Contents

Chapter 5

Concurrency Control

Distributed concurrency control is scalable but centralised concurrency control is not. Transactional Memory systems use centralised concurrency control to ensure consistent access to shared state but a scalable concurrent system should use distributed concurrency control to ensure consistent access to a particular object. This chapter describes how a distributed concurrency control protocol can serialise access to an Immutable Data Structure.

Section 5.1 identifies the choice of concurrency control mechanism as one of the most significant decisions taken when designing a concurrent system.

Section 5.2 describes how functions acting simultaneously on an Immutable Data Structure can be serialised.

Section 5.3 describes how an Immutable Data Structure can be made confluently persistent.

Bibliography