변화 관리 기법을 이용한
옵션의 가치 평가 모형 개발

허순영, 이근우

한국과학기술원 테크노 경영대학원 경영공학과

Abstract

Due to the change of environment in financial markets, the importance of financial derivatives have increased with the rapid growth of the financial derivative market. The value of a financial derivative is sure to be influenced by the value of the instrument that it is derived from, which is also known as its underlying instrument. Because financial derivatives have a depending characteristic on their underlying instrument, there is a need for a mechanism that reflects the value change of the underlying instrument to the corresponding financial derivatives in a system that manages financial derivatives.

This paper dwells on a value evaluation model on an option where an option is a representative financial derivative. Here, the value evaluation model on an option is developed using a change management framework for dependency maintenance and change notification. The change management framework is an object-oriented database model which manages dependency relationships between shared objects (called supporter) and dependent user views (called dependent) in a collaborative system and which coordinates change and propagation activities between the two. By mapping the underlying instrument as the supporter and an instance of an option from the time of its creation as a dependent of its underlying instrument, the option(the dependent) can be informed of the change of value of its underlying instrument(the supporter) and can effectively respond to that change. Therefore changes in the price of the underlying instrument can easily be propagated. With this approach, the dependent relationship between an option and its underlying instrument can be seamlessly captured, and the relationship effectively managed. Financial derivative systems which is in prospect of being actively performed in the future has wide use of such value evaluation model using the change management framework. The model is developed under a commercial ODBMS called OBJECTSTORE using the C++ programming language.