

LIFILL



FP7-CLERECO
Grant Agreement FP7-611404



A LLVM-based software fault injector

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Product Overview

LIFILL (Llrm Fault Injection LLVM-based) is able to inject faults in both data and instructions of the LLVM code. The LLVM source code is modified by applying mutations that implement the effect of the fault on the variable or the instructions.

*"We provided you the **passcode** to the **reliability** of any software you develop"*

Supported Architectures

Any language provided with a LLVM compiler.

Target Components

- Any data (variables, vectors, etc.)
- Any **standard** LLVM instruction.

- LIRMM (CRNS)

Extensions & Tools

- Fully Hardware independent
- Controllability on the fault location and its effects.

Supported Fault Models

CLERECO developed Software Fault Models (SFM):

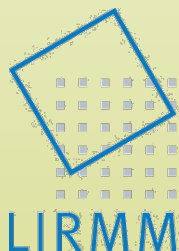
- ✓ **Wrong Data**
- ✓ **Instruction Replacement**

System Requirements:

- OS:** Linux
- Tools:** clang/llvm
- RAM:** 4GB

Measurements

- Masking probability**
- Fault Silent Violation (FSV)**
- Crashed**
- Detected Faults**



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