

Overview

The AHB Fabric provides the necessary infrastructure to connect up to 16 shared AHB Slave components to up to 16 AHB-Lite Bus Master components. The off the-shelf configuration support 4 AHB Master components and 7 AHB Slave components and includes a remapping selection.

In a typical AHB system, several AHB Master components may compete for a shared (AHB) bus; a bus arbiter determines bus ownership. The AHB Fabric allows for the various AHB-Lite Master components to connect to several different shared peripherals without the need to arbitrate for a shared AHB bus. Instead, arbitration is performed at the peripheral. This way, the various Master components may see a significant increase in performance over a standard AHB system. However, systems where multiple Master components need frequent access to the SAME peripheral will see only a modest performance increase.

The Fabric may be connected to the remainder of the subsystem as follows. Each of the AHB Fabric's M Mirrored Slave component Ports is connected to an AHB Slave component module (e.g. External Bus Interface, Memory Controller, AHB-to-APB Bridge). On the Master component side, each of the N-1 AHB Fabric's Mirrored Master component Ports is connected to either the output side of an AHB Arbiter (in the case where each AHB system has multiple bus Master components) or directly to an AHB or AHB-Lite Master component such as a micro-processor.

Features

- AMBA® 2.0 Compatible
- Multiple AHB Channels
- Off the shelf core supports 4 Master components and up 7 Slave components
- Arbitration is done at each Target
- Other configurations are available

Deliverables

- Verilog Source
- Complete Test Environment
- AHB Bus Functional Model

