S2C
FPGA PROTOTYPING SOLUTIONS

Overview

- FPGA prototyping board capacity limitations were eliminated with S2C's rapid SoC prototyping solutions providing single, dual and quad Xilinx & Altera FPGA prototyping boards.

- Ingenic saved development time because of S2C's efficient Prodigy Logic Module FPGA board design & development cycle and S2C's broad array of flexible motherboards and daughter boards.

- S2C's pre- and post-sales support helped Ingenic quickly build their FPGA verification environment.

Using S2C's rapid SoC prototyping solutions, Ingenic was able to verify its logic implementation and optimize its 32-bit CPU project development process. Through driver validation and multi-media software development on the FPGA-based SoC prototype, Ingenic not only reduced the overall design cycle but also improved the performance of its XBurst CPU technology.

Challenge

XBurst is an innovative CPU technology developed by Ingenic Semiconductor. XBurst redefines the performance and power consumption criteria for modern embedded CPU cores.

Ingenic must always keep up with the challenges of an ever changing consumer market while speeding up product

About Ingenic

Ingenic Semiconductor is a leading Chinese embedded CPU provider which was founded in 2005 at Beijing. Stock Code : 300223.

Ingenic Semiconductor has its own ultra low power CPU technology XBurst. XBurst adopts an innovative pipeline engine which can emit instructions with very little power consumption. The performance, silicon area and power consumption of XBurst outperforms most of the existent industry embedded CPU cores.

XBurst based JZ47XX series SOC product has the best-in-class performance and price ratio. It has penetrated into e-dictionary, PMP, eBook and Tablet market quickly since its inception at 2007 and shipped more than 30M unit since then

XBurst provide a unique solution for embedded and mobile market.

development cycles and reducing time to market. At the same time, under these dynamic market conditions, they must make sure that the product is sufficiently validated.

"Before choosing the S2C's solution, we have made a lot of research on FPGA prototyping and found that S2C's Prodigy LM to be extremely reliable and flexible. S2C's high capacity and quality also made a deep impression on us. " said Yan Xiaojing, Director of SOC Division for Ingenic.
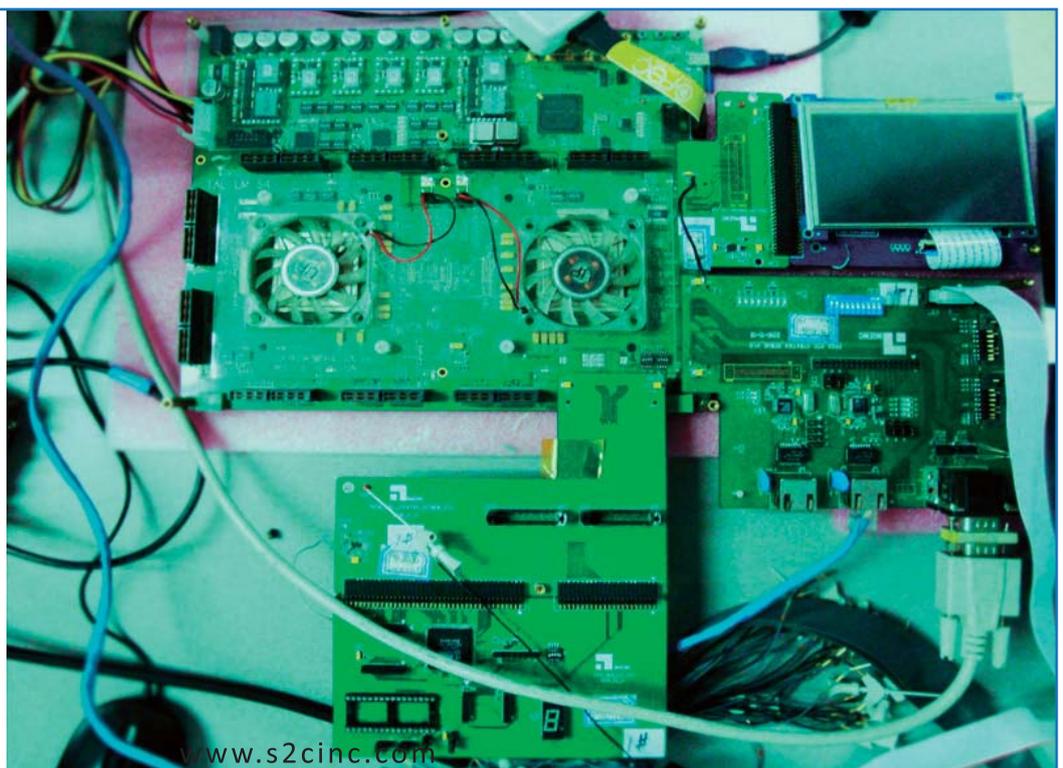
This has become a great challenge.

"Working on an innovative CPU technology is full of challenges because the drivers and applications are more and more complex." Said Yan Xiaojing, Director of SOC Division."We require a high capacity, stable and flexible prototyping system for the XBurst solution, in order for us to verify the design, driver and multi-media applications."

"Previously, we had designed the FPGA boards for hardware verification ourselves, but they were all low capacity and we could only verify part of the design. Before choosing the S2C solution, we have made a lot of research on FPGA prototyping and found that S2C's TAI LM to be extremely reliable and flexible. S2C's high capacity and quality also made a deep impression on us. " said Yan Xiaojing.

Solution

"By utilizing S2C's rapid SoC prototyping solutions, we can put more and more logic into the FPGA for verification. In the past, we only put parts of the design into the FPGA. This time, we were able to put so much more logic into the Dual Prodigy LM Stratix IV FPGA prototype boards. Since there was more logic in the FPGA prototype, it did take some additional times at the beginning of the project. Within the S2C's AE team's help, now we can verify the whole design in the FPGA prototype. What's more, this will save lots of time in the following project." Said Yan Xiaojing.

"The capacity and flexibility are really excellent, enabling us to put nearly the whole design into the Prodigy LM. We can not only develop the drivers before the tape-out, but also develop the multi-media applications during tape-out, thus greatly improving our overall efficiency." Said Yan Xiaojing.

Results

Using S2C's rapid SoC prototyping solutions, Ingenic can reliably set up a XBurst SoC prototyping implementation in only one or two days rather than weeks or months.

"Now our design occupied about 80% resources of the latest Dual Prodigy S4 Logic Modules. The high capacity helps us to fully verify the design." Said Yan Xiaojing. "We can focus on the innovation of the 32-bit CPU and multi-media applications instead of having to build our own prototype environment. S2C's solutions and support really reduce the design cycles and risks. We can get to market earlier. The logic will grow more and more complex and powerful in the future. We are looking forward to building the long-term cooperation with S2C, and utilize the Quad S4 820 TAI LM, the S4 Prodigy Logic Module and co-simulation on our future projects."

S2C

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