

Metadata:

- Title
- Year of publishing
- URL / DOI
- Keyword
- Authors
- Venue

Architectural Context:

- **Domain / Context:** Provide info about the application area or problem space
- **Operation Mode:** Distinguishes how PMEM is used-AppDirect, Memory Mode, Mixed, etc
- **PMEM Source (Real / Emulated / Simulator):** To check the realism of the results, as real hardware yields more reliable findings than simulations/emulators.
- **PMEM Specs / Capacity:** Sometimes hardware configuration affects experimental outcomes. Important for reproducibility.
- **Toolchain + SW Stack:** Understanding the software environment (OS, compilers, PMDK, etc.) helps in understanding compatibility and reproducibility of the research.

Architectural Redesign:

- **Redesign Type:** Identifies the specific architectural or software component modifications made to adapt systems for Persistent Memory, such as changes to logging, indexing, memory allocation, or consistency mechanisms.
- **PMEM-Optimized Data Structures?** : Indicates whether the study uses data structures tailored for PMEM's properties and if yes, what are they.
- **Mode Preference Rationale:** Explains why a specific PMEM operation mode was chosen.
- **Consistency Model:** Identifies the method used to guarantee data durability and crash recovery.

- **Endurance Aware Mechanisms:** Indicates the mechanism to extend PMM lifespan by strategically distributing and reducing write operations to counteract the finite write endurance

Methodology:

- **Study Type:** Classifies the research as empirical, simulated, theoretical, or a survey to analyze the methodology better.
- **Evaluation Methods Used:** Describes how the study was validated.
- **Workload + Benchmark:** Lists the standard test scenarios (e.g., YCSB, TPC-C) used, ensuring comparability across studies. Workload might refers to general operation and Benchmarks refers to standardized performance test suites.
- **Dataset + Workload Trace Used:** Shows whether synthetic or real-world traces were used, affecting realism and reproducibility. Some studies use a formal dataset (e.g., TPC-C), while others use collected workload traces (e.g., synthetic I/O logs).
- **Metrics Used:** Lists what was measured (e.g., latency, throughput, energy), allowing comparison of experimental results.
- **Baseline Compared Against:** Provides the reference point against which the new method was evaluated, makes it easier to understand the improvement.

Findings and Evaluation:

- **Key Results:** Summarizes the main outcomes of the study including results.
- **Strengths:** Highlights what the paper does well, best practices and innovations.
- **Limitations:** List out the shortcomings and constraints.
- **Deployment Challenges:** Identifies real-world obstacles like hardware dependencies or OS support, vital in regards to industrial production.
- **Application Scenario:** Describes how and where the proposed system can be applied.
- **Future Work / Research Gaps:** Reveals unanswered questions or directions for follow-up studies.

Workflow and Meta:

- Extracted By
- Checked By
- Notes / Conflicts