

FEATURES

Table 2: Technologies and features that the test generators used

Tester	Bounded Model Checking	CEGAR	Evolutionary Algorithms	Explicit- Value Analysis	Floating-Point Arithmetics	Guidance by Coverage Measures	Predicate Abstraction	Random Execution	Symbolic Execution	Targeted Input Generation	Algorithm Selection	Portfolio
CETFUZZ <sup>new</sup>			✓								✓	
CoVeriTest		✓		✓	✓		✓					✓
ESBMC-KIND <sup>⌀</sup>	✓			✓	✓							
FDSE <sup>new</sup>					✓	✓		✓	✓			
FIZZER <sup>new</sup>												
FuSeBMC	✓				✓	✓				✓		✓
FuSeBMC-AI	✓				✓	✓				✓		✓
HYBRIDTIGER <sup>⌀</sup>		✓		✓	✓		✓					
KLEE <sup>⌀</sup>					✓				✓	✓		
KLEEF <sup>new</sup>					✓	✓			✓	✓		
LEGION <sup>⌀</sup>				✓	✓	✓		✓	✓	✓		
LEGION/SYMCC <sup>⌀</sup>				✓	✓	✓		✓	✓	✓		
Owi <sup>new</sup>					✓	✓		✓	✓	✓		
PRTest					✓			✓				
RIZZER <sup>new</sup>									✓	✓		
SYMBIOTIC					✓	✓			✓	✓		✓
TracerX	✓			✓					✓	✓		
TracerX-WP <sup>new</sup>												
UtestGen <sup>new</sup>		✓										✓
WASP-C <sup>⌀</sup>				✓				✓	✓			

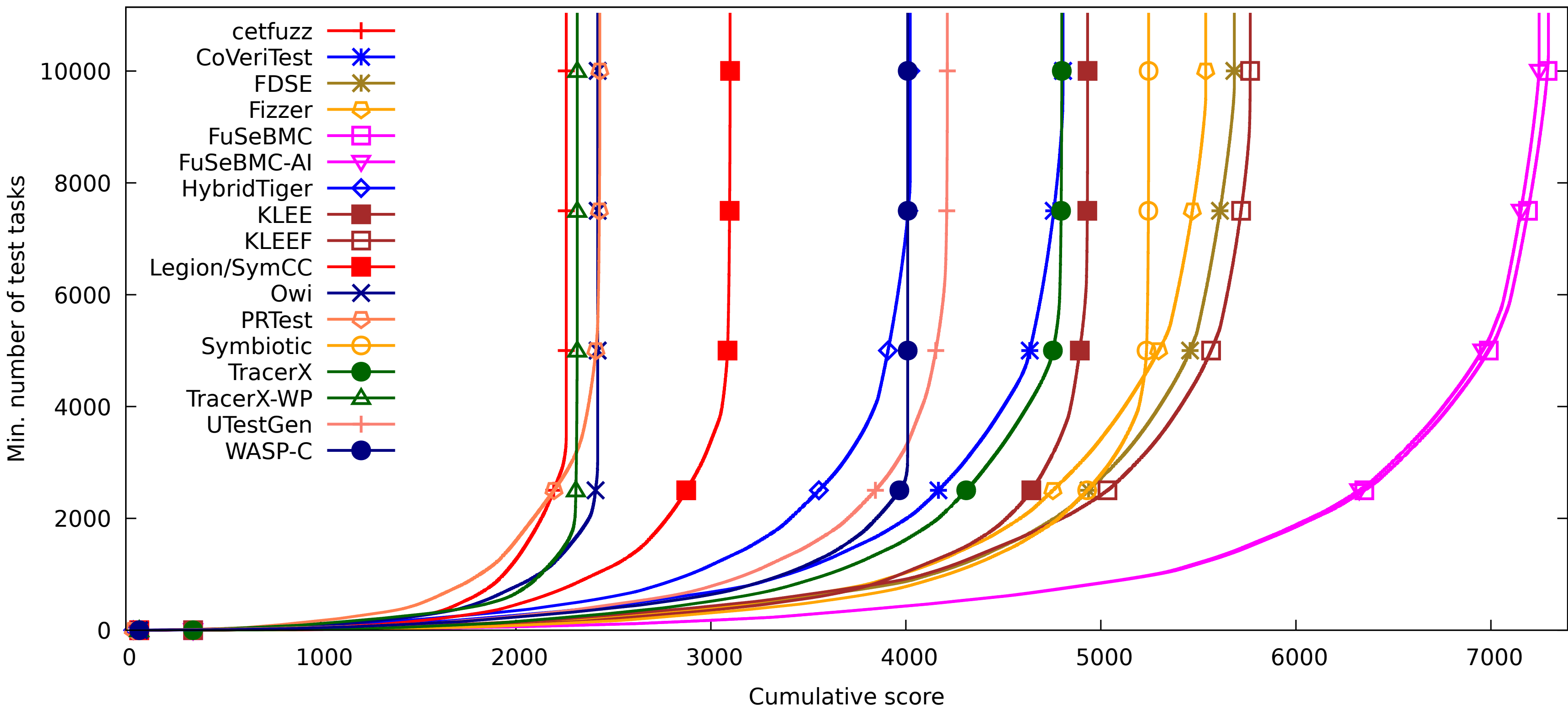
PARTICIPANTS

Table 1: Competition candidates with tool references and representing jury members; <sup>new</sup> indicates first-time participants

Tester	Jury member	Affiliation
CETFUZZ <sup>new</sup>	Sumesh Divakaran	College of Eng. Trivandrum, India
CoVeriTest	Marie-Christine Jakobs	LMU Munich, Germany
ESBMC-KIND <sup>⌀</sup>	(hors concours)	–
FDSE <sup>new</sup>	Zhenbang Chen	National U. of Defense Techn., China
FIZZER <sup>new</sup>	Marek Trtík	Masaryk U., Brno, Czechia
FuSeBMC	Kaled Alshmrany	U. of Manchester, UK
FuSeBMC-AI	Mohannad Aldughaim	U. of Manchester, UK
HYBRIDTIGER <sup>⌀</sup>	(hors concours)	–
KLEE <sup>⌀</sup>	(hors concours)	–
KLEEF <sup>new</sup>	Yurii Kostyukov	Huawei, China
LEGION <sup>⌀</sup>	(hors concours)	–
LEGION/SYMCC <sup>⌀</sup>	(hors concours)	–
Owi <sup>new</sup>	Léo Andrès	OCamlPro / LMF, France
PRTest	Thomas Lemberger	LMU Munich, Germany
RIZZER <sup>new</sup>	Adam Štafa	Masaryk U., Brno, Czechia
SYMBIOTIC	Martin Jonáš	Masaryk U., Brno, Czechia
TracerX	Joxan Jaffar	National U. of Singapore, Singapore
TracerX-WP <sup>new</sup>	Joxan Jaffar	National U. of Singapore, Singapore
UtestGen <sup>new</sup>	Max Barth	LMU Munich, Germany
WASP-C <sup>⌀</sup>	(hors concours)	–

FINAL SCORE

Figure 1: Quantile functions for category *Overall*.



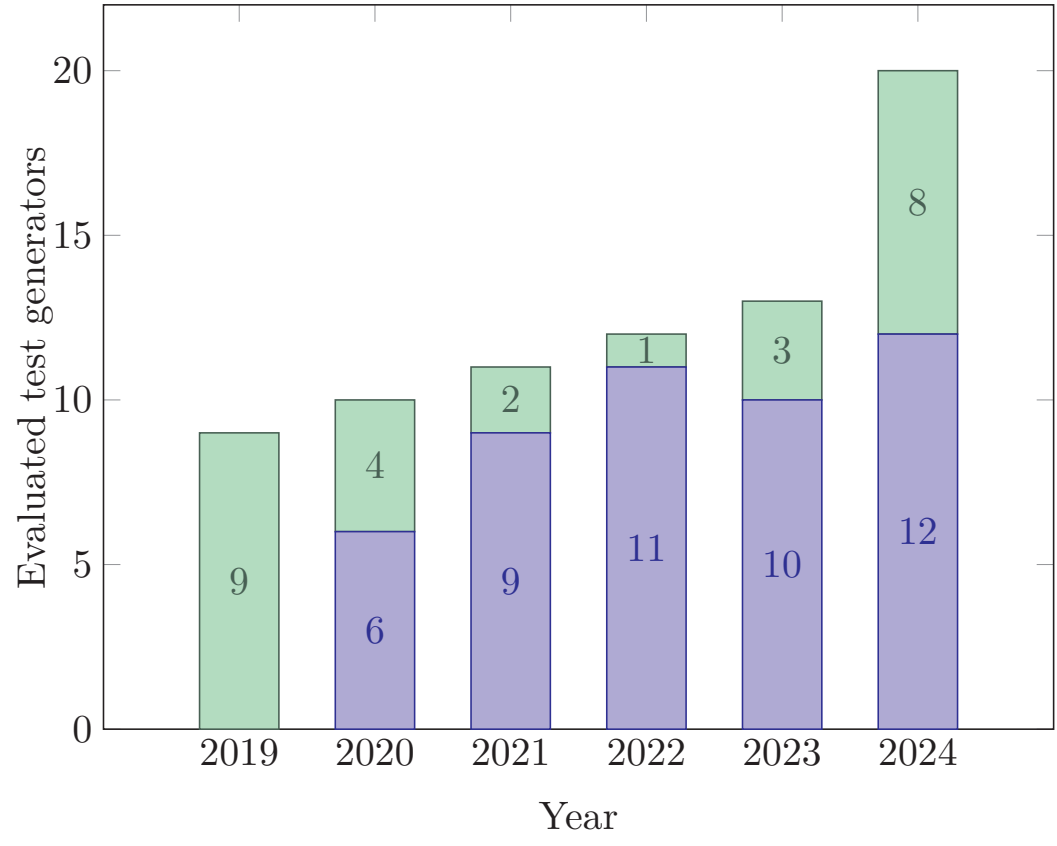
RESULTS

Table 3: Quantitative overview over all results

Tester	Cover-Error 1173 tasks	Cover-Branches 2933 tasks	Overall 4106 tasks
cetfuzz <sup>new</sup>	226	2197	2258
CoVeriTest	462	4826	4806
ESBMC-kind <sup>⌀</sup>	195		
FDSE <sup>new</sup>	617	5132	5684
Fizzer <sup>new</sup>	583	5146	5538
FuSeBMC	930	5478	7295
FuSeBMC-AI	926	5418	7248
HybridTiger <sup>⌀</sup>	393	3987	4022
KLEE <sup>⌀</sup>	713	3023	4932
KLEEF <sup>new</sup>	655	4975	5766
Legion <sup>⌀</sup>		2896	
Legion/SymCC <sup>⌀</sup>	264	3381	3098
Owi <sup>new</sup>	256	2241	2420
PRTest	167	2980	2431
Rizzer <sup>new</sup>	555		
Symbiotic	666	3957	5245
TracerX	509	4435	4799
TracerX-WP <sup>new</sup>	322	1521	2315
UtestGen <sup>new</sup>	409	4195	4212
WASP-C <sup>⌀</sup>	532	2838	4009

PARTICIPATION

Top: New participants



REPORT



<https://test-comp.sosy-lab.org/2024/>

RANKING

Table 4: Overview of the top-three test generators for each category (measurement values for CPU time and energy rounded to two significant digits)

Rank	Tester	Score	CPU Time (in h)
<i>Cover-Error</i>			
1	FuSeBMC	930	76
2	FuSeBMC-AI	926	68
3	SYMBIOTIC	666	5.2
<i>Cover-Branches</i>			
1	FuSeBMC	5478	2400
2	FuSeBMC-AI	5418	2300
3	FIZZER <sup>new</sup>	5146	1700
<i>Overall</i>			
1	FuSeBMC	7295	2500
2	FuSeBMC-AI	7248	2400
3	KLEEF <sup>new</sup>	5766	1700

Reference

D. Beyer. Automatic testing of C programs: Test-Comp 2024. Springer, 2024