Abstract

With increasing complexity of digital signal processing VLSI circuits in recent decades, design methodologies and tools have moved to higher abstraction levels. High level Synthesis has been gaining lot of interest in recent years since the major design objectives such as area, delay and power of the circuit are mutually conflicting thereby necessitating trade-offs between
A Survey of High-Level Synthesis Techniques for Area, Delay and Power Optimization

different objectives. The electronic system-level (ESL) paradigm facilitates exploration, synthesis, and verification that can handle the complexity of today’s system-on-chip (SoC) designs. Processor customization and High Level Synthesis have become necessary paths to efficient ESL design. This paper presents the survey of high level synthesis approaches and methodologies for simultaneous area, delay and power optimization.

Reference

- V. Krishnan and S. Katkoori, “A genetic algorithm for the design space exploration of

Index Terms

Computer Science  
Digital Circuits

Key words

High level synthesis  
Design space exploration

System level design

Genetic Algorithm

Optimization

Allocation

Scheduling

Binding

Dataflow graph

Behavioral description