

When	JPF version	Case Study	Capabilities
2000	1 (translates to Promela for SPIN)	DEOS  approx. 1000 loc	front end for SPIN – abstraction capabilities
2003	2 (implements a JVM and directly interprets bytecode)	K9 Rover Executive  6800 loc 150 classes 8 threads	Handles deadlocks and unhandled exceptions  Additional properties could be checked through adding assertions to the system under test.
2005	4 (open sourced version!)	K9 Rover (as above)  Deadlock found after exploring 18000 new states  Length of reported counterexample: 8500	Configure properties through run-time configured listeners (outside system under test)  Configurable search (several search policies)  Support for standard library modeling
2007	5	Robot manager  Concurrent user interface application using Swing  (heavy use of standard libraries, 900K instructions executed)  Industrial example not to be disclosed – commercial Web application  19 threads  Over 100 K lines of code  270 M (million) instructions executed  Length of reported counterexample: 20	AWT/Swing libraries Basic I/O

2011	6	<p>K9 Rover (as above)</p> <p>Deadlock found after exploring 4000 new states, 10 times faster than in 2005</p> <p>Length of reported counterexample: 15</p> <p>Instructions executed: 270 K</p>	<p>Configurable reporting mechanism</p> <p>Partial order reduction</p> <p>Other JPF VM optimizations</p>
		<p>Robot manager</p> <p>Compared to 2007:</p> <p>Analysis accelerated by a factor of 7.</p> <p>Class load time has been accelerated by a factor of 2.</p> <p>Accelerated object allocation time for &gt;10000 objects by more than a factor of 15</p>	<p>Improved extensibility</p>