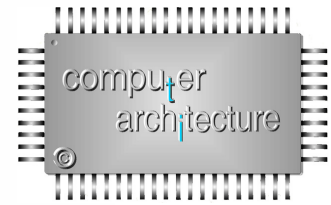


HT3

HTX3-Board and HT3-Core



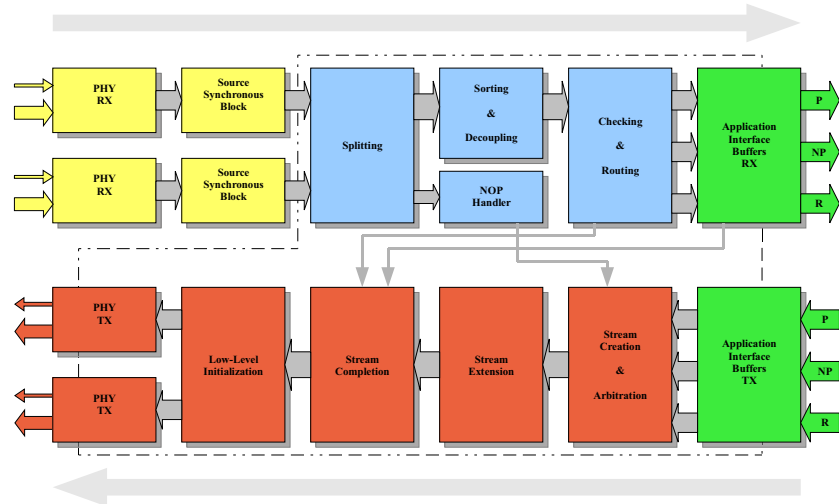
Description

The **HT3-Core** together with the **HTX3-Board** provides an efficient way to evaluate user specific devices by mapping the core and device modules to a programmable logic device connected to a HyperTransport™ Link. The HTX3-Board with the 16bit wide bidirectional HTX3 Interface can be plugged into any AMD Opteron™ processor node with an HTX connector.

The **HT3-Core** is a HyperTransport™ cave device. A cave is an end point device in a HyperTransport chain. The core is a high bandwidth device with a queue based application interface. The 2 GHz HT interface can deliver up to 8 GByte/s bidirectional bandwidth in 8 bit mode (qualified up to 1.6 GHz).

Features:

- Compliant with the HT 3.1 I/O Link Specification
- Suitable to connect a device to any AMD Opteron™ processor node via an HTX connector
- Up to 8GByte/s bidirectional bandwidth via a 2 GHz HT interface
- HT interface with configurable data width of 8bit unidirectional
- Max. internal clock frequency of 250MHz
- Internal data path width of 8 times the link width (64bits)
- Convenient device interface
- HT interface for Xilinx GTPs
- Programmable core logic for the Xilinx Virtex-5 FPGA series
- Fully synchronous design
- Efficient pipelined structure
- Synthesizable Verilog HDL code



HTX-Core block diagram

The **HTX3-Board** combines the following items: three of the most complex Xilinx FPGAs - two Virtex-5 LX50T and one LX110T as programmable core logic, several high speed serial links (GTP -> HT, GTP -> CX4), a SODimm connector and two CX4 connectors. Additional standard interfaces can be added to the board by two Samtec QSE connectors. A Xilinx platform PROM memory is used for FPGA configuration after power-on. A JTAG interface is provided for programming the three FPGAs and the platform PROM.

Technical Specification:

- HTX3 Connector with 16bit LVDS bi-directional interface
- Three FPGAs Virtex-5 (two LX50T and one LX110T)
- Speed grade -3
- LX50T 12 GTPs, BGA 1136 with 480 user IO
- LX110T 16 GTPs, BGA 1738 with 680 user IO
- One SODimm connector
- Two CX4 connectors
- Power supply with only 12V and 3.3V from HTX3 connector



HTX3-Board Layout