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CYBER EXCELLENCE research day november 8th

Tests generation for cyber security

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Structure :

Research topic : tests automatisation – definition and generation phases

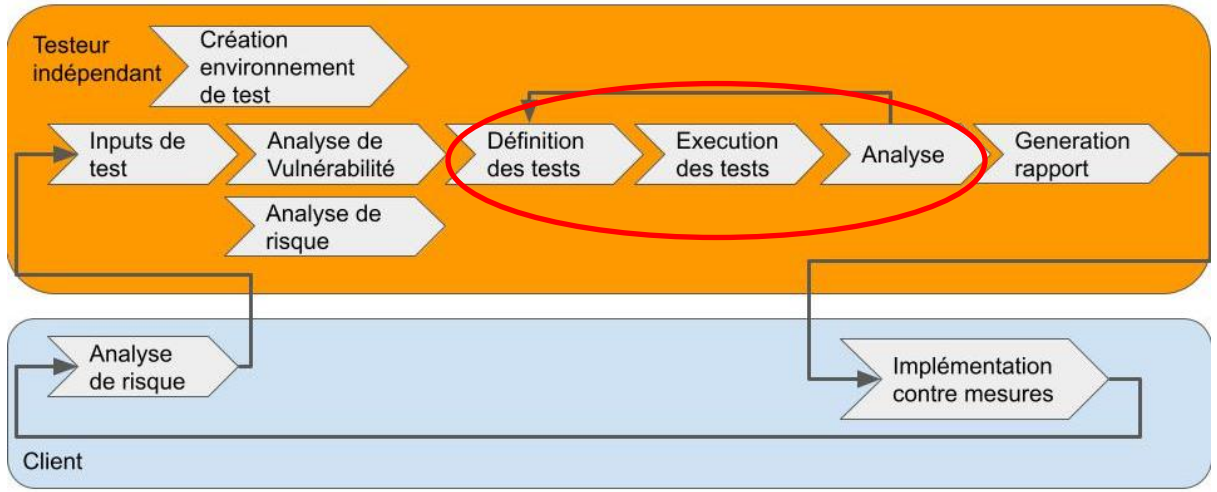
Tools : following research (prototypes or existing)

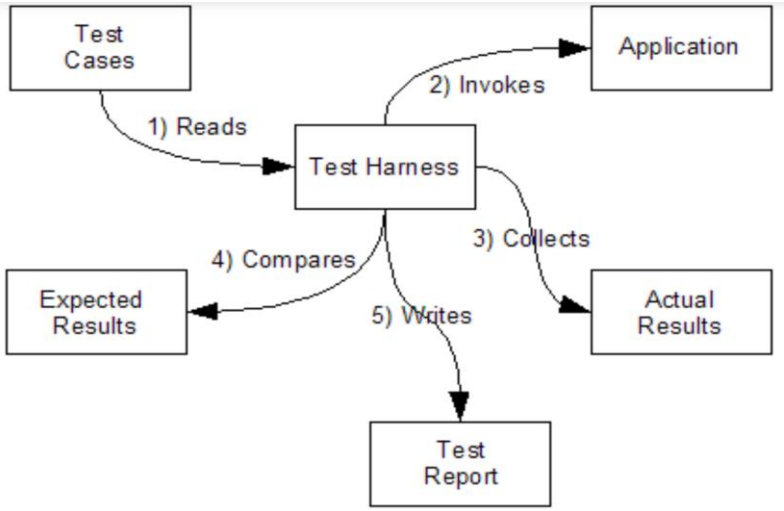
Results : SOTA under construction

Problems faced : many research results on test generation in general, essentially functional– a priori a lot more results related to the CPS

Research Domain for CETIC : research anticipate to Fuzzing techniques (highly automated, applicable as is to « applied research – production »)

Test process description and automatic generation of test harness components (CYRUS project)



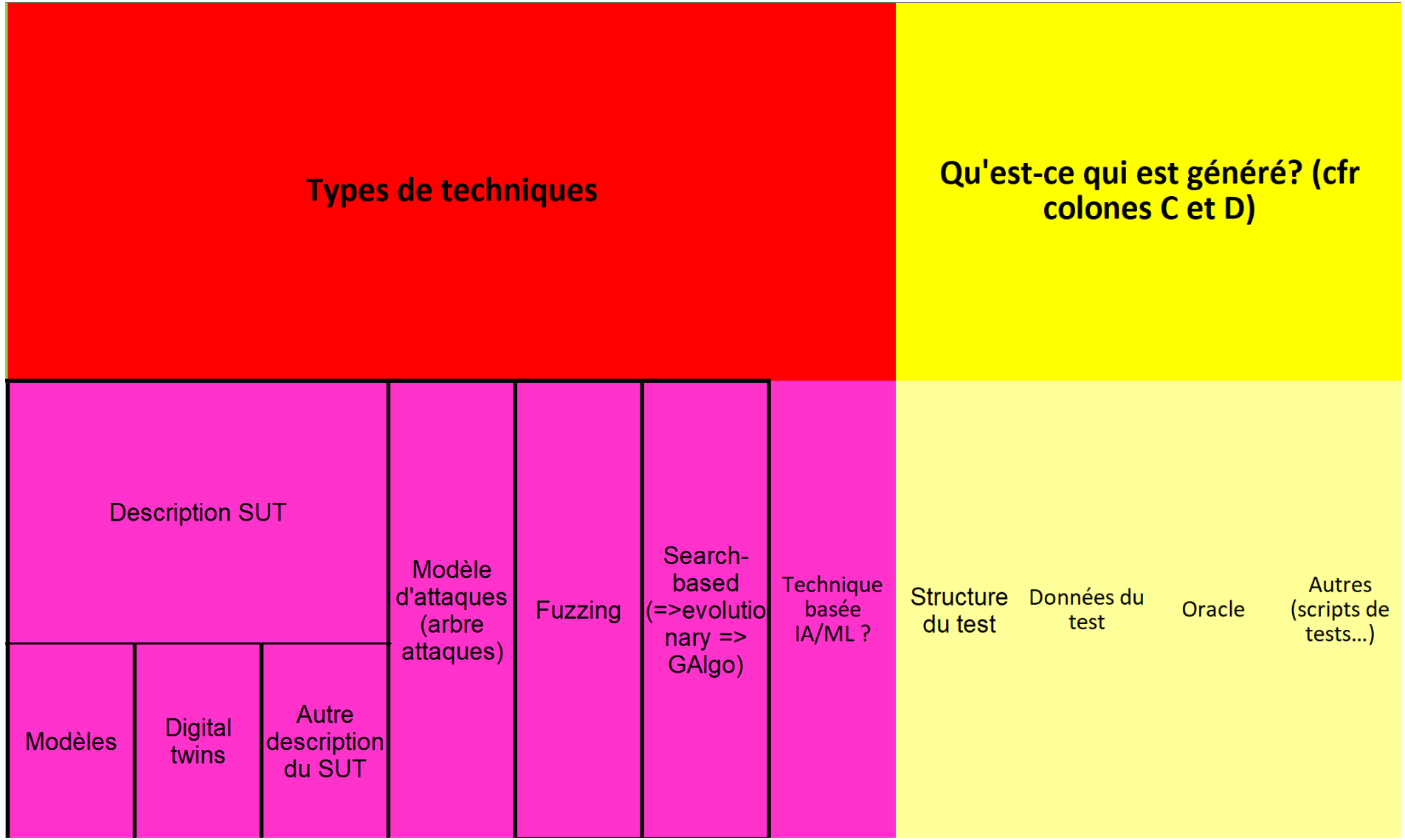


Definition: tests and data generation

Execution: monitor generation (pour collecte de données)

Analysis: oracle generation

Taxonomy techniques and tools of cyber security testing

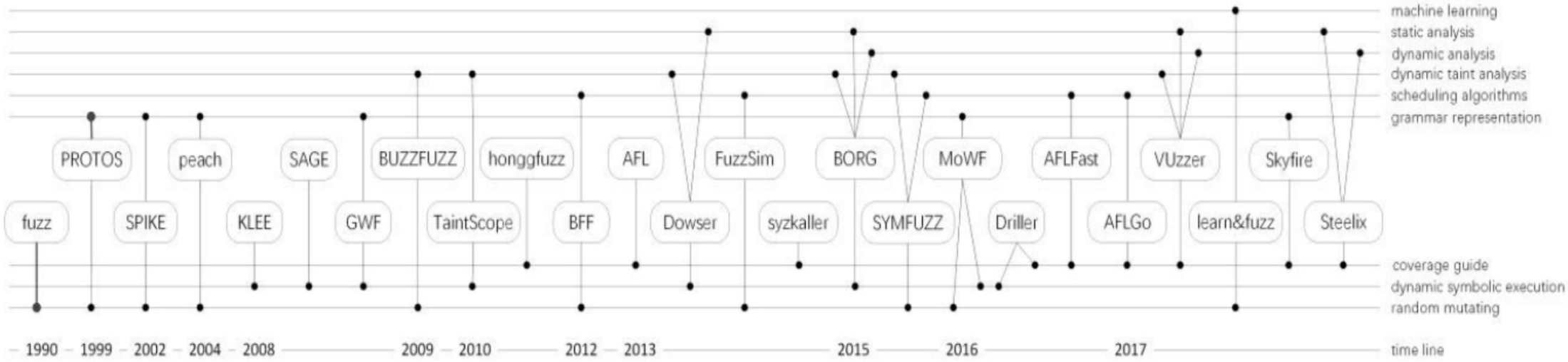


Fuzzing SOTA (CYRUS project (UCLouvain))

Three main categories of analysis techniques to improve test case generation:

- Sample generation technique
- Dynamic analysis techniques
- Static analysis techniques

Tools (by Chen et al.)



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