FIRM: Fair and High-Performance Memory Control for Persistent Memory Systems

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New Use Case of NVMS

Why Another Memory Control Scheme?

Memory Accesses in Persistent Memory Systems

Assumptions Made by Previous Memory Schedulers

Persistent Writes

Bus Turnaround Overhead

Simple Extension of Conventional Memory Schedulers

FIRM Components

Persistent Write Striding

Persistence-aware Memory Scheduling

Fairness and Performance