**Integration of AES Hardware Accelerator with AMBER Processor**

The goal of this project is to integrate a Wishbone-based AES hardware accelerator with AMBER processor, which is an open-source ARM-compatible processor. This project consists of three steps.

Step 1: Implementation and verification of the hardware accelerator.

Step 2: Integration of the hardware accelerator with AMBER processor.

Step 3: Testing with software

**Step 1**

Search for an existing AES hardware accelerator. You might be able to find a Wishbone-based AES accelerator. If you can find AES but not for Wishbone, you will need to implement the Wishbone interface. This step is mostly done by simulation.

**Step 2**

Incorporate the hardware accelerator into AMBER processor. The block diagram is shown below.



**AES**

**Step 3**

Develop a software running on the processor. It should access the AES accelerator through the Wishbone bus. The software will provide inputs to the accelerator and get outputs from it.