

## **A Change Management Framework for Collaborative Computing**

허 순 영

한국과학기술원, 경영과학과

### **Abstract**

This paper presents an object-oriented framework for change management in collaborative computing that supports two or more, possibly distributed, processes engaged in common tasks with an interface view to shared objects. It focuses on change management mechanisms that manage dependency relationship between shared objects and dependent user views, and coordinate change and propagation activities between the two. It firstly provides a set of abstract object classes to constitute the core constructs of the change management mechanisms such as dependency dictionary, supporter, and dependent. Secondly, it extends the mechanisms in two directions: persistent shared objects and distributed computing. For persistent shared objects, a delayed change notification mechanism is additionally introduced to support a transaction management environment. For distributed computing, a client-server computing model is further incorporated into the change management mechanisms. At the highest level of the framework, change manager classes are provided to encapsulate all the complex structures and dynamic behavioral schemes of the mechanisms. To facilitate seamless accommodation of transient and persistent shared objects on a single formalism, and secure a robust implementation basis of the change management mechanisms, the paper adopts an Object-oriented Database Management System (ODBMS) as an underlying system platform. The framework is developed under a commercial ODBMS called OBJECTSTORE with C++ programming language.