

Fortress - Task #4523

Implementing a solver for simple constraints

10/03/2013 08:32 AM - Alexander Kamkin

Status:	New	Start date:	10/03/2013
Priority:	Immediate	Due date:	
Assignee:	Artem Kotsynyak	% Done:	0%
Category:	Solver	Estimated time:	0.00 hour
Target version:	0.4	Published in build:	
Detected in build:	svn		
Description			
Цель - генерация рандомизированных данных, удовлетворяющих несложным ограничениям (constrained random generation).			
1. Определить и описать в Wiki класс рассматриваемых ограничений.			
2. Реализовать солвер (постараться добиться равномерного распределение данных, удовлетворяющих ограничениям).			
3. Протестировать солвер (не берется за сложные ограничения, решает простые ограничения, решает их правильно, распределение данных близко к равномерному).			

History

#1 - 10/06/2013 10:33 AM - Alexander Kamkin

Генератор случайных чисел лучше взять из MicroTESK и перенести в Java Constraint Solver API.

#2 - 01/20/2014 09:42 AM - Alexander Kamkin

- Subject changed from *Создание солвера простых ограничений* to *[solver] Создание солвера простых ограничений*

#3 - 07/25/2014 07:09 AM - Alexander Kamkin

Андрей перенесет рандомизатор, но где солвер?

#4 - 11/06/2014 02:53 PM - Alexander Kamkin

Что с этой задачей?

#5 - 03/10/2015 08:23 AM - Alexander Kamkin

- Priority changed from *Normal* to *Urgent*

Artem, the solver (even if it has not been fully implemented) should be added to Fortress. Sergey will use it in his experiments.

#6 - 03/10/2015 08:24 AM - Alexander Kamkin

- Subject changed from *[solver] Создание солвера простых ограничений* to *[solver] Implementing a solver for simple constraints*

#7 - 03/16/2015 05:59 PM - Sergey Smolov

- File *ispras_z3_temp804273368088899473.smt2* added

- File *ispras_z3_temp5723932898750597270.smt2* added

I've run the most long-term testcase for HDL Retrascope, collected 7811 SMT2-files and I've extracted some statistical data about them.

The most frequently used operations are: **EQ**, **NOT**, **AND**, **OR**. They are used in 85% cases.

About 60% of all SMT2-files contains only these 'basis' operators.

So the most wanted task for embedded simple solver is to be able to solve these simple constraints.

I've attached to this task a couple of examples of target constraints.

#8 - 03/25/2015 01:40 PM - Sergey Smolov

- File *smt2-files.zip* added

#9 - 03/25/2015 07:37 PM - Alexander Kamkin

- Subject changed from [solver] Implementing a solver for simple constraints to Implementing a solver for simple constraints
- Category set to Solver

#10 - 03/25/2015 07:47 PM - Alexander Kamkin

- Target version changed from 0.3 to 0.4

#11 - 04/20/2015 11:41 AM - Igor Melnichenko

- Priority changed from Urgent to Immediate

The most currently needed expressions are of type "(x >= const) & (x <= const)".

Files

ispras_z3_temp804273368088899473.smt2	507 Bytes	03/16/2015	Sergey Smolov
ispras_z3_temp5723932898750597270.smt2	134 Bytes	03/16/2015	Sergey Smolov
smt2-files.zip	14.6 MB	03/25/2015	Sergey Smolov