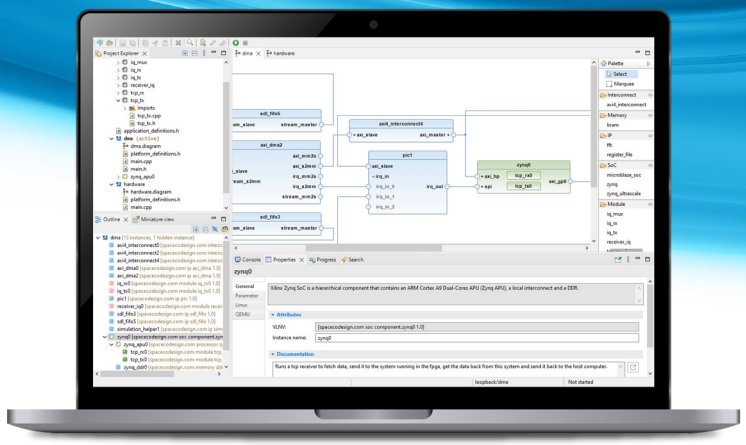
SPACESTUDIO

Your All-in-One MPSoC+FPGA Design Platform

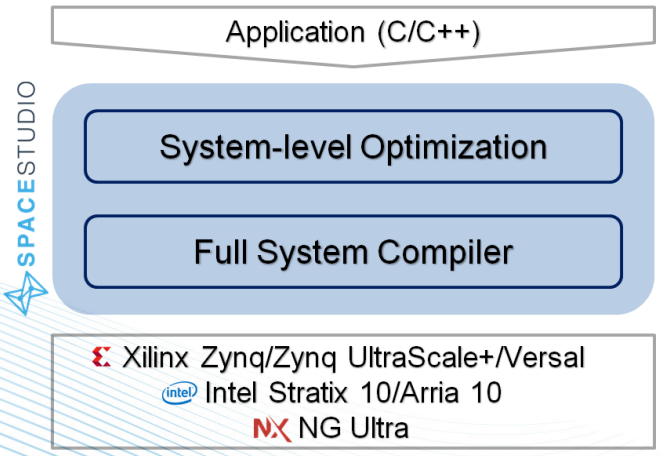


Product Overview

SpaceStudio is a powerful design environment that simplifies the development of MPSoC+FPGA systems. By starting with familiar C/C++ code, it offers a streamlined workflow that includes system-level simulation, optimization, and automated FPGA prototyping.

SpaceStudio's system-level simulation allows you to thoroughly test your design's functionality before hardware implementation, helping to identify and fix potential problems early on and save time and resources.

SpaceStudio's full system compilation process seamlessly integrates with downstream RTL tools, like synthesis and HLS, to automatically generate the necessary files and bitstreams for your FPGA target. This eliminates manual programming, reduces errors, and streamlines the deployment process.



Key Features

Unified Design Flow Management

Streamline your entire design process from simulation to implementation within a single intuitive environment.

Seamless Virtual Prototyping

Conduct comprehensive functional validation of your applications designed for FPGA architectures using a robust software environment.

Accelerated FPGA Prototyping

Efficiently generate bitstreams for rapid deployment of applications onto physical FPGA boards.

Extensive FPGA Support

Design with confidence across a broad range of industry-leading FPGAs, including:

» Xilinx/AMD: Zynq, Zynq UltraScale+, Versal

» Intel: Agilex, Stratix 10, Arria 10

» NanoXplore: NG-Ultra

RTOS Compatibility

Work seamlessly with various RTOS options, including:

» Linux

» FreeRTOS

» RTEMS

» µC/OS-II

High-Level Synthesis (HLS) Integration

Effortless hardware design with:

» Xilinx Vitis HLS

» Intel HLS Compiler

» Siemens Catapult HLS

Cross-Platform Compatibility

SpaceStudio operates on both Windows and Linux environments, providing development flexibility.

Benefits

Reduced Development Time

Benefit from significant time savings by combining virtual prototyping, streamlined functional validation, and the efficiency of automated FPGA prototyping.

Simplified Design Flow

Experience a simplified design process that automates key steps like HLS and synthesis, accelerating development and improving accuracy.

Enhanced Design Flexibility

Benefit from broad FPGA and RTOS compatibility to tailor your development environment to your specific needs.

Automated Design Validation

Ensure design correctness from the start with SpaceStudio's built-in validation mechanisms, eliminating manual verification and reducing errors.

Target Users

» Hardware and software engineers developing embedded systems for MPSoC and FPGA architectures.
» Designers working with MPSoC FPGA boards.

Testimonial

> SpaceStudio is a tool, agnostic of the target, which uses a common environment for design space exploration, interface prototyping, development, and functional validation. This allows for continuous validation and early detection of issues.

- Jérôme Lachaize, HW/SW expert at Airbus Defence and Space

> Its methodology, driven by the system-level optimization and full system compiler, simplifies algorithm development and implementation for a variety of FPGA, ensuring smoother lab integration. The adoption of SpaceStudio opens the way to innovative GNSS receivers' architecture

- Marc Pollina, CEO of M3 Systems

Conclusion

SpaceStudio offers a comprehensive and efficient solution for MPSoC+FPGA design, streamlining the development process from concept to deployment. Its unified design environment, seamless virtual prototyping, accelerated FPGA prototyping, and extensive hardware and software support empower engineers to create innovative and reliable embedded systems.

By reducing development time, simplifying the design flow, and enhancing design flexibility, SpaceStudio is the ideal choice for those seeking to accelerate their MPSoC+FPGA projects.

Space Codesign Systems is an experienced team dedicated to making your project—our project—a success! By choosing our solution, you are also choosing valuable support.

For More Information

Visit the Space Codesign Systems website for additional details, resources, and a free trial.

+1-514-985-5255 | info@spacecodesign.com | www.spacecodesign.com

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