MASkIt

Clereco
Cross-Layer Early Reliability Evaluation for the Computing cOntinuum

FP7-CLERECO
Grant Agreement FP7-611404
SEVENTH FRAMEWORK PROGRAMME

Soft Error Rate Predictor for Combination Circuits — March 2016

Product Overview

MASkIt is a tool that quickly and accurately predicts the Soft Error Rate in combinational circuits. It uses as inputs a netlist of the circuit and the signal probability distribution of its primary inputs to compute the circuit's vulnerability: the probability that a particle strike at any node of the circuit results in a bit flip in one or more primary outputs.

Supported Architectures

- Any combinational circuits described in the format produced by popular synthesis tools, such as **RTL Compiler** and **Yosys**

Extensions & Tools

- Precise reliability estimation avoiding RTL fault-injection campaigns.
  - Speedup from 170x to 800x
- Estimation accounts Technology node, Supply voltage and Temperature

Target Components

- **All** gates in the model
  - Gate models are automatically extracted from the technology library

Supported Fault Models

✓ **Transient**

Measurements

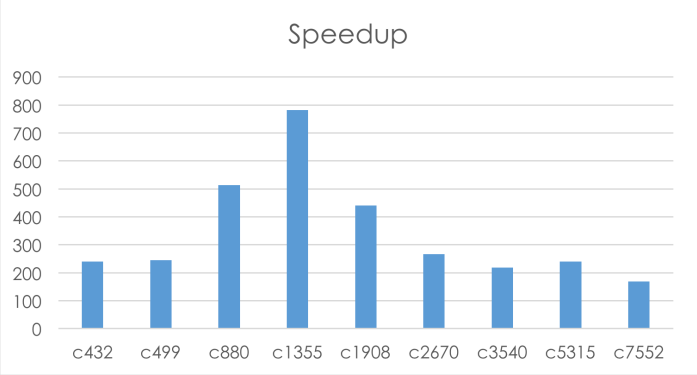
- **Vulnerability factor** for each node of the circuit

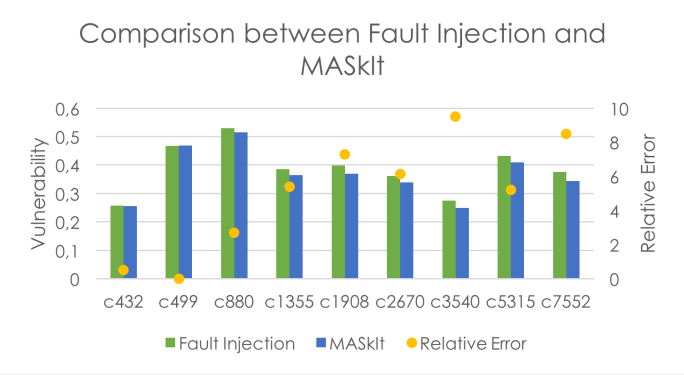
*"MASkIt development has been made with a **great** tool **flow** in mind "*

- ARCO Research Group (UPC)

Analysis Enhancements

MASkIt can be connected to any architecture-level simulator tool, providing models of micro architectural components otherwise totally missing





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