Project Proposal: MorphCore

Team DRRA

Amanda Marano, Brian Jacobs, Pete Ehrett

Project Overview

- Build a MorphCore
- Put Linux on it
- Run something cool on it

MorphCore

- Two operating modes: OutOfOrder, InOrder
- Swaps between instruction level parallelism and thread level parallelism
- Uses same hardware in different configurations
- OutOfOrder is a single 000 core
- InOrder is a set of multiple in-order cores
- Described in the paper:

MorphCore: An Energy-Efficient Microarchitecture for High Performance ILP and High Throughput TLP

Khubaib M. Aater Suleman Milad Hashemi Chris Wilkerson Yale N. Patt