

# MC4ES

- Going Multicore for Embedded Software

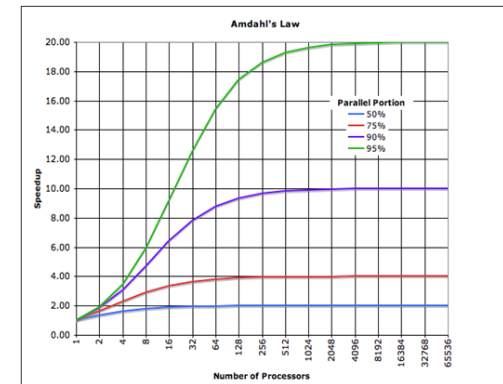
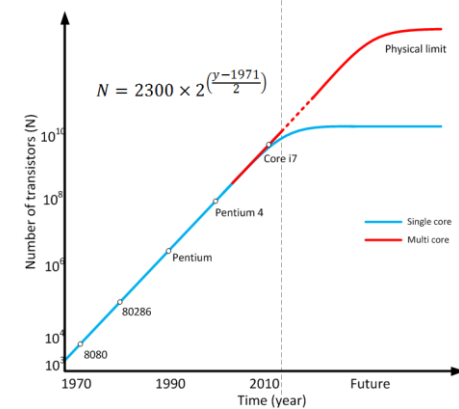
IWT Tetra 110174

- Problem Statement

- Moore's Law
- Amdahl's Law

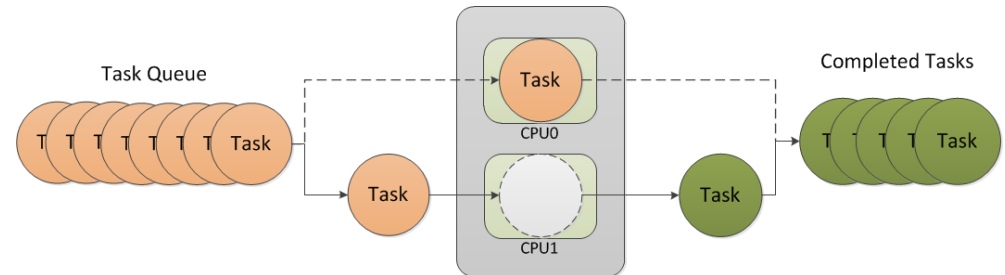
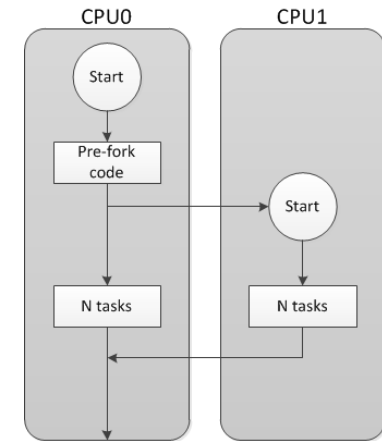
- Key points

- Parallel Software Design Patterns
- Testing
- Implementation
- Tooling



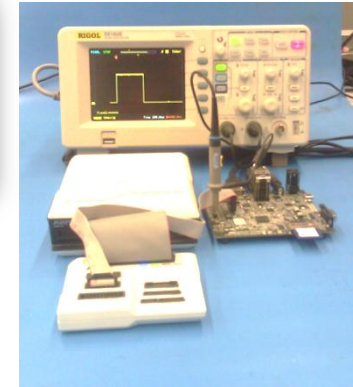
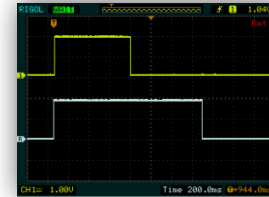
# Design Patterns

- Thread Pool pattern
- Fork/Join pattern
- Producer/Consumer
- Loop Parallelism
- Pipelining
- Planar pattern
- Etc.



# Experiments

- Trial Division Algorithm
  - Fork/Join pattern
  - Thread Pool pattern



- Fast Fourier Transform
  - Radix-2 Cooley-Tukey Algorithm
    - Thread Pool pattern
    - Producer/Consumer
    - Task Decomposition

