Structured Testing of WCET Analysis Methods

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WCET Tool Architecture

- Flow analysis
  - Determine the dynamic behaviour of program
- Low-Level analysis
  - Execution time of program parts: hardware effects
- Calculation
  - Combining flow- and low level analysis, obtaining the WCET estimate

Traditional Testing

Worst-Case Inputs

Program     Compiler     WCET     Time
34          471          4711         4711

Flow analysis
- Determine the dynamic behaviour of program

Potential for Error

Worst-Case Inputs

Some real program

- Flow analysis
  - Determine the dynamic behaviour of program

Our Work

- Isolating Components
- Testing LLA
- Testing Calculation
- Tests successful

Component-Wise Correct

Worst-Case Inputs

Test

Program     Compiler     WCET     Time
15320       15320        15320        15320

The Same!