

Project Report: MorphCore

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The MorphCore Architecture

1.1 Amber 25 Core Architecture

We started out with an existing ARMv7 core implementation called Amber. The architecture of the Amber 25 core looks something like this:

1.2 The MorphCore Architecture

Verification

2.1 Testing Strategy

Our testing strategy is divided into three major parts: Verilog testbenches, assembly tests, and the Linux boot test.

2.2 Automated Regression Testing

Once we started modifying the existing Amber core, we decided it would be valuable to run nightly regression tests. These tests ensured that if we accidentally commit a change which breaks the core, we know about it. As a sub-task of building an automated tester, we needed a tool which could run all of our testbenches and assembly instructions.

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