Chapter 3.15

Achieving Agile Enterprise Through Integrated Process Management:
From Planning to Work Execution

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ABSTRACT

Project management tools are used to manage projects from time as well as from resource leveling perspectives. Workflow management systems guide users through processes by driving the processes based on formal process definitions also called workflow types. This paper describes integrated process management system that will integrate project management, business process modeling, simulation and workflow technologies in order to support scheduled workflow execution. The target will be achieved by utilizing a tool for modeling work processes which can semi automatically generate workflow processes based on scheduling tool and then exported it to workflow engine via web services using XML process definition language (XPDL). Addition of simulation capability allows testing workflows before deployment.

INTRODUCTION

Coordinating a large program such as new airplane design is a big challenge, and improving coordination would save time and money. Coordination relies on frequent meetings and discussions to understand the current and planned activities of all the programs' participants. We need to make faster, more informed decisions—communicating and collaborating immediately and effectively no matter where employees are located. We need to better understand and serve our customers globally and seamlessly interact with suppliers and distribu-

tors to take advantage of market opportunities faster than our competitors. We need to be more efficient than ever. In short, we need business agility to succeed.

Scheduling and project management tools provide support for determining task sequencing, dependencies, and resource loading, and once the schedule is established, its status is updated and reviewed in meetings. The work within each scheduled task is coordinated by people communicating with one another: Managers talking to IPT leads, and the leads talking to their team members. There is little automated support to ensure that work is done in accordance with a specified process. Process owners lack the tools required to describe their processes at the level of detail required for workflow automation, and there is no integration of workflow management tools with scheduling and project management tools.

An integrated process management environment supports coordination of program tasks, reducing the time required to perform these tasks and the costs of coordinating them. Process owners or their designees construct executable models that define the task elements, the roles responsible for each task element, and the rules that determine task element sequencing. Tasks are initiated automatically in accordance with the program schedule by alerting the individuals responsible for performing the work. As each person completes a task element, the work is automatically routed in accordance with the established process to the next person, who may be selected from an available pool of people based on resource loadings. The status of all current tasks is visible and updated automatically as task elements are completed.

This vision can be achieved through integration of project management, workflow management, simulation and business process modeling technologies. The workflow template designer provides a low-cost method for business process owners to create and view their processes and for workflow modeling experts to generate the details required by the workflow engine. Its development

requires leveraging workflow standards to enable information exchange between dissimilar workflow engines (such as PTC Windchill and Enovia workflow engines) and process modeling tools. To enable distributed workflows that accomplish downstream deployment of work packages, the template designer will support standards such as the Workflow Management Coalition (WfMC) XML process definition language (XPDL).

The interface between scheduling and workflow management systems will support rollup of workflow data to support workflow plans, schedules, status, and critical chain analysis. We have developed an interface between Primavera P3e (project management) and PTC Windchill (workflow engine) utilizing web services as a means of integration.

ENTERPRISE REPOSITORY OF BUSINESS PROCESSES

Within an enterprise, business process knowledge is an asset of critical importance. The primary objective in building the proposed system is to develop integrated process management that can capture process knowledge in a repository of business processes, thereby allowing for coordination of program tasks, reducing the time required to perform these tasks and the costs of coordinating them.

Creating and managing this knowledge motivates the organization to address challenges in designing and implementing an information system, including:

- Suitability for many levels and types of access
- Adaptability for strategic, long-term use
- Customizability to support innovation
- Use of legacy information
- Acceptance and compliance by process constituents

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