



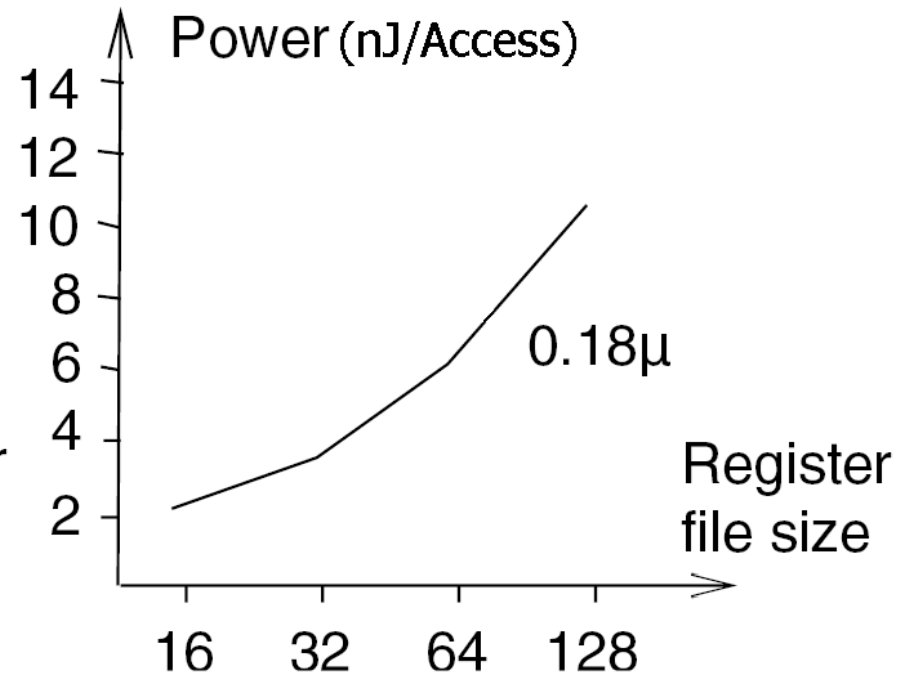
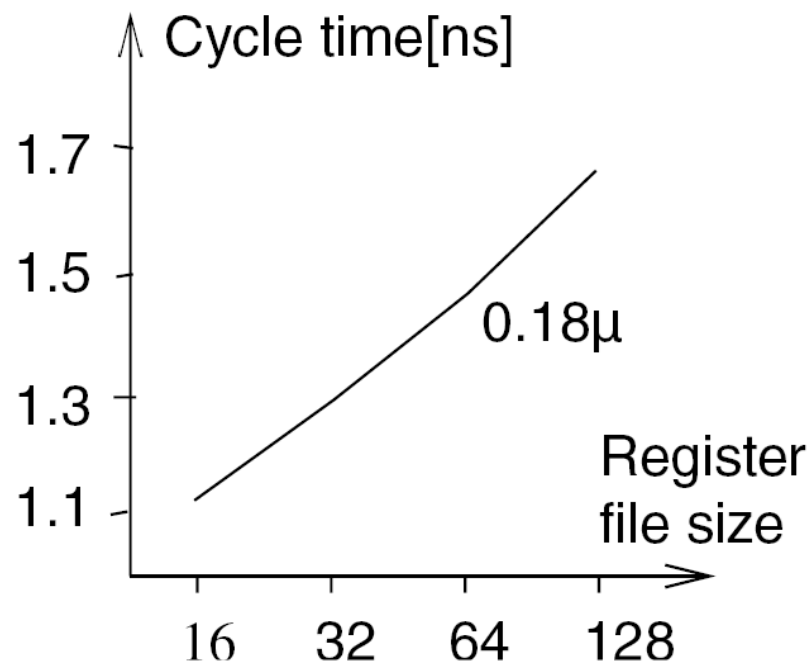
Sharif University of Technology
Department of Computer Engineering

Embedded System Design

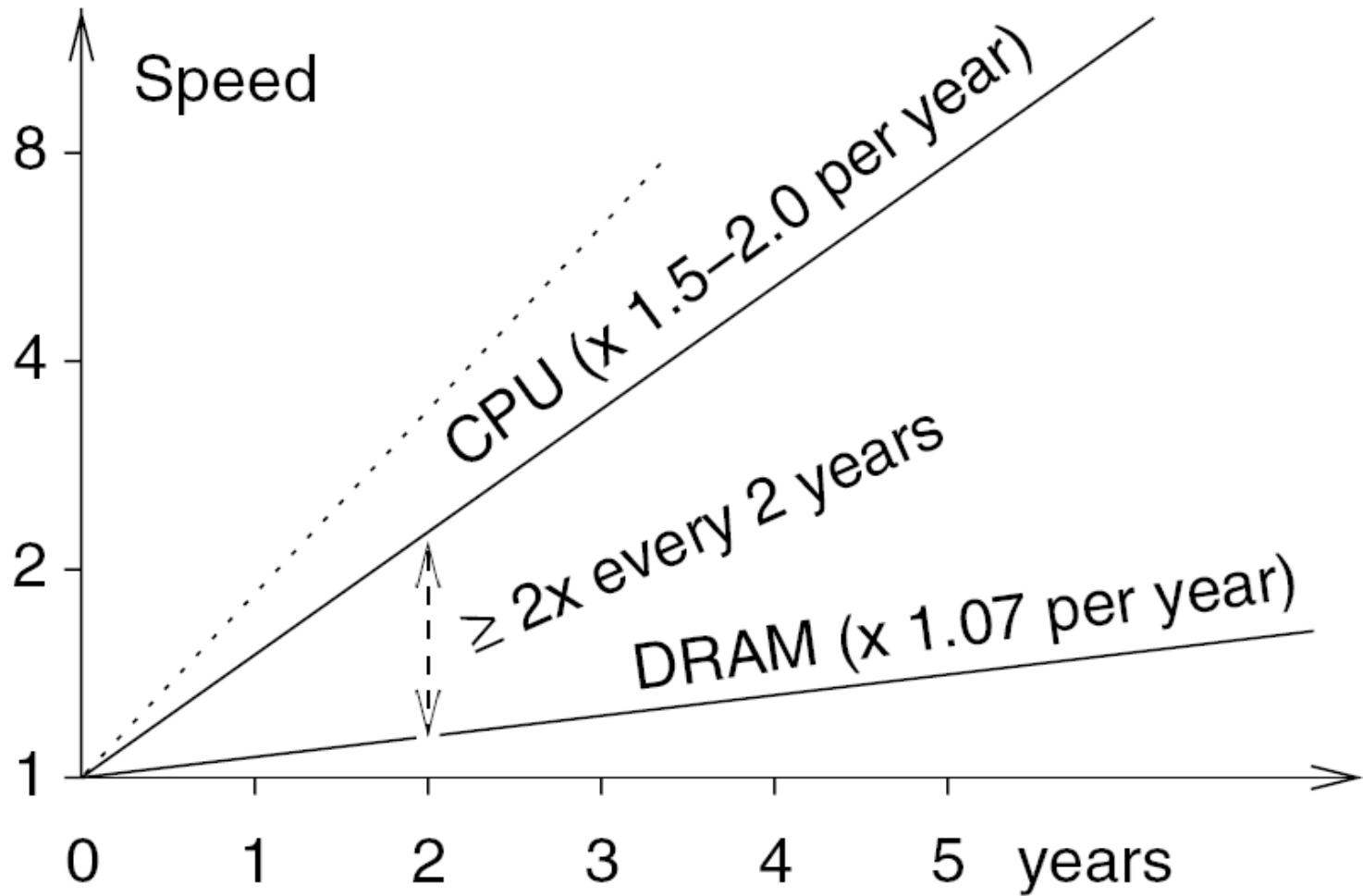
Memories in Embedded Systems

A. Ejlali

Impact of MEM Size



Increasing Gap

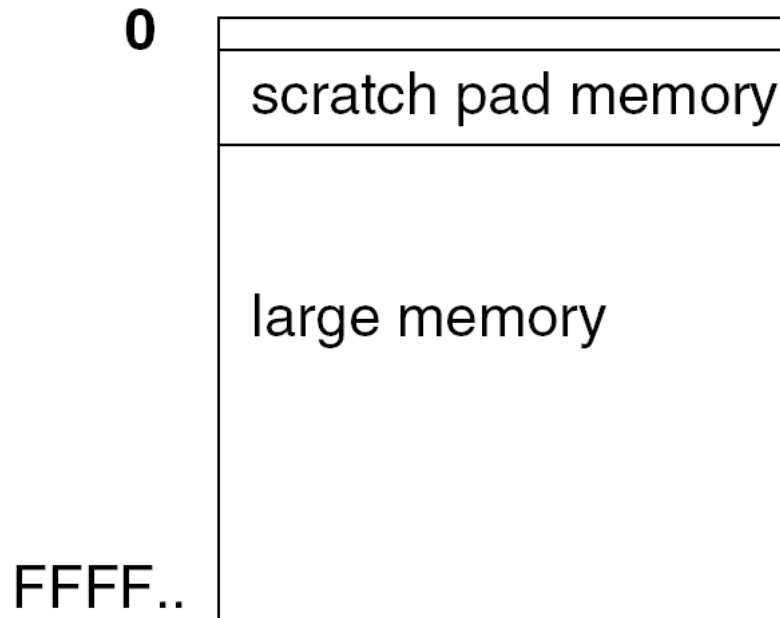


Disadvantages of Caches

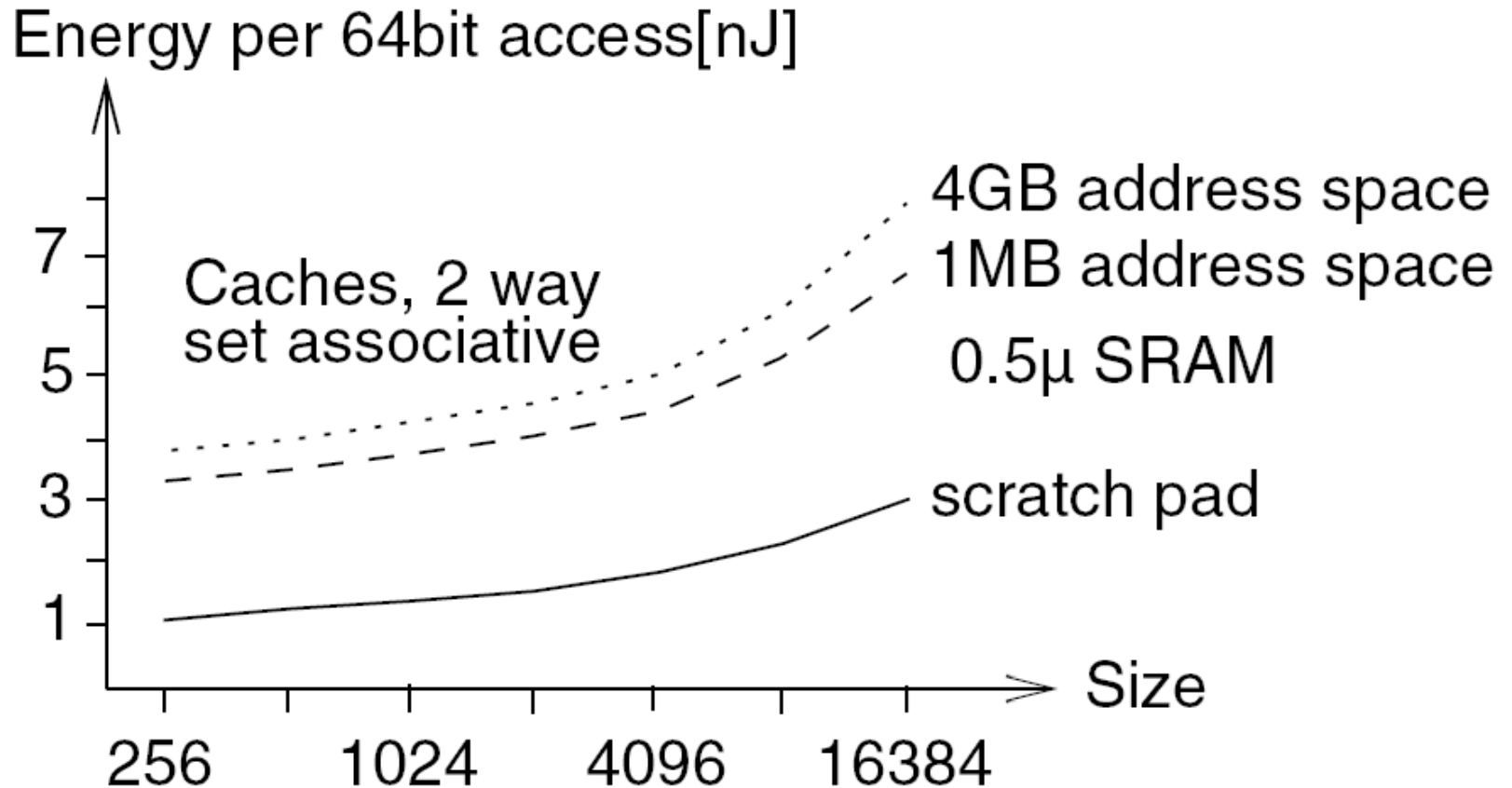
- The **predictability** of the real-time performance of caches is frequently low.
 - Serious problems in scheduling

Solution: Scratch Pad Memory

- **SPM vs. Cache**
 - The only difference is that Caches are transparent while SPMs are not.



SPM vs. Cache



SPM vs. Cache

- **SPMs are more power/energy-efficient than caches.**
 - **There is no cache controller hardware**
- **From a programming point of view:**
 - **The usage of SPMs is harder than caches.**