eCameron, Inc.

Collaborative Project Management Newsletter

Issue 2

In this Issue:

Thank You!

positive response to the premier issue of the *Collaborative Project Management Newsletter*. We at ECameron, are very excited that so many of you found it useful and took the time to send us your comments. During the next few months, we will continue to provide educational material and product reviews that we hope are of benefit to you.

Please note that we are also providing an ever-expanding list of resources on project management and workflow. These are maintained on our website in the Collaborative Project Management section. Please take a look, you will also find previous issues of this newsletter.

Please feel free to suggest subjects, products and topics of discussion. This is the best form of knowing that we are providing you with value.

Next Issue

Discussion Topic:

Integration into Legacy Systems. The "Why and What" is needed for integration and will include a discussion of the type of systems and projects where integration may be beneficial.

Review:

PlanView Corporation's PlanView product. A long time contender on the collaborative Project Management market, PlanView provides a strong and stable platform.

Project Setup

Projects do not start at the contract award meeting or when upper management agrees with the project proposal. Projects start the day someone says, "Maybe we should…?". From that point on every action centered on answering that question helps determine the success of the project.

Answers come from various sources and Project Management tools help compile, correlate and present data in a manner useful for the project initiation team. These tools should be used during the feasibility study of the project, to ensure the original goals and assumptions are properly captured and recorded.

At the beginning of any project it is important to determine if a similar projects have been completed. If so, schedules, resources, issues, and documentation should be gathered to assist in the generation of the new project baseline. Having a knowledge base for this data is invaluable.

Knowledge Base

A knowledge base is a general term that means different things to different people. Project schedules, tasks, planned versus actual hours, risks, change requests, contacts, memos, meeting minutes, source code, drawings, vacation requests and travel costs are only a few of the possible knowledge base entries.

Schedules

It is surprising how many people equate the project schedule with the Project Plan. Albeit a huge, and often the most visible part of the project plan, it is only one component. It ties together the tasks and puts purpose to them.

In both collaborative and non-collaborative projects, the schedule should be the Project Manager's greatest friend. To be that, it must be properly thought out from the inception of the project. This sounds obvious, but often times is completely overlooked.

The schedule from a previously completed project is a wealth of information. These schedules can be the single most affective tool in averting future risk. When using a schedule from a previous project, one should first verify that a "post mortem" was completed on the project. If not, some form of retrospective analysis should be performed on the schedule and project.[1] Combining the historical tasks and actual times can provide data to make a project generated from this baseline more accurate and complete.

For collaborative projects performing a post mortem can provide data about resources or partners who performed tasks, their reliability and their quality of work. It can uncover problems with prior collaborators that should be identified as risks in the current project. This increases the need for tools that have the capabilities to store this data.

It is often thought only projects that are repeatable (i.e. deploying equipment, building houses, integrating a COTS software package) have value to future projects. Fortunately, this is not true. Most project schedules contain tasks or phases that are identical or very similar to other projects and can lend significant detail to a new project.

Tasks

Obviously tasks, durations and dependencies are the core of a schedule. In creating a new project schedule, an historical schedule is an arsenal of data that increases the chances of project success. A schedule with historical completion times and resource utilizations alerts the Project Manager to areas where assumptions may need to be changed to create a more accurate and realistic schedule.

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[1] Performing a project post mortem is a field of its own. This process (outside the scope of this article) yields valuable information about how to improve projects and processes. For more information please see the Resources section under Project Retrospectives.

Roles

Historical data also provides information about the resources actually used. A tool should provide the individual, skill-set and role for the resources that were planned and that actually performed the task. In a properly designed tool, a schedule's template should have roles and skill-sets required to perform each task. This requires ardent maintenance of the schedule during the project to ensure a reusable schedule in the future. Mid-project changes in resource requirements must be captured. The proper tool can provide the mechanism, but the methodology must be part of the work ethic in the project team.

During generation of the schedule, the tool should allow the user to replace the role with a name. As an example, when the schedule is generated the "VB Programmer" role could the associated with "Isador Firtch" and the "Roofer" with "Superior Roofing".

Additionally, the tool should provide for easy replacement of resources mid-project -- only effecting future tasks. Therefore, if "Superior Roofing" cannot fulfill the promise they can be easily replaced with "Dependable Roofing".

By describing resources as roles, one can more easily transport a project's data (not just the schedule) from one situation to the next by replacing collaborator "A" with collaborator "B". Schedules, workflows, documents, etc. should be part of this process. This function ensures the processes from the past are carried forward to new projects.

Non-schedule Related Data

The schedule often maintains other relationships for the project. Documentation, issues, risks, workflows, standard operating procedures, etc. are often associated with the schedule. This is because the schedule is the most visible component of the project.

Resources are not just the people assigned to tasks; resources also include document templates, documents from previous tasks, corporate and project standards, change requests and other software tools. Since many of these resources are tied to performing the tasks they are often maintained in the scheduling tool. Besides better scheduling, this provides a convenient method for the person performing the task to have the correct tools to complete the task.

Document templates and their project association

Documentation is a large part of any project. In projects with "hard deliverables", the documentation can out weight the actual deliverable. These may include specifications, test and metrology data, drawings, spreadsheets and bills of material. They may or may not be associated with a given task, and may be associated with multiple tasks. For instance, requirements may be associated with the task to generate and approve them, but they also relate to nearly every task thereafter. In many situations, these items are similar in form and function for the present project and their templates attached to the task or project act as a valuable starting point. This not only assists the Project Manager in setting up the project, but also assists the overall timeliness of the schedule since baseline information is available for the assigned resource.

Templates act to standardize projects. Since collaborative projects are composed of numerous companies, standardizing the form of the documentation is crucial in ensuring the final document properly relates the information required.

Documentation

Word processing documents are often the majority of a knowledge base. These documents include statements of work, project plans, design documents, requirements documents, functional specifications, acceptance criteria and procedures and more. These documents go beyond the template by providing information from a previous project or methodology.

Other knowledge base items like Work Standards and Best Practices are examples of documents those are applicable project-wide or company-wide and used as reference materials.

During setup of the project all appropriate documents from the knowledge base should be associated with the project. This aids by making sure the project members have quick and easy access to the correct documents. If the project is a software project done in C++, the C++ coding standards should be associated with the project; if it is a Java project, then the Java standards should be included.

As with templates, these documents provide uniformity to collaborative projects. Without them the project can resemble a patchwork of different styles and content inhibiting a coherent flow of information.

Security

In collaborative projects there is a significant need to share documents and tightly control of what gets shared. The project may require multiple subcontractors in the same field to handle the tasks. This could be due to sub-contractor specialties or simply the amount of work. One of the benefits, and challenges of collaborative projects is that normally competitive companies can join forces to work on a project that would be too large for them to do by themselves. Data must be shared, standards must be shared, but competitive information should not. This subject, Project Security, will be covered in greater detail in a future Newsletter.

Workflow

Workflow is a wide discipline that covers document routing and sign off and complex multi-path workflows. Often associated with maintenance tasks (the classic example is insurance claims processing) projects also have a need for the control that workflow products provide.

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The project schedule itself is a form of workflow. But for items like document approval routing it can be argued that the schedule should not be cluttered with a task for each approver of a document. If a document is created that requires internal approval, customer approval and subcontractor approval it may make more sense to leave the schedule generic and create document routing approvals for each task with the list of receipts for approval. As in coding standards, this encapsulates the detail making processes easier to manage and re-use.

Change requests should provide conditional processing based on their cost and schedule impact. A change request with little or no impact on cost or the schedule may need a completely different approval process than a change request that has a greater impact. Conditional processing can greatly streamline processes and procedures expediting changes.

Roles, as in schedule generation, should be used to describe workflow participants. This enables project team members to be easily setup and changed during the life of the project while at the same time ensuring the workflow maintains its integrity.

Workflow is a subject in and of itself. Issue 4 of the *Collaborative Project Management Newsletter* will devote the general section of the letter to workflow.

Conclusion

There are many tools and processes that assist in setting up a project. Based on the type of project the requirements for the tools will be different. For collaborative projects the requirements are more stringent and the benefits are greater. All aspects of the project need to be looked at to determine what options are best for a particular organization. eCameron can assist in making this selection of tools easier and maximize the benefits of the tools. Please feel free to contact us for more information.

This Issue's Review – Project 2002

Product:	Version:
Project Professional	2002
Project Server	2002
SharePoint Portal Server	2001

Microsoft has dramatically improved the collaborative features of Microsoft Project. With Project Server 2002 and its associated technologies, Project has stepped up to be a serious collaborative contender.

Although there are too many changes to enumerate here, the major components that constitute a collaborative system will be discussed. These include features like:

- Templates – Project templates now allows the use of roles that can be later assigned to actual resources.
- Document Configuration Management – With the addition of SharePoint Portal, Project allows check-in, check-out and approval routings for documents.
- Project Portal – Provides two types of project summaries one, through Project Server, to see the tasks and assignments on the project and the second, through SharePoint Portal Server, a complete web portal of any items associated with the project.
- End user "timesheet" entry – Allows a user to update the project through a timesheet view that may be submitted to the Project Manager for approval.

As this is a review of the Collaborative Project Management features of Project 2002, not all of these features are new to Project 2002 and some (as noted) are part of accompanying technologies. Please also note that there are several products in addition to Project Server 2002 that are included in this review. Below outlines the strengths and weaknesses of Project 2002 as a collaborative tool.

1. Resource handling. Resource handling allows resources to be assigned to schedules and templates by role (called "generic resources"). The role name describes the type of resource to fill the position for the team. The resource names should be descriptive. For example, "Senior C# Programmer 1" should be used over "Programmer", since the name of this role more clearly describes the skill-set need to perform this task This is extremely helpful at the planning stages of the project since the named-resources may not be known. When the named resource is identified, they may be substituted for the generic resource. This affects the entire schedule by associating named resources with tasks for that role. In the future, if the resource needs to be changed there is the ability to replace the resource based on the underlying role.
2. Templates. Project templates are improved by the use of generic resources (roles). By creating templates using roles, the projects become reusable. Therefore, an organization that focuses on certain types of projects can create a "project schedule library". This will reduce the time and errors in producing project schedules.
3. Document Repository/Vault. Project Server 2002 comes with SharePoint Team 2001; this provides document repository functionality to the Project Server. To be a collaborative system, SharePoint Portal 2001 should be installed. SharePoint Portal extends the feature-set to include the portal features (below) and a Configuration Management system. Project Server 2002 and SharePoint Portal 2001 provide the ability to maintain corpo-

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rate and project document knowledge bases. Configuration Management features allow document processing that requires adherence to basic change management procedures. These features include check-in, check-out and approval workflows (refer to concerns below) to assist the project team in ensuring documents are properly and consistently approved prior to use.

Other features provided by SharePoint include communication tools such as notes, polls and non-controlled documents.

4. "Project Portal". Ensuring project members and stakeholders have correct information about the project in an easy to access format is very important. Project 2002 provides two methods to produce a portal page for users. Native Project Server 2002 provides a project portal that will allow users to view their tasks and assignments based on parameters set by the user.

   SharePoint Portal 2001 allows even more information to be displayed on a "project portal page". The portal page can provide a centralized view of projects, team notes, document approvals and more. Through use of Microsoft's ASP technology, sections of web pages, called "web parts", can be developed and added to the portal page to show company specific information.

5. Delegation. Tasks can be delegated to other users allowing more realistic workflow. This feature allows a properly authorized user to delegate a task to another individual while retaining the overall task responsibility.

6. Issues. User can create issues at the document, project and task level. These are three-state documents that allow a user to enter concerns and route them to others on the project. Although lacking in some needed requirements (see below) this tool is the genesis of a required function for a completely collaborative product.

7. Task time entry. Time can be entered in an easy to use timesheet format. Time may be entered by task as the work is performed and at regular intervals (say, weekly) the timesheet may be submitted to the proper authority (the project manager) for review and approval. This provides updates to the project schedule and the project manager with concise timesheets for each team member.

8. Integration with other applications in the enterprise is provided by .NET (XML/SOAP) technologies. This allows use of Microsoft's .NET tools to integrate with other Windows platform products and XML/SOAP for systems on non-windows platforms.

Although changes to Project 2002 make it a contender in the collaborative project space there are a number of weaknesses that need to be addressed.

1. Resource Substitution. To properly implement roles the roles must remain associated with the task. After an actual resource is applied to the task, the required role or skill-set must remain. Therefore, by replacing a "C++ Programmer" with Isador Firtch, the association with the original spec of a "C++ Programmer" is retained. If, in the future, another substitution for this resource is needed, the original skill-set (not that of Isador) can be used for the resource matching. Although Project 2002 does this, the follow on substitution of Claude Billings for Isador will also replace the name for work already performed. The previous work-around for this issue (adjusting the resources calendar) should be applicable but requires a significant amount of work and is very error prone.

2. Required customization. There are a number of items, such as assigning resource capabilities, that are custom and will take a significant amount of work to set up and install. Products should allow for extensive configurations in addition to customizations. The configuration should be available at a project level. Use of tools such as ASP, JSP, C# and Java, should not be required for achieving functionality that is needed in the system. Although nice to have, these "coded extensions" can require an extremely high maintenance cost with future product releases.

3. Workflow is available, but weak. Currently workflow routing for documents is controlled by SharePoint Portal 2001 and is assigned by folder. All documents in a folder are sent through the same sign-off process. This requires that documents be grouped by sign-off routing, which may not be the logical grouping. A possible workaround for this is to create a folder for the project; create subfolders in the project folder for the basic types of approval routings the project may have; place documents in the folders based on the approval routing. Hence engineering release documents would go into an "engineering release" folder where a sign-off applicable to those documents is applied. Similarly, project control documents would be placed into a "Project Control" folder where the signators may be the Project Manager, the Solution Architect and the customer's Project Manager

4. Issues. Although there is an issue tracking capability in Project Server 2002, there are some serious limitations. There is only one type of "issue", and it cannot be reclassified as a Risk, Change Request, Change Order, etc. In addition, there are only three hard-coded states (active, closed and postponed) where the responsible parties for each of these states are manually assigned. The assigning user also has the ability to assign a "responsible party" to the issue whom does not have the right to update the issue. The work around is for the project administrator to open up the rights. This could cause a maintenance nightmare.

   Issues should allow for a complete state machine with defined states transitions and a workflow with predefined resources for each state. There should be the

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ability to "escalate" an issue to other forms of issues (risk, change request, change order, etc.) Each of these types of issues should also have the predefined list of states and approvers.

5. System Speed. Benchmarking was not done for this review, but in demonstrations the system it did not appear to be very fast. The demo database was only 20 tasks with few or no attachments to them and it took "seconds" to load.
6. Complex installation and maintenance. The product is very "layered" to accommodate the smallest of shops needing Project Standard 2002, to the full-blown collaborative product requires a mass of Microsoft tools. If the install environment is already primarily Microsoft this may not be a problem. But the implementer should be aware of the layers of:
   a. Windows 2000 Server
   b. Windows 2000 Advanced Server
   c. SQL Server
   d. Project Server 2002
   e. Project Professional 2002 (One for each person needing to strong modify Project schedules)
   f. Project Web Client license (CAL's; for each individual whom will access the plan via a browser – licensed by user machine)
   g. SharePoint Portal 2001 (for Configuration management)
   h. NT domain or Active Directory for user database.
7. Potential administrative chore. Windows 2000 Server, SQL Server, SharePoint/Project Server will each require an administrator since the skill sets will be quite diverse. It will also be necessary to have someone with ASP knowledge to achieve full functionality of SharePoint and the "web parts" tools.
8. Platform/Vendor dependence. Users will be tightly bound to Microsoft and their product strategies. Project Server 2002, obsoletes Project Central; SharePoint Portal obsoletes Digital Dashboard, Site Server and Index Server. For users of these products migration will not be simple. If these products are tightly integrated with other products significant re-coding may be needed. It appears that soon the Workflow and Permissions functions in SharePoint will also change to accommodate a better workflow functionality. The concept of "web parts" and iFilters, two major functional component of SharePoint may also be in for significant "upgrades" this could potentially alter their interface. These transitions are rarely smooth with Microsoft and should be an on going concern. Custom modules and interfaces to the product as defined today can become obsolete very quickly; creating significant work for the IT department and giving end-users heartburn. (Remember all those Excel macros that users wrote that were obsolete with VBA?).

Microsoft has made serious and significant steps forward in providing a Collaborative Project Management tool. Required features for a collaborative tool have been added to put it in the ranks with other collaborative tools.

For assistance in further evaluations of Project 2002 or other Collaborative Project Management tools please contact Todd Williams at eCameron, Inc., 1-360-834-7361

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Functionality Summary

Project Templates:

Provides project templates using roles (generic Resources allowing for easy re-use and resources replacement.

User Views:

The product provides two methods of configuring user views. Using SharePoint Portal 2001 the views are highly customizable and an extremely flexible.

Issue Tracking:

Issue tracking exists but is limited in flexibility and functionality. There is only one form of an issue, hard-code state machine and manual routing.

Reuse:

Templates, roles and knowledge base functions provide significant reusability in Project 2002. Use of SharePoint Portal Server 2001 is required for this functionality.

Knowledge Base:

SharePoint Portal Server 2001 provides the knowledge base for tracking company, program, project and task information such as documents, spreadsheets and notes.

Document Workflow:

Document workflow is based and setup on a folder-by-folder basis. This will provide some functionality but is difficulty to maintain.

Process Workflow:

Not very thorough, only available in a manual form for issues.

Ease to Update Task:

Easy to use timesheet format.

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Resources:

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Project Management Institute	www.pmi.org
Startwright's Project Management portal	www.startwright.com/project.htm
Business Process Management Initiative	www.bpmi.org
The Workflow Management Coalition	www.wfmc.org
Open Directory of Project Management Software	dmoz.org/Computers/Software/Project_Management
Open Directory of Workflow Products	dmoz.org/Computers/Software/Workflow/Products
The Enterprise Content Management Association	www.aiim.org
Workflow And Reengineering International Association	www.waria.com
e-Workflow	www.e-workflow.org
Project Retrospectives	www.retrospective.com

Tools:

As-One	As-One, Inc.	www.as-one.net
Enact	Enactex, Inc.	www.enactex.com
Microsoft Project 2002	Microsoft, Inc.	www.microsoft.com/office/project
PlanView	PlanView, Inc.	www.planview.com
S2S	Tonbu	www.tonbu.com