



COMPUTER-IMPLEMENTED METHOD FOR AUTOMATICALLY DETERMINING A TARGET ARCHITECTURE

Technological advantages

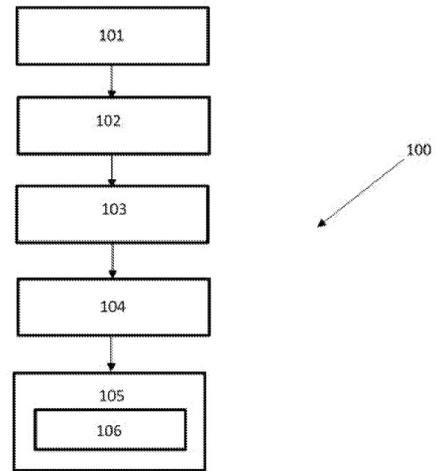
- Faster and simpler process compared to traditional program dynamic analysis.
- Less tedious process compared to manual testing, code porting and performance estimation.
- Suited to complex algorithms.

Invention synthesis

The invention relates to a process to find out a target architecture (cpu, gpga, soc, many-cores, gpu, ai-engine...) to implement an algorithm. A computer language is selected to produce a source code from the algorithm, it is then compiled for a target architecture with at least one optimization option. A performance score is measured (number of instructions, memory access, complexity, ...) and then compared using an affinity function to the performance of one or more reference codes using the same language and compiled using optimization options on the target architecture.

Potential applications

- All algorithms requiring resources optimization.



Schematic representing the different steps

- 100) Procedure related to the invention
- 101) Language selection to produce the source code
- 102) Source code compilation with optimizations
- 103) Performance score measurement
- 104) Affinity function
- 105) Target architecture determination
- 106) Reference algorithm selection

Commercial benefits

- Helps selecting the most relevant architecture
- Relevant architecture for : better performances (speed, ...), optimized power consumption, ...
- Faster and simpler target architecture selection

Patented invention - under license.