A Welcom White Paper

by

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The Necessity of a Collaboration Tool in Today's Projects

Introduction

The need for project collaboration is not new and to an extent has been conducted in an informal, non-structured manner for many years through traditional means of communication. However, the past few years have seen new challenges emerging with regard to successful project management, and there is an increasing awareness that managed project collaboration is a vital key to project success.

There are several factors that warrant careful consideration:

- With project lifecycles typically becoming shorter, there is less relevance in using traditional, detailed planning techniques, and expectations of shorter project turnarounds are much greater. Less detailed planning requires more emphasis on collaboration techniques for managing projects.

- A greater number of parties are now typically involved in different aspects of a project, often in different locations, and even working for different companies. Thus, the need to share information in an easily accessible manner is rapidly increasing.

- Many projects involve a large amount of repeatable work and the ability to build on previous project approaches and successes is often critical to the successful completion of the project in hand. Being able to model tasks and procedures on previously validated, successful work is important.

- Scheduling still plays an important role in modern projects. However, there is now an additional need to share information between different team members as well as being able to carry out more traditional project management tasks such as updating and controlling project status. Gone are the days when project management was solely the responsibility of the project manager or planner whose primary tool was a very specific project planning software package that required a high level of expertise and training.

In response to these changing needs, new project management tools, techniques, and attitudes have emerged. Through the use of a new breed of collaboration-based project management tools, team members of differing roles are now being given additional responsibility and involvement in the project management process. Likewise, the availability of information to disparate team members has increased. When combined, these provide much broader participation and project visibility, which in turn increases the chances of project success.

In today's business age, where time is of the essence, collaboration-based project management tools need to meet the demands of those companies who are seeking shorter turnaround times, are working with distributed team members, are modelling tasks on previous work, and still require tools that are easy to use.

This paper examines the roles of various team members within a distributed environment and looks at how a collaboration tool can be of use in bringing projects to successful completion. The additional benefits of lower cost of ownership, absence of required training, and ease of integration with other key systems are also investigated.

The Need for Project Collaboration Tools

A wide variety of industries require the use of collaboration tools. In addition to IT-related organisations, users of collaboration tools come from a variety of non-IT companies such as those in the architecture, engineering, aerospace, defence, energy, healthcare, pharmaceutical, manufacturing, telecommunications and construction industries.

A study conducted by Datatech, a Massachusetts-based market research and technology assessment firm, found that vendors who can deliver technologies for project collaboration with Internet access to project information will have the competitive advantage. The market for these specialised tools is projected to surpass $3 billion by 2004. Likewise, California-based research and management consulting firm Collaborative Strategies LLC reported that distributed project management (DPM) market revenues are expected to reach nearly $1.5 billion by 2003. While the US is the early adopter of these tools, Europe and Asia are now demonstrating that they also have a clear need for project collaboration tools.

DPM Market Revenue Projections

Year	Revenue Amount
2000	$0.7 billion
2001	$1.1 billion
2003	$1.5 billion
2004	$3.2 billion

Source: Collaborative Strategies, LLC, 2000

Definite trends are now emerging in the DPM marketplace. There is strong movement away from complex, desktop-based applications to easy-to-use, browser-based systems even though there is an increasing shift from simple, local projects to distributed, more complex projects.

The Keys to Successful Project Collaboration

Project collaboration tools need to satisfy the following criteria:

- Provide easy access to project information
- Offer an easy-to-use interface
- Minimise information overload
- Provide for timely schedule updating

The Internet is a perfect medium for providing easy access to project information. Users can access information through familiar browsers on any machine, regardless of location. With information centrally stored, issues such as difficulty accessing disparate project information do not arise.

With various team members using a collaboration tool comes the need for the tool to be easy to use. Web tools typically have little or no documentation, and the user must rely on the tool being intuitive, fast, and robust enough to guide him through to the information he is requesting. Unlike Windows tools, Web tools have no pre-defined usability standards, so providing an easy-to-use interface is crucial.

Information overload can be as dangerous as poor access to project information. Providing the right information in the correct context to the correct person at the right time is crucial. With so many team members using a Web-based collaboration tool to share information, slicing such information into relevant segments is vital. High level, summary information that can be easily interpreted needs to be presented to stakeholder- and executive-type team members. More detailed project and activity information needs to be accessible and updateable by project managers. Individual team members focus more on their day-to-day tasks and need more detailed, specific information.

Information also needs to be timely. This is especially important on short projects where timing is critical. Updating schedules and informing project managers of those updates needs to be timely. All relevant team members need to be able to easily enter progress for activities on which they are working. Project managers need to be able to quickly validate these updates with changes immediately reflected in the project schedule.

Additionally, access must be in a controlled manner. A secure, yet flexible security system must be in place to control access to project information.

Integration with the Schedule

One of the key factors to successful project management is the planning and control of the project through the use of a schedule. Many software tools provide a high level of scheduling functionality. For a collaboration tool to be useful, it needs to be able to integrate and work with such scheduling tools. Being able to remotely access schedule information in real-time in both tabular and graphical formats is essential. Historically, only the owner of a scheduling tool was able to produce reports such as Gantt charts, network views, and resource histograms. With the advent of modern Web collaboration tools, this has changed, and access to such information is now not only possible, but expected by team members.

Furthermore, having the ability to remotely update elements of the schedule such as activity progress is a large part of project collaboration. Having such a two-way retrieval and submission of project information requires a control mechanism in order to manage the updates. With multiple team members having the ability to update progress, there needs to be a review mechanism in place whereby the updates get reviewed and approved before they are updated in the schedule. Part of this approval process must include timely notification of changes made either by the progressor or the reviewer. Likewise, the owner of the schedule needs to be informed when such changes have been made.

It should be made clear that collaboration tools are in no way meant to be a replacement for scheduling tools. Instead, they should be viewed as complementary tools that work with and extend the functionality of scheduling tools. For example, having the ability to raise an issue and assign it to a group of team members and also link it to a particular activity or work element within a schedule is very powerful. Often, items such as issues, change requests, and action items do not justify the creation of an activity in the schedule, yet the raising and controlling of these can be critical to the success of a project.

Evolving Technology

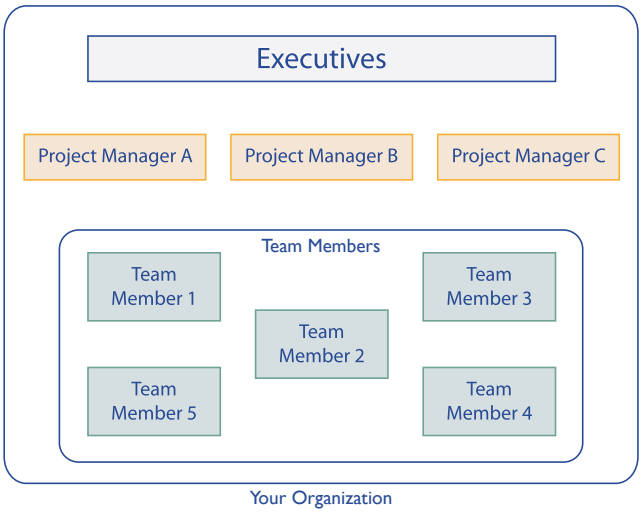
Historically, project management software has focused on project scheduling. These products have provided a small group (like the planners and project managers within the project team) with a desktop-based solution. With the advent of Web technologies has come the ability to extend the project management functionality outside the area of scheduling and address the other important areas of project management. Remote access and easier-to-use tools have also allowed team members of differing roles to begin accessing project-related information and start participating more in the management of the project.

First generation Web-based tools were typically "thick client" and suffered from large footprints that involved long downloads. The promise of "write once, run anywhere" was never really satisfied by languages such as Java, and it has only been recently with the advent of true "thin-client" technologies that powerful, useful Web-based project management has become a reality.

With future technological advancements in wireless connectivity, a new breed of collaboration tools will come that provide even more flexible, remote access to project information.

Types of Team Members

Project collaboration is conducted between various types of team members. Typically, executives will have an interest in multiple projects, whereas a project manager would normally be focusing on a particular project. Individual team members may be working on one or more projects at the same time.



Stakeholders

- Project/portfolio health

- Manage issues, action items, and risks
- Review and update project status

- Collaborate
- Respond to open items
- Update progress
- Share documents

Executives

At the highest level, an executive user uses the tool to obtain an overview of a project or a portfolio of projects. Such information as a detailed view of who is working on each task typically is not required. Instead, a high level understanding of whether the project is on schedule and being built to budget and to the required specifications are the major factors. The executive's focus is on reporting and not the need to enter substantial amounts of data into the system. Graphical reports, such as an indication of project health, are a common requirement.

Project Managers

A project manager requires a more in-depth view of the project or projects for which he is responsible. A project collaboration tool is one of the most important and frequently used tools of a project manager. It is used for updating project status, requesting and reviewing individual progress submissions, and tracking and managing changes, issues, and action items. It is also used for sharing project information either through project documents or other means such as project homepages.

The project manager's ability to successfully manage the project is greatly enhanced by being able to monitor the health of that project. Making comparisons with the baseline and even being able to modify the original plan through the tool accomplishes this crucial activity.

Communicating with team members in a structured way helps a project manager optimise team performance and improve coordination. Informing team members of project events through the use of project notices, together with raising and assigning individual to-do tasks like action items, gives the project manager more control.

Team Members

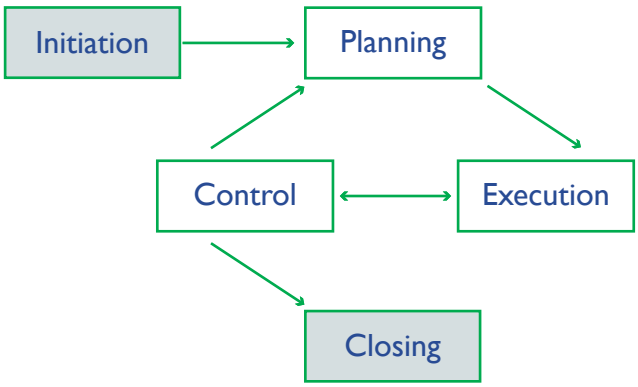
Individual team members rely heavily on being provided with information in a timely manner. They need to easily determine which tasks have been assigned to them as well as to be provided with process related information.

To maintain team focus, it is also important that the members are kept informed of important factors such as project scope and milestones as well as project events. Being able to collaborate with other team members through the use of discussion forums, sharing project documents, or collaborating on open issues is very important.

Reporting progress is another key component to collaboration. Being able to submit the work completed and inform one's supervisor of such changes via the Web cuts down on the approval process time and helps to maintain an accurate project plan.

Collaboration Throughout the Project Lifecycle

Project management is often thought of as simply the planning and control stage of a project. However, for optimal performance, project collaboration should feature strongly in every stage of a project.



Initiation

The initiation stage often involves proposals, the generation and development of ideas, and management buy-in. In order for these tasks to be carried out, the sharing and portrayal of the proposed project is key. Whether this includes proposal documents, presentations, or simply a list of requirements, there still remains the need to share this information with the relevant parties. Web collaboration tools are ideally suited for such a use. Being able to publish and share such information as well as having an easy means of receiving feedback on the proposal make a Web-based solution very attractive.

Since miscommunication is one of the key reasons for project failure, Web-based collaboration tools can improve the chances of success in completing projects through promoting improved lines of communication between all involved. Those products that offer the additional benefit of information sharing and discussion in real-time can help lessen the likelihood of impending project failure.

The Standish Group reported that 31.1% of projects would be cancelled before they reached completion. While 54,000 projects failed in the initial study, a 2000 study revealed that 65,000 projects faced a similar demise, an increase of 18%. Among some of the reasons given were unclear objectives, lack of planning, and incomplete or changing requirements. Many of these issues could have potentially been alleviated through better lines of communication among the project teams.

Source: "Chaos", The Standish Group, 1995

Defining the scope for a project typically includes a great deal of feedback, updating of information, and sharing of documents. Being able to use a collaboration tool as a central repository to store and manage such information is very powerful. Lack of a proper or ill-defined project scope is another main cause of project failure.

Fergus O'Connell, of the project management firm ETP Group, asked the question, "Why do projects fail?" and offered several reasons:

- **The goal of the project isn't properly defined.**
- **The project is planned such that it has no contingency.**
- **The project isn't planned properly.**
- **The goal of the project is defined properly, but changes are not controlled.**

Source: "Why Do Projects Fail?" ETP Group, September 2001.

Ensuring that all parties are both aware of and agree upon a project scope dramatically reduces the risk of subsequent "scope-creep" or late changes to the project. This idea is also reflected in the 2000 Standish Group study that lists minimised scope as one of the top ten factors for project success.

Planning

The planning of a project relies heavily on the following:

- Creating a project plan
- Breaking down the required work into manageable activities
- Defining the logic between the activities
- Determining and assigning required resources for such work

An expert such as the project planner typically carries out this process. However, accurate estimates for project elements require the easy access to such project information as design documents for a software development project or safety regulations for a sewerage construction project. As the schedule begins to take shape through the use of a collaboration tool, it can then be previewed by other team members like the project managers. As it will subsequently be their responsibility to execute the plan, increasing the project visibility at an early stage can help project managers identify potential problems early.

Controlling and Executing

Controlling a project involves managing the execution of the work, ensuring that it is carried out according to plan, and then updating the plan with the actual progress. Additionally, any changes or updates to the plan need to be made and the schedule revised accordingly. Being able to both distribute tasks to be carried out and receive information concerning work that has been completed can be a very difficult task in a distributed environment.

Closing

An often-overlooked aspect of project management is the closure and archiving of projects. Having the ability to store or archive project information (including project documents and schedules) is very useful. Being able to retrieve this archived information for future projects or for subsequent project litigation issues is important.

Many projects reuse previously conducted project procedures. The ability to refer to and reuse such procedures and processes is becoming more and more important in modern projects. Having the ability to store, maintain, and retrieve all project information in a controlled way from a central location makes this possible. A collaboration tool facilitates this and all other stages in the project life cycle.

Low Cost of Ownership

The nature of Web-based applications provides a lower Total Cost of Ownership. Isolating the installation costs at the server level without the need for individual client workstation installations dramatically reduces the cost of ownership.

Having all project information stored locally and accessible through a Web browser also eliminates the need for a desktop application such as Microsoft Project to be present on the client machine. This both reduces the direct cost of ownership and also potentially reduces training costs. Users do not have to become experts in using scheduling tools in order to access their project information.

Integration with Other Systems

Project management covers many different areas. No single tool satisfies all the needs from each of the knowledge areas within project management. Multiple tools or systems are often used within a project environment, and different parties within the project are frequently using different tools for the same purpose. Thus comes the need for a collaboration tool to be able to integrate and work with multiple tools.

At a basic level, this integration may just be in terms of interfacing with a scheduling tool. At a more advanced level, integration could mean working with a legacy system that has been in place long before the project was started. Timekeeping systems, proposal systems, and document management applications are all used within projects. Having the ability to report and update information through a common interface dramatically improves this integration.

Extending the Functionality of a Collaboration Tool

With the scope of project collaboration being so great and largely subjective depending on the project context, it is very rare for an out-of-the-box package to provide a total solution.

It is not uncommon to have a requirement for extending the collaboration functionality to work with other external systems. This should not be a problem for the end user. He should simply be presented with a common interface through which to access his information.

The ability to easily extend a collaboration tool is very important. Such extendibility may be in the form of a customisable user interface or additional functionality. More often, it will be in the form of providing an open interface for extending the reporting features against other project systems. For example, a collaboration tool may provide reports for activity progress stored in a scheduling tool, but a client may have a requirement to report on data stored in an in-house system. This will require a custom view or report to be written and used within the collaboration tool. Technologies such as OLE Automation or SQL can provide standard interfaces through which such customisations can be carried out. Additionally, such reports need to be controlled through a security system so as to only be accessible to the relevant type of user.

Third party tools such as Crystal Reports often satisfy the above requirement, so integration support with such tools should also be available.

Conclusion

Collaboration is becoming more and more important in today's modern projects. Managing this collaboration is now becoming a reality with the advent of highly functional Web-based project collaboration tools. These tools are raising project awareness and reducing the time taken to both distribute and update project information.

This trend will undoubtedly continue, and with the further development of wireless technology, the ability to provide up-to-date, relevant information in a truly distributed environment will surely increase.

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