hitex

EMBEDDED TOOLS & SOLUTIONS

Building a safe and secure embedded world

Fast prototyping becoming easier
Hardware programmed in software

> Brochure
Tanto3 FPGA Prototyping Platform

Tanto3 FPGA platform

Products have to be designed for flexibility to cover different requirements with preferably one hardware base concept. FPGAs which are designed in such a base concept provide the required flexibility. Hitex has focused on the design-in of Altera FPGAs and is very much experienced in the design flow (simulation, synthesis and place&route) using professional tools such as Mentor Graphics LeonardoSpectrum and ModelSim, Altera Quartus. Of course, FPGAs from other vendors can also be integrated.

Simulation of an FPGA design is one part of the business - to have the real FPGA design running in a hardware environment without development of an own prototyping board is the other.

With Tanto3 Hitex has designed a generic platform with a large FPGA extension board which can be used for rapid FPGA prototyping. Of course, Tanto3 could also be applied in fields of testing, signal- and bus analysis, debugging, programming and FPGA prototyping.

This graphical overview shows the functional blocks of the Tanto3 system.
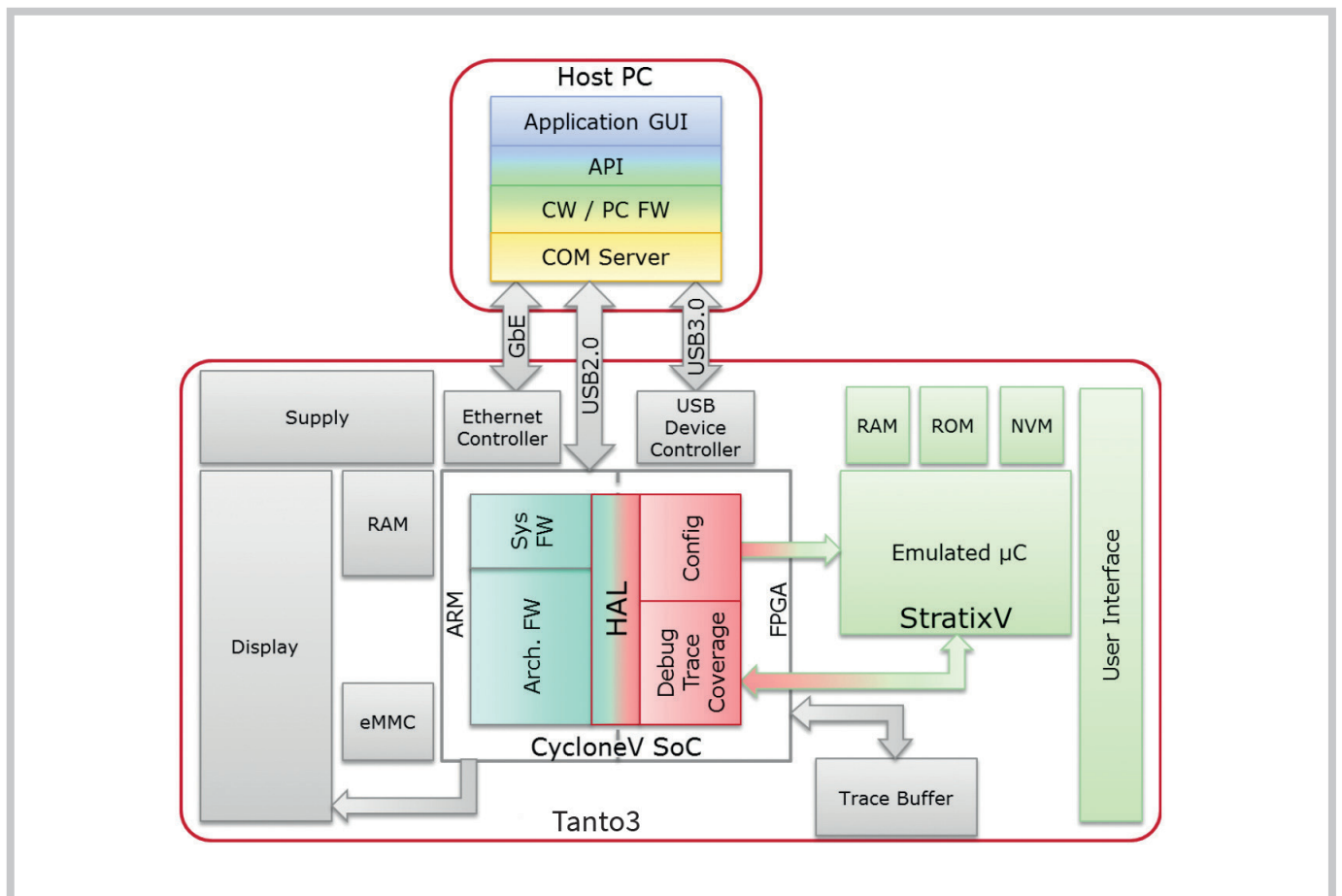
▌ Tanto3 base components and interfaces

Tanto3 system consists of the following components

✔ Control Subsystem

✔ Application Subsystem

✔ Test and Measurement Board (optional)

✔ Customer specific extensions (optional)

The Tanto3 Control Subsystem is the core module with all necessary hardware resources to provide flexibility and performance for your requirements:

1. CONTROL SUBSYSTEM

> Cyclone V SoC
> 1GB RAM
> 4GB embedded Flash
> USB 3.0
> Gigabit Ethernet
> 3.5" 320x240 Touch Display
> Clock 50Mhz
> 3 free programable clocks
> Interface to configure the Tanto3 Application FPGA

The Tanto3 Application Subsystem offers plenty of design resources for emulating a wide range of applications. The application FPGA is also connected to the Tanto3 Control subsystem via a dedicated 128bit wide bidirectional bus, which can be used to configure the application FPGA as well as realize different control and debug functions.

2. APPLICATION SUBSYSTEM

> Stratix V
> 1GB Trace Buffer
> 3 x 8MB SSRAM
> More than 200 GPIOs
> 8 LEDs used as application specific display

Tanto3 Test and Measurement Board

Tanto3 Test and Measurement Board can be plugged onto Tanto3 and provides easy access to the set of application I/Os. The Test and Measurement Board contains a separate FPGA, which can embed a complete verification environment, including stimuli generator and response analyzer. It also provides an easy access interface using standard pin-headers to connect test equipment (e.g. Oscilloscopes, Logic Analyzer) to manually verify the application's I/O signals.

FPGA Design Service

Hitex offers to implement FPGA designs based on pure source code (Verilog, VHDL) using predefined modules like standard LPMs or even complex IP modules like DDR SDRAM controller.
In close cooperation with our customer, Hitex creates the specification as follows:

▶ Definition of the required functionality

▶ Definition of use- and test cases

▶ Consulting regarding FPGA type and vendor

▶ With our own designs, we mainly use Altera FPGAs, but on demand we also offer support and designs from other vendors.

Consulting › Engineering › Testing › Training › Tools › Software Components › Systems Manufacturing