

Memory Barriers: A Hardware view for Software Hackers

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November 19, 2021

Introduction

Cache structures

The usefulness of Caches

The MIME protocol

Example of Cache Communication methods

Example

Need for Write Buffers

Added Complications

Example

Here comes Write Memory Barriers

Need for Invalidate Queues

Added Complications

Example

Here comes Read Memory Barriers

Barrier instructions offered by Linux

Hardware Example: Alfa

Hardware Example: x86

Conclusion