Implementation of process management system based on
active object-oriented database

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Abstract

As the environment around organizations has rapidly changed, traditional organizational
structure is required to be redesigned from vertical and hierarchical structure to horizontal and
networked. New management tool called Business Process Reengineering (BPR) and information
technology (IT) like groupware or workflow management system are therefore introduced to define and
control the changed structure and procedures of organizations. When modeling the horizontal and
networked organizations, we must consider that the processes in them have multi-layered hierarchy and
asynchronous interactions between subprocesses. Hence, a systematic approach is required to
transparently manage complicated process structures. Most current tools and associated methodologies
do not provide an integrated framework of process management for reusing processes and defining
business rules between them.

This paper proposes a framework of a process management system based on an active object-
oriented database. The framework provides a template-process by which the process modeler can model
and analyze processes. We define a class for multi-layered processes using an object-oriented
organizational procedure modeling. The multi-layered process class consists of activities, subprocesses,
and rules that define relationships between processes. A set of activities for BPR such as process
modeling, analysis, and implementation, can be integrated in the process management system.

Keyword : process management system, active object-oriented database