# 学习SHA3 Software Workloads

目的：building software tests for this accelerator.

If you are using Chipyard, you should install the esp-tools toolchain which comes with the appropriate version of Spike.

过程：

1、用grep class -R | grep "RoccRocketConfig”命令

发现在generator目录下的chipyard/src/main/scala/config/的RocketConfigs.scala 中

2、查看RocketConfigs.scala 中有Sha3RocketConfig，于是到sims/verilator使用

make CONFIG=Sha3RocketConfig debug命令生成simulator-chipyard-Sha3RocketConfig-debug

3、到generator目录下sha3目录的software目录下 生成sha3-sw.riscv，sha3-rocc.riscv，前者sha3-sw.riscv不使用rocc加速器，后者sha3-rocc.riscv使用加速器

4、回到sims/verilator目录用./simulator-chipyard-Sha3RocketConfig-debug  sha3-sw.riscv

./simulator-chipyard-Sha3RocketConfig-debug  sha3-rocc.riscv 命令分别进行模拟

结果：

sha3-sw.riscv 使用的周期是：SHA execution took 153141 cycles

sha3-rocc.riscv使用的周期是：SHA execution took 216 cycles

实现了约709倍的加速