

Tutorial: My LLVM backend Book Overview

Book License: LLVM license

Reference:

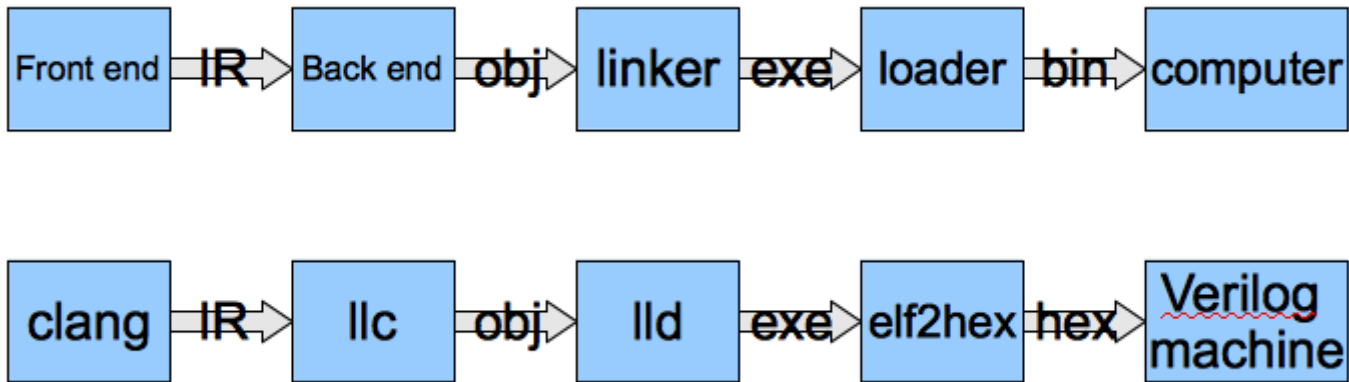
<http://jonathan2251.github.io/lbd/index.html>

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Motivation

- LLVM has excellent material in front end document but **NO good** document in backend.
- I learn backend by implement the LLVM backend code for Cpu0 which designed from my brother work for teaching purpose.
- I learn backend through writing this tutorial since the LLVM backend complexity.
- I join open source with this book.

What I do



My book contents – Overview

- Chapter 1: Preface and outline of chapters
- Chapter 2: Cpu0 instruction set and LLVM structure
- Chapter 3 – 9: Cpu0 mathematic instructions, Asm, Obj(ELF), Global variables, int, struct and arrays, other type, if else, while, for loop, function call
- Chapter 10: ELF introduction and llvm-objdump -d support.
- Chapter 11: AsmParser support.
- Chapter 12: Verilog machine for Cpu0.
- Chapter 13: lld linker for Cpu0.
- Appendix A: LLVM source code and tools installation.

Tutorial: Creating an LLVM Backend for the Cpu0 Architecture

- Over 600 pages of pdf book include full example code telling you how to write a llvm backend(llc), lld, elf2hex and verilog for Cpu0.
- This is a professional book in compiler implementation, not just a concept of book
- <http://jonathan2251.github.com/lbd/index.html>