

Evaluating STT-RAM as an Energy-Efficient Main Memory Alternative

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Introduction

- Memory trends in data centers
 - More memory capacity,
 - Higher memory access rates.
- Result
 - Increasing memory power,
 - Reports indicate 30% of overall power from memory.
- Cost
 - Operational + acquisition costs = Total cost of ownership (TCO)
 - 30% power from memory: high operational cost of memory
 - How to reduce memory power?
- DRAM? Alternative technology to DRAM?
 - (possibly) Higher acquisition cost, but
 - Reduced TCO by means of better energy efficiency.

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