with managing a Portfolio of Projects and Tracking Progress when a Project Planning tool is used in isolation to other systems. Also covered are how these problems may be addressed, why they should be addressed and the business benefits that result.

APPLICABILITY: This document is applicable to organisations that manage multiple concurrent projects.

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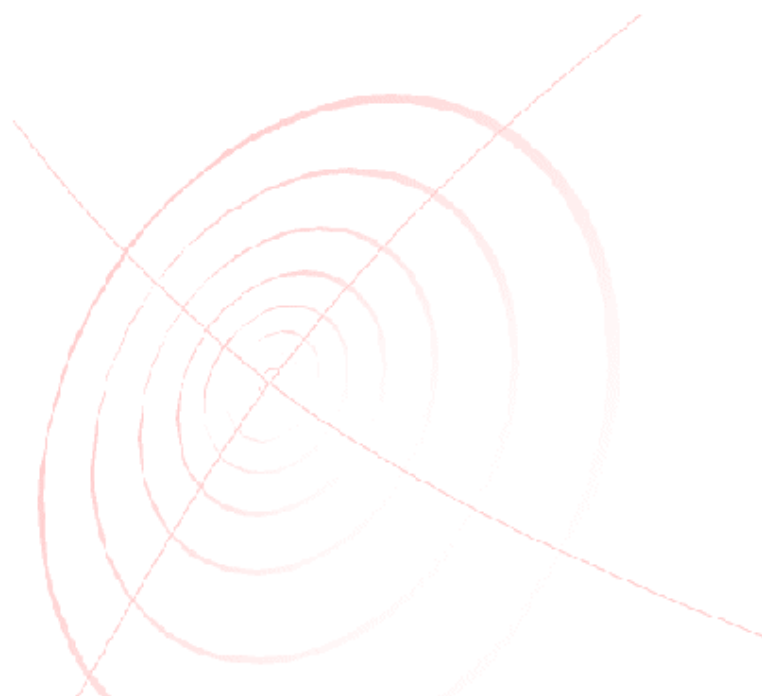
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The Problem

“Why do we still not manage and track projects and resources effectively?”

“It seems that once a project is underway it is not possible to track progress and that we aren’t sure of who will be available and when for other projects.”

“We are using a Project Management tool but can’t be using it correctly.”

Planned Work (Projects)



Many people expect that by creating a project plan and schedule at the commencement of each project that it should be possible to track progress against each project. The truth is tracking project progress is not anywhere near as simple as it seems.

Project Plans and Schedules are ‘dynamic’. This means that at the end of each day the plan and schedule will possibly, and in some cases even probably, be different to the start of the day. This could be due to internal events such as; taking longer on a particular task than planned, discovering that the original work estimate was inaccurate or an employee being away sick. It could also be due to an external event that impacts the project, task or schedule such as; a delayed delivery of a product or service from a supplier or a forced change in scope from the customer.

Due to these events key elements of the project plan including “Total Work”, “Total Duration” and their time-phased values (on which days work is to be performed), may change on a daily basis. It is absolutely necessary for project plans to have these ongoing plan and schedule changes constantly updated for the project plan to reflect the “current true” status.

The appropriate questions to ask are:- Who is monitoring these changes? Are they being updated to the project plan and schedule? When are they updated? Who is updating them? How are the changes being communicated to staff and other stakeholders?

Some events that affect the project plan and schedule will be monitored and updated by the project manager. These should be updated to the plan and schedule in a timely fashion from knowledge collected by the project manager. For example:- a supplier being delayed in providing a product or service that affects tasks in the project.

There is other information however which is just as important to the above being “Actual Work” performed and estimated “Remaining Work”. It is very difficult however for the project manager to constantly update this information to the project plan.

If “Actual Work” and “Remaining Work” are not updated regularly to the project plan then the only value of the project plan is to provide an initial “estimate” of the Work, Duration and Cost of the project. Once the project has commenced the project plan is only useful as a historical reference, if it is not kept up to date.

Of course this is not the intention of the project plan. What is expected is that project progress will be constantly tracked and at any time a “current” plan and schedule may be produced. Without a current, up to date, project plan and schedule we cannot answer the fundamental questions of:-

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When will the project be finished? and Will the project be within budget?

The reason why Actual Work and Remaining Work are not usually updated to Project Plans on an ongoing basis is reasonably simple. **It is too difficult.**

It is too difficult because even though employees may record this information it is not in a format that allows it to be updated easily to project plans.

For example employees record Actual Work on an employee centric basis of:-
Resource (Employee) > Project > Task > Day > Actual Work

Whereas project plans record Actual Work on a project and task centric basis of:-
Project > Task > Resource (Employee) > Day > Actual Work

And as for "Remaining Work" this is also recorded by employees on an employee centric basis of:-
Resource (Employee) > Project > Task > Week End > Remaining Work

Whereas project plans record Remaining Work on a project > task centric basis of:-
Project > Task > Resource (Employee) > Remaining Work

Example of Recording Actual and Remaining Work and Updating Project Plans:-

The following simplified example demonstrates how a single employee's timesheet for one week needs to be transposed to the "Actual Work" field for all Project Plans on a time-phased basis. The Employee centric information needs to be converted to be Project / Task centric before it can be updated to Project Plans.

Timesheet for Employee:- Andrew

Project	Task	Mon	Tue	Wed	Thu	Fri	Sat	Sun
A	1	2	4	0	2	8	0	0
A	2	5	2	8	6	0	0	0
B	4	1	2	0	0	0	0	0

Project Plan for Project:- A

Task	Resource	Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	Andrew	2	4	0	2	8	0	0
1	Tom	3	6	0	8	8	0	0
2	Andrew	5	2	8	6	0	0	0

Project Plan for Project:- B

Task	Resource	Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	Andrew	0	0	0	0	0	0	0
1	Tom	4	6	0	3	8	0	0
2	Adam	3	0	8	6	0	4	0
3	Andrew	0	0	0	0	0	0	0
4	Andrew	1	2	0	0	0	0	0
4	Mike	6	5	0	2	8	0	0

Consider having 10 or more employees working across 10 or more projects and it becomes obvious how difficult this task is. Also consider having to update remaining work for each of the Tasks that have been worked on during the week and it becomes clear that an automated system is necessary for this to be possible.

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The Solution

The solution to this problem is to use a system that is integrated with Microsoft Project that captures “Actual Work” and “Remaining Work” from each employee through timesheets and provides facilities for automated updating of Microsoft Project plans by project managers.

Using an efficient, controlled and streamlined process for regular updating of project plans with this information enables the organisation to accurately track project progress on an ongoing basis. This makes it possible at any time to answer those fundamental questions of:- When will the project be finished? and Will the project be within budget?

In providing this capability the system should also possess other attributes that make this process efficient.

These include:-

- Single button press update of Actual and Remaining Work to project plans
- Provide project task information, in real time, to employees ensuring effective communication
- Provide task assignment information in a weekly timesheet format for employees to visualise and understand future work commitments
- Display, and allow, employees to select project tasks from the project plan to record time against
- Allow controls to be ‘optionally’ applied, by project, ensuring that employees record time as required by the project manager. For example:- Against only those tasks they are assigned to and at that the level of detail required
- Optionally force employees to enter “Remaining Work” for specific project tasks
- others

Project Planning tools, such as Microsoft Project, do not usually provide the facilities necessary to capture this ‘tracking’ information from employees and then in a controlled manner allow updating across multiple project plans. In summary the reasons why are because:-

- not all employee activities are project related and
- due to the requirement to use resource usage information for a number of other business purposes besides just project tracking.

These are discussed in the following sections:-

Planned V's Unplanned Work

The above outlines basic requirements for effective “Project Tracking” of Fixed Duration / Fixed Deliverable Projects however most organisations also provide “Ad-Hoc” and “On-Going” services where the type, timing and duration of the service are not generally known in advance. It does not make sense, nor is it possible, to prepare project plans for this work.

Project Management tools are therefore of no value in managing these types of activities. What is required is a method of managing Resource Usage across “all” activities which includes Fixed Duration Project, Ad-Hoc Services and Ongoing Services.

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Some employees work across all of these types of activities. They spend time on Fixed Duration Projects, time on Ad-Hoc services and time on On-Going services. Managing the usage of these employees is difficult. They will be assigned to specific project tasks for fixed duration projects but what about other work that is not recorded in a fixed duration project plan but is known in advance? Such as the provision of a service that has been scheduled. Will this 'unplanned' time show up as uncommitted hours or "Remaining Availability" in fixed duration Project Plans resulting in a project manager over-committing them?

In these cases the "planned" usage of time that is not covered in Fixed Duration project plans still needs to be accounted for so that resources are not 'over-committed'.

In essence this requires 'Resource Brokering' which is high level Resource Usage planning. Resource Brokering is the allocation of resources across all activities. It considers competing demands being made of resources, business priorities and all other factors before deciding on the most appropriate usage of resources.

This 'brokered' usage of resources forms the basis for more detailed allocation of resources such as against specific tasks in specific project plans.

A Resource Management system should provide tools that allow Resource Brokering to be efficiently performed on an ongoing basis and for it to be integral to the function of allocating resources to project plans.

Project Portfolio Management



The requirements for tracking project progress assume that multiple concurrent projects are being undertaken. Managing multiple projects is often referred to as Project Portfolio Management.

The majority of project planning tools are designed to manage independent and separate project plans. While project plans may be linked and embedded in other project plans these tools do not usually provide facilities for managing a "Portfolio of Projects".

The principle components of Project Portfolio Management are:-

- Centralised Enterprise Information – Employees, Calendars etc
- Automatic synchronisation of Enterprise Information across multiple Project Plans
- Central Resource Pool where resources (employees) are available to work across multiple projects
- Real time communication of tasks and task assignments from multiple project plans to each employee
- Portfolio Analysis – analyse specific information from a specific collection of projects in a specific format and at a specific level of detail (used to identify potential issues and progress across a range or all projects)
- Automated updating of Actual and Remaining Work across a collection or all project plans
- Project progress tracking and reporting across all projects
- Central control over updates to project plans – preventing conflicting changes to project plans

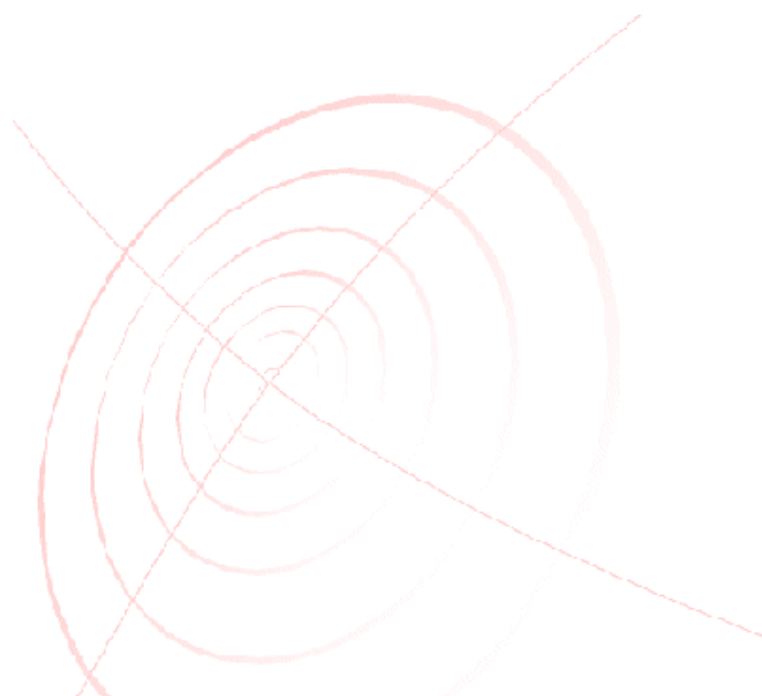
Alert's "Project Control Centre" when combined with Microsoft Project is a complete project portfolio management solution. Alert's "Project Control Centre" allows users to create projects and assign specific controls and attributes to those projects. Tools are provided for managing the project lifecycle including planning, tracking, communication and reporting.

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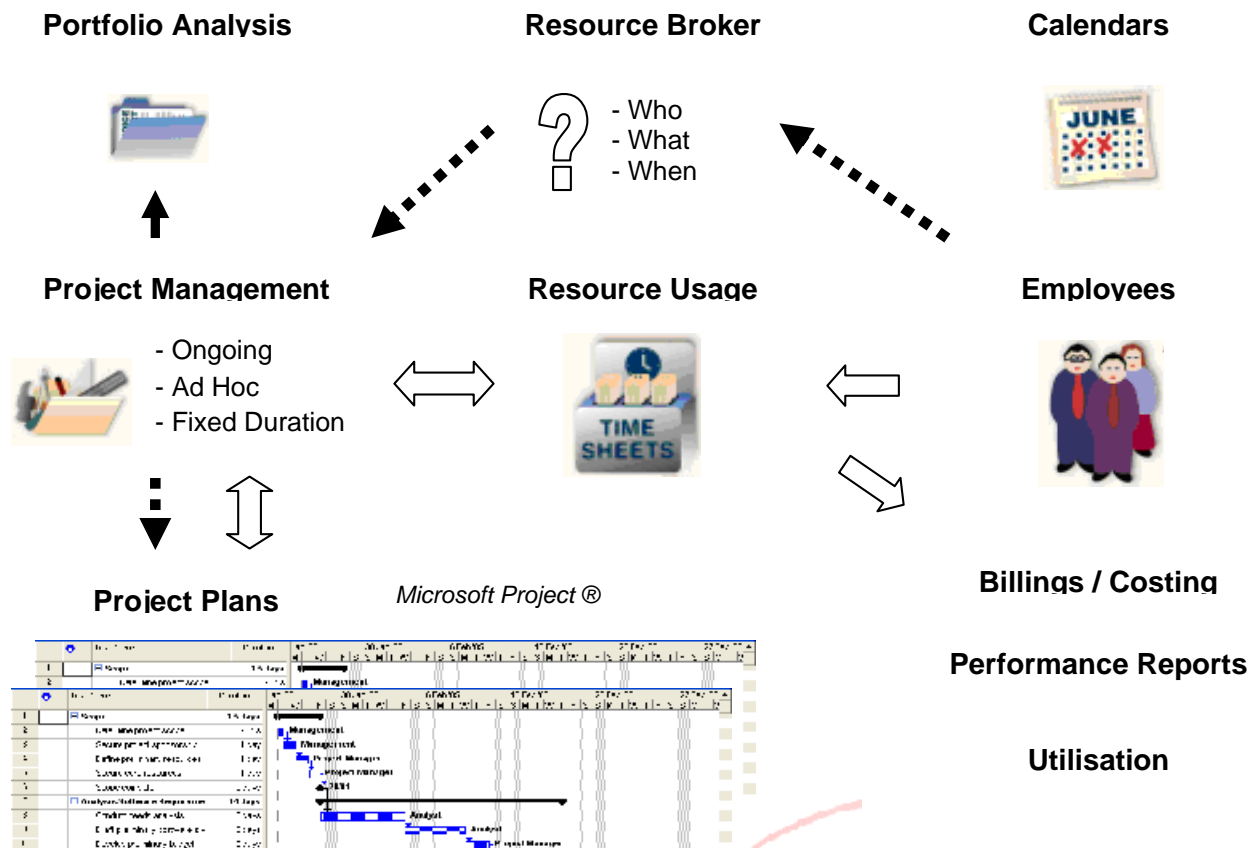
Project planning, tracking and reporting functions are in fact saved and run from within Alert for simplicity, security and auditing reasons. Users are able to save common project planning or update tasks to reduce the amount of manual effort.

The following diagram depicts Alerts Project Portfolio Management and the relationship of Resource Brokering, Employees, Timesheets etc.



Alert Project Portfolio Management

Designed for organisations attempting to manage multiple, concurrent projects using Microsoft Project.



Key points:-

- Timesheet entries are multi purpose:- project tracking, billings, costing, utilisation and performance reporting
- Enterprise information centralised in Alert
- Common enterprise information shared across project plans
- Microsoft Project used for project planning and project tracking functions
- Single SQL Server database for Alert and Microsoft Project plans
- Project plan information stored in MS Project is communicated to employees through Alert
- Actual and Remaining Work recorded in Alert and synchronised with project plans
- Portfolio Analysis capabilities, including time phased data

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Business Management Requirements



The need to use resource usage information for the purpose of managing and tracking projects and other “Ad-Hoc” and “Ongoing” activities has been outlined in this document.

Managing an organisation involves more than just projects however. There are ‘business management’ requirements that are intertwined with and related to the process of managing projects and resources.

It is not the intention in this article to detail all of these ‘business management’ requirements and some will be more important to an organisation than others. Those that are intertwined with and related to the process of managing resources and projects that should be considered when developing business processes and practises include:-

- Billings (refer next section)
- Service / Resource Costing
- Project Costing
- Fixed Price and Time and Material projects
- Actual and Forecast Billings
- Actual and Forecast Revenue, Costs and Gross Margins
- Revenue Earned BUT Unbilled (Work in Progress)
- Revenue Billed BUT Unearned
- Employee Utilisation – both Actual and Forecast
- Productive V’s Unproductive time
- Business Unit Financial and Performance reporting

The Alert IT Business Management system has been designed to allow organisations to determine what is important for their business and implement Project and Resource Management processes that are appropriate for them and provide the information they need to run the business for results and profit.

Billing Requirements



While collecting time usage information from employees for the purpose of updating and tracking project progress is extremely important, it is also important that this same information be used to drive billings for services performed. The same information should be used to prevent inefficient duplication of entry, inaccuracies, lost timesheets and other problems.

It has been explained above how the transposition of Timesheets to Project Plans is difficult. Manually creating Service Invoices from a collection of Timesheets is also difficult for similar reasons.

Some important considerations for creating Service Invoices are:-

- Is the time recorded chargeable as Time and Material or being undertaken as Fixed Price?
- Has the time to be charged been approved?
- Is all the time to be charged or just some of it?

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- Is the charge rate correct?
- When is it to be charged? (Weekly, End of Calendar Month, or some other basis)
- Is the level of detail on the timesheet sufficient for the customer?
- What level of detail does the customer want on the invoice and does this vary by project?
- Are all timesheet details to be included in the body of the invoice or does the customer only want a summary?
- Are you sure that all timesheets due to be billed have been?
- Are you sure that a timesheet has not already been billed?
- Is it possible to cross reference timesheets to invoice line items and visa versa?

These considerations may be addressed if approached in a systematic manner. Alert provides facilities and controls that allow the difficult and time consuming job of Time and Material Service Billings and Fixed Price Billings to be transformed into streamlined processes.

Summary

In summary, organisations that are attempting to manage multiple concurrent projects with a team of 5 or more people will experience inefficiencies, inaccuracies and other difficulties if they are attempting to use a Project Planning tool that does not include Project Portfolio capabilities and is not integrated with other business systems.

A system such as Alert provides the tools that are necessary to manage not just Fixed Duration projects but ALL activities in the organisation. Through tight integration with Microsoft Project it is possible to accurately manage multiple projects, project tasks to the task level and track progress on an ongoing basis.

Alerts strict policy of enter information once and use everywhere ensures accuracy, timeliness and efficiency.

Business benefits that can be expected from the Alert and Microsoft Project integrated system approach include:-

- Reduce duplication of data entry in multiple systems resulting in gains in productivity and accuracy (enter once and use everywhere)
- Remove poor tracking systems for billable work that may be resulting in lost billings
- Improve cash flow by reducing the billing cycle
- Automate, track and connect systems and processes
 - Automate the generation of invoices and timesheet approvals
 - Track timesheet entry, timesheet approvals and project progress
 - Integrate the business operation system with project planning and financial management systems
- Improve customer service by making information available in the requested timeframe, format and level of detail including, project progress reporting, project milestones, service delivery details etc
- Financial and Operational Performance reporting in real time to provide early identification of potential problems
- Remove in house systems that are inefficient, require significant maintenance and divert attention from core business
- Pro-active management through forward looking performance indicators such as Forecast Utilisation, Forecast Billings
- Closed loop tracking of effort for accountability (work effort traceable to project plan tasks, billing items, costing etc)



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