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New Services

eCameron is proud to announce a new service. Starting in July, eCameron will provide the Functional Requirements document that we use for generating our reviews. This document would be of great value to any organizations building or implementing a Collaborative Project Management system.

The document provides an extensive list of features that are pertinent to a Collaborative Project Management tool and can be easily modified to include custom features and function for your organization. Using this document as starting point will save your company thousands of hours and help ensure that your needs are fully met.

For more details on all of our services please contact Todd Williams at 1.360.834.7361 or by email at todd.williams@ecaminc.com.

Next Issue

Discussion Topic:

Workflow and Collaborative Project Management systems. Workflow is a large discipline and many companies provide standalone workflow systems. But workflow has a strong part in CPM beyond the Work Breakdown Structure. The requirements and reasons for workflow will be discussed.

Review:

Tonbu Corporation's S2S platform. Tonbu is a new comer to the CPM market and provides a project that was initially conceived as a CPM tool in the EMS space.

Integration with Legacy Systems

In many of today's projects one staff member is hunched over a keyboard; their sole task being to update the project's progress on the schedule. This operational condition manifests itself due to the lack of efficient access to the project tools by the team members. But simply providing access is not enough. The use of the system must not be burdensome to the project contributor, since their priority is to focus on performing individual tasks. One method to solve this is to integrate key enterprise systems into the Collaborative Project Management tool to allow automatic updating by events.

Reducing workload while also increasing timeliness and accuracy of information is achieved by building interfaces at the correct integration points. With integration into the enterprise, disparate groups can more easily update schedules and provide data to the collaborative team.

The Type of Project

Common sense indicates that projects that are short lived and "one-off" in nature are probably poor candidates for integration. But projects that are highly repeatable (computer and IC design, custom home construction, etc.) are more likely to benefit from integration with one or more of the collaborative partners internal systems.

To illustrate the point consider two different styles of projects. The first example is a project where one partner is performing most of the work and numerous smaller partners (i.e. sub-contractors) perform subtasks. The systems generating the data are more centrally focused around the primary company. Contractors may just as easily handle the "integration" with the CPM tool manually. Integration only with the "prime" partner may be appropriate.

The second example is where multiple partners are collaborating on a project with a more evenly sharing workload (say, one supplying a ship's hull and the other providing the propulsion and con-

trol systems). In these situations, tight integration of both companies systems may be required to minimize costs and keep the project on schedule.

The Need

Collaborative project management tools define tasks and assignments, track issues, and contain a knowledge base in a cross enterprise environment. This helps ensure all team members are on the "same page". But execution of a given task is usually performed in a separate tool. Designs may be created in a CAD system. Design documents may be part of an over reaching Product Data Management (PDM) system that tracks revisions to the design and aggregates all of the product's information into one logical unit. Bills of materials may be produced as part of a CAD or PDM system, purchase orders by an ERP system; production schedules by a Planning and Control package. These tools contain valuable information about the progress of those tasks and issues that may arise.

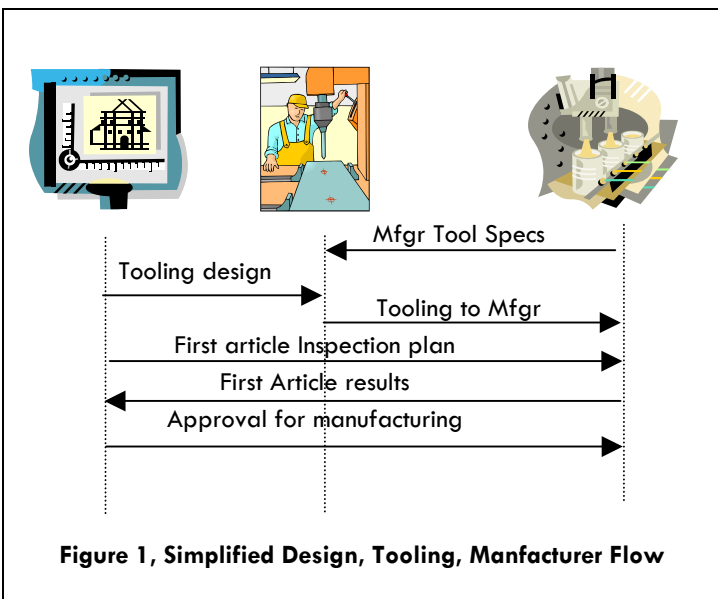
By the nature of collaborative projects, data generated or used by the partners must be easily shared across enterprises. The issue is how to share data between organizations in a timely, cost effective manner. For example, consider a Printed Circuit Board (PCB) design that is part of a larger computer design project. The PCB design may be completed by one partner but manufactured by another. Both partners must have access to the design, change requests, change orders, manufacturing issues, quality issues, and so on, to ensure accurate and cost effective manufacturing of the PCB. The designer will generate drawings, change orders and quality issues, while the manufacturer could generate change requests and manufacturing issues and need to respond to quality issues. The drawing releases are certain to be part of the project schedule and the design start and completion should be integrated with the project schedule. Issues raised during the process could greatly impact the project and

should be tracked in the project management tool as part of its issue tracking system regardless of the system or enterprise that generated them.

Not integrating enterprise systems with the CPM system creates a working environment where the project contributor must perform a task and then update the CPM system to indicate the work performed. But many systems, like PDM systems, provide definitive start and end points that allow for easy integration with a CPM tool. The benefits can be considerable including more timely data, less “double entry” and better acceptance of the CPM tool by team members. Following is a discussion of some candidate systems.

Product Data Management Systems

Design and manufacturing projects need to track components that comprise the end product, be it 2x4 studs, resistors or IC design blocks. Product Data Management (PDM) systems



are often the repository of this data. The tasks associated with the PDM processes can constitute a large portion of a project. PDM Systems have a pre-defined sequence of activities they govern. Integrating step transitions with the CPM tool can be easy and very beneficial. A minimal integration would be to tie the initiation or completion of the PDM task directly to the CPM.

For example designing a plastic injection mold requires coordination between the designer, tool (mold) maker and the plastics shop. The product team designs the part and the design is sent to the toolmaker to built the mold. To design the mold the toolmaker requires the product design and the capabilities and fitting requirements of the plastics shop. This interaction (diagramed in Figure 1) should be tracked as part of the project since it can introduce significant risk. Each step of this process (approvals, ECNs, first articles, etc.) should be integrated to provide automatic update to the project management tool.

Directories Services

Directory Services is the generic term used for systems that store resource information and their relationships in the en-

terprise. These systems may store just user names and passwords or they may contain detailed data about the enterprise (printers, offices, equipment, etc.) and detailed resource data (skill sets, organization charts, etc.). Integration with an organization’s directory service can provide critical information about available resources for a project.

One of the challenges for an IT staff is the multitude of systems within the enterprise that must maintain user information. Sharing resource data between systems and not having to duplicate user information is more than just a convenience. Enabling single sign-on and centralized control of access rights, minimizes errors, reduces lost time and improves security. The goal is improving the accuracy of data by minimizing the errors that can be inherent in maintaining multiple systems.

Collaborative systems of any kind exacerbate this issue by requiring confidential information about resources from multiple companies. Security to ensure only authorized people have access to project constituents and their capabilities is a supreme concern.

Event Tracking Systems

Tracking non-scheduled events is imperative to any project. In collaborative projects it can have a much greater impact due to the distributed nature of the team. Examples are, Change Notices generated in PDM systems, Trouble Reports from QA systems and Change Requests entered in manufacturing or customer service systems. These systems are valuable integration points.

Additionally, some data may come from other projects or from operational systems. A Trouble Report or Change Request issued on a production model could impact a current project’s design, creating delays and rework. Therefore, a project needs to be able to “subscribe” to certain external events in legacy systems to provide input to the event tracking process of the project without requiring double entry effort by the team.

Workflow

To streamline their processes and capture the knowledge of the internal processes, some companies have invested in workflow systems. Projects quite often rely on these systems to complete tasks in the project. Whether it is purchase order processing or document control check-in procedures these processes should be modeled and maintained in the department providing the service and not in the project. Integration with departmental systems can provide the data needed to properly manage the project.

Enterprise Resource Planning

As the name implies, ERP systems control everything from

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human resources to inventory, shipping and receiving to production control and purchasing. It is beyond the scope of this document to discuss each of these areas suffice it to say that integration with these components is dependant on the project type and volume of data that affects the schedule.

Conclusion

Few if any Collaborative Project Management systems have the above capabilities today. An organization must look at

their processes and determine where the appropriate integration points are. Usually it starts within an area like directory services integration to gain single sign-on or user capabilities.

eCameron can assist in making sure your selection of integration points is efficient and cost effective. Please do not hesitate to contact us now for more information on our services.

Review – PlanView 7.2

Product:	Version:
PlanView	7.2

PlanView 7.2 is a thorough Collaborative Project Management system. The product meets a majority of the requirements of a CPM system. Recent additions to the system include a complete document management capability that fills the obvious void in previous versions.

PlanView understands that without the right resources the project is in trouble. They have built a product that services that need. Resource utilization and tracking is a major feature in PlanView.

The key features are:

- Resource Management – extremely strong method of cataloging and tracking resources in multiple organizations.
- Template for creating new projects – allows reuse of an entire project or pieces of a project to create a new one.
- User-friendly portal view – provides quick access to user’s tasks overview and easy drill down to detail.
- Opportunity Management – allows entry of initial project goals and contractual obligations prior to the start of the project facilitating a smoother start.

The product integrates with Microsoft Project to provide a method of generating the Work Breakdown Structure, and adds significant functionality to allow the user to produce a complete online project plan.

PlanView is feature rich. Below are the highlights of its functionality.

1. Roles. PlanView provides a complete implementation of user roles. This allows the creation of a project using roles and their associated skills. Later in the project life-cycle actual resources can be assigned to specific tasks. Roles information is retained to provide maximum flexi-

bility.

Roles are pervasive in PlanView. They are associated with the Work Breakdown Structure, as well as security, issues, and the document repository, etc. This simplifies maintenance and reduces the chances of error.

2. Resource tracking. The product has a strong resource management focus. Significant design effort has been put into ensuring the project’s management team can find and allocate the proper resources. Each resource includes a list of capabilities and proficiencies. When assigning a resource to a task the “resource manager” can search for an applicable resource based on skills, proficiency, availability, location, and more. After selection, additional data, such as billing rates, can be analyzed to determine if the resource is a good fit. Availability is based on the resources loading on other projects, operational assignments, vacation and other time constraints.

Thorough search functionality allows for easy modification of criteria. In addition, unexpected contingencies during the project may be handled. PlanView allows the user to search and replace (or add) resources from an easy to use wizard.

Capturing the resource capabilities in one place is extremely valuable for future projects. By doing so multi-company capabilities are known in advance and can assist in reducing risk.

3. Document and project templates. PlanView can use all or parts of a project task list to generate a new project. This functionality allows the user to create a project library that contains “canned task sets” that can be used to build new projects. As described in Issue #2 of the *Collaborative Project Management Newsletter*, this function should minimally provide “components” of a project and allow the replacement of roles with project team members to help establish the project and build off past experiences. PlanView meets this requirement

This functionality is essential in providing reusability in projects. Project reuse will be covered in Issue 5 of this Newsletter.

4. Time keeping. Time keeping is provided through easy to use “time sheet” entry forms that may be setup to be approved by the project manager. This allows for quick update of the schedule and monitoring of time spent.

It may also be configured to interface with corporate timekeeping or billing systems.

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5. Issue tracking. Any situation a team member feels needs to be resolved can be entered as an issue. Issues accommodate attachments and the system tracks the state of each issue i.e. their degree of resolution. Issues can also be escalated to other forms types – namely Risk and Change Requests. In addition, Issues can have business rules attached to automate their processing. For instance, an Issue can be automatically promoted to a Risk if a business rule is attached to set the criteria.
6. Opportunity/Contract Management. PlanView provides the functionality to enter pre-contract information into the system. This assists in getting the project started properly by providing and maintaining expectations early in the project life cycle.
7. User dashboard view. Each user has a home dashboard that is customizable based on their role. The dashboard is well organized and provides users with an efficient method to access their tasks and other project information. Users assigned to several projects can see all their tasks without having to move between screens. Data provided on the screen allows the user to determine which tasks are most important and assists in prioritizing their workload. Using the dashboard as the entry point, users can drill down to as much detail as their privileges will allow.

For executive views, project status may be characterized using two summary tools. These are provided by the (now standard) stoplight notation and by PlanView’s Schedule Maturity Index (SMI). Stoplights highlight areas (i.e. risk, budget, schedule and cost) that may need attention – each having independent red, yellow or green indicators.

The SMI is an automatically calculated value based on the projects progress. A low SMI implies a project is in its early phases (i.e. only a Work Breakdown Structure entered). The values increase through stages such as “resources assigned” on to “project completion”, where the SMI is 100.

8. Document vault. Basic document storage, configuration management and a routing function have been implemented in version 7.2. These functions allow the user to attach documents to the project or a task. Both documents and document templates can be attached to projects or project templates, providing the capability for a “working model” to be attached to the project when it is created.

Documents can be organized in a folder hierarchy where they are classified into categories such as Templates, Active Documents, My Documents and Enterprise

Documents.

Users only see documents they have the rights to view. The documents are noted with icons to denote whether they are checked out for modification, awaiting approval, etc.

While PlanView is a relatively complete CPM system, some areas need feature enhancement. The current release is version 7.2 but there is a new release forthcoming. The newest release 7.2 with SP1 was reviewed but its features are not included in this article. As is the policy of eCameron, our reviews reference areas where improvements are being made, but we do not use those features in rating the product.

Functionality Summary

Project Templates:

PlanView uses templates to assist in generating plans. Sections of plans may be pieced together to make complete plans. Roles are used to capture task resource requirements.

User Views:

Easy to use customizable personal views of the project allow individual contributors and executives to see summary data that is important to them.

Issue Tracking:

Issue tracking allows three types (Issue, Risk and Change Request) and escalation between them. Routing is freeform and is not state machine driven.

Reuse:

Provides significant reuse of projects by allowing plans to be saved in a template and entire or partial plans to be copied to make new plans.

Knowledge Base:

Through use of the document repository and plan templates, significant data is retained in the knowledge base. Issue tracking is not integrated into the knowledge base, other than past project reporting.

Document Workflow:

Limited in release 7.2 via Issues. Limited functionality in release 7.2-SP1.

Process Workflow:

Not available in release 7.2. Limited functionality in release 7.2-SP1.

Ease to Update Task:

Easy end-user can update time on tasks by filling out a timesheet.

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1. Administration. Due to its comprehensive resource tracking functionality administration of PlanView's resource module will be extensive. A great deal of planning will be required prior to implementation and it is strongly suggested that a Resource Manager be assigned to the PlanView maintenance team. Properly planned, this area will provide a huge benefit to an organization since the knowledge base of resource capabilities will be invaluable to any project team.

To assist in minimizing the workload, PlanView does allow for integration to external systems using intermediary XML files. This minimizes some of the routine maintenance work, but procedures must remain in place to track the ever-expanding capabilities of resources and properly enter them into the system.

2. Workflow is weak. Workflow exists in three areas of PlanView but appears to be separate implementations. Issues/Risks/Change Requests have a freeform workflow, document repository has an approval workflow, and, in the next service pack release, cascading "lifecycle" workflows may be attached to a project. This implementation is confusing but does show that PlanView is working on making improvements and supplying better functionality. There is potential for a very robust workflow implementation.

3. Issue state engine. Currently the issue tracking system is two-dimensional, allowing issues to change state (open, close, etc.) and issue type (Issue, Risk and Change Request). Although this does allow identification and tracking of problem areas on the project, the implementation is freeform and does not allow enforcing a process through a state machine model or role based routing. This limited functionality appears to be addressed in future releases.

4. Multi-company use. Multi-company functionality may be achieved by creating "teams". This allows flexibility in the Resource Manager's view of the project, but obfuscates the resource's company. Ensuring a valid and appropriate resource (i.e. from the correct company) is assigned to a task will require specific attention by the Resource Manager. Catching an incorrect resource (i.e. from the "wrong" company) may be difficult. Additionally, this concern could compromise security by increasing the complexity of the administration of users rights.

PlanView is a full-featured product focused in the CPM world. They have an experienced staff and aggressive plans for product improvements.

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

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Resources:

Past issues of *The Collaborative Project Management Newsletter*

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Issue	Date	Topic	Review
1.	June 10, 2002	Requirements for Collaboration Systems	As-One 5.0
2.	June 26, 2002	Project Setup in a Collaboration Environment	Microsoft Project 2002
3.	July 15, 2002	Integration with Legacy Systems	PlanView 7.2

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
Nucleus	ESNA Ltd.	www.projectnucleus.com
PlanView	PlanView, Inc.	www.planview.com
S2S	Tonbu	www.tonbu.com

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