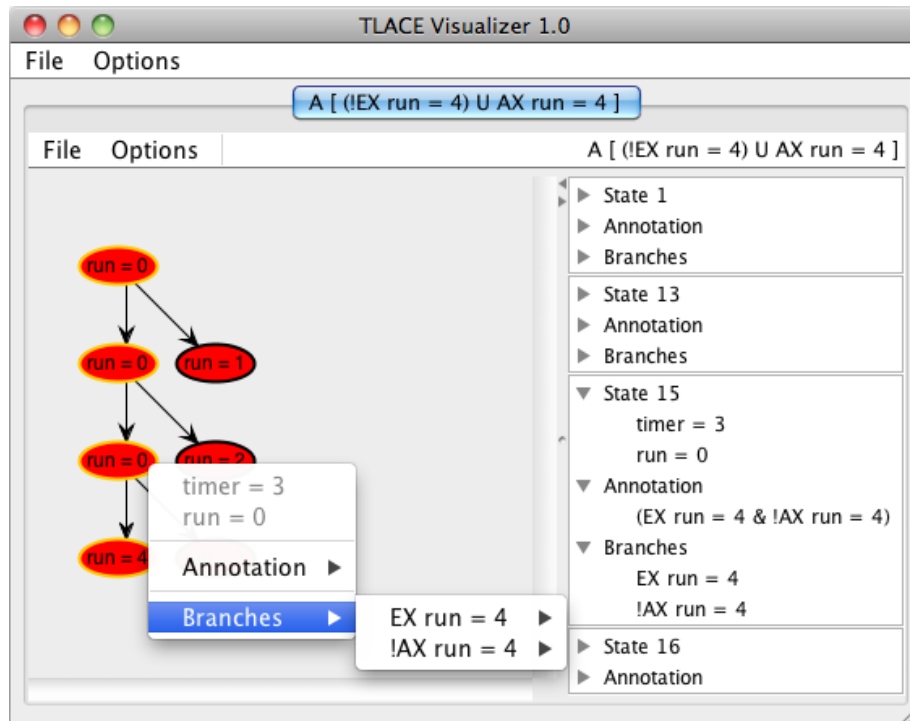


TLACE Visualizer — User Manual

Simon Busard

April 22, 2011

TLACE Visualizer is a tree-like annotated counter-examples (TLACEs) visualizer and browser. It displays TLACEs in a graph structure and allows their browsing. This manual gives a brief description of the tool, its usage and features. It assumes that TLACE Visualizer is compiled and launched.



How-to

The input format supported by TLACE Visualizer is given by the grammar at the end of this manual. This format is an XML format containing tree-like annotated counter-examples. Several counter-examples can be imported in TLACE Visualizer and accessed through the tabulations at the top of the tool.

When imported, the counter-example is displayed in a graph structure where each vertex is a node of the counter-example and each edge a transition. The graph is laid out using a custom layout designed to keep the structure of the counter-example, displaying vertical main path and oblique branches. Parts of the graph can be rearranged by drag-and-drop.

Nodes information can be accessed by popup menus (right-clicking on the corresponding vertex). This popup menu displays the values of state variables of the model in the state of the node. It also gives its annotation and the list of branches. Each branch can be inspected as a path or fold/unfold through this menu. When a branch is fold, it disappears of the graph with its sub-branches. It can be unfolded again through the same menu.

The tool allows also to inspect a particular path in the graph. To do so, select a node with CTRL pressed (or CMD for Mac OSX) and then select another node. If there is a path in the graph from the first node to the second one, a side panel is opened and displays the information of all nodes of the path.

Options

The tool has several options. Some options are common to imported counter-examples and located in the top-level menu bar.

- **Set default layout** sets the layout used for future imported counter-examples.
- **Set info displayer** sets the way the path information are given.

Other options are particular to each imported counter-example and located in the tabulations.

- **Set layout** changes the layout of the graph.
- **Display values on the graph** allows the user to choose which state and input variables are displayed on the graph, in the nodes and on the transitions, respectively.
- **Show only changed variables**, when activated, displays only variables which value changes from the previous state in the list of nodes of the path description. This is applied only with the **Tree info panel**.

XML Format

```

XML      ::= <?xml version="1.0" encoding="UTF-8"?>
           CNTEX
CNTEX     ::= <counterexample specification="SPEC">
           FIRSTNODE
           BRANCH
           </counterexample>
BRANCH    ::= | NODE
           BRANCH
FIRSTNODE  ::= <node>
           STATE
           ANNOTATION
           BRANCHES
           </node>
NODE      ::= <node>
           <combinatorial>
           VALUES
           </combinatorial>
           <input>
           VALUES
           </input>
           STATEORLOOP
           </node>
STATEORLOOP ::= LOOP |
           STATE
           ANNOTATION
           BRANCHES
STATE     ::= <state id="ID">
           VALUES
           </state>
LOOP      ::= <loop to="ID" />
BRANCHES  ::= | <branch specification="SPEC">
           BRANCH
           </branch>
ANNOTATION ::= <annotation>
           SPEC
           </annotation>
VALUES    ::= | VALUE
           VALUES
VALUE     ::= <value variable="NAME">VAL</value>
SPEC      ::= | SPECIFICATION

```