

## **Read-Log-Update**

# **A Lightweight Synchronization Mechanism for Concurrent Programming**

### **Summary:**

The objective of this paper is to introduce the read-log-update (RLU) mechanism. RLU is a variation of read-copy-update (RCU) synchronization mechanism, which enables scalability of code by supporting unsynchronized reads updates. To overcome downsides of RCU, RLU allows concurrent reads from multiple writers, and obviates difficulties in RCU programming. The gist of this mechanism is the logging and coordination scheme derived from algorithms related to software transactional memory. Experiments show that RLU outweighs RCU in terms of code simplicity and performance.

### **Strengths:**

The introduction and utilization of RLU system clearly proves that simplicity in programming and increase in performance compared to those of RCU is feasible. As an experiment in this paper, it is demonstrated that the scalability of a sample real-world application, Kyoto Cabinet, is convenient in particular using the RLU mechanism.