

Knowledge-based

Process Modelling

The workshop had identified that a critical aspect of 'systems integration' is business process integration, both within and across enterprises. Steve Kneebone of KTI described a tool, KPM - knowledge-based processor modeller - which can support such process integration.

Conventionally, process modelling, project management, and workflow are quite separate activities. While processes may be modelled and analysed by an organisation, the plans and monitoring mechanisms required for project management, and the definitions of interrelationships for workflow are usually handled quite separately, often with manual interfaces between these distinct activities. The consequence is that, for instance, project management and workflow systems do not utilise the richness of knowledge available about the processes which must be performed as part of the plan.



The Jaguar XK8, manufacture of which benefited from integrated process management with KPM



KPM enables rich process definitions to be used in project planning, project monitoring, and workflow management. Knowledge about processes can be captured so that process definitions can be stored in a central library for future use, modification and reuse.

KPM is well suited to domains such as engineering design, in which the dynamic and uncertain nature of the design processes present complex management challenges. Engineering processes are typically unique combinations of standard process fragments. However, there are many factors that can be determined only as the design process evolves. Which particular process fragments are appropriate? How many design alternatives can or should be explored? How many design iterations will be needed?

KPM can then execute instances of the captured process definitions. Process definitions are made up of many individual tasks. Some tasks will be executed by a computer program and some tasks will be executed by people in the workplace, either within the organisation or elsewhere in the supply chain. KPM supports the management and control of all tasks in the process. When a task is ready to begin, KPM will initiate the task. While the process is being executed, KPM captures the knowledge and rationale for future reference which can be reused in future processes. KPM provides many project management tools so that progress can be defined and monitored: reports, graphs, Gantt charts, resource utilisation reports, costs to date, projected costs, project time, and critical design parameters, such as weight.



KPM can be used in both a multi-user, multi-location environment and also the simplest of situations - a single user with simple processes.