

**GENERATING SELF-CHECKING TEST CASES FROM A REDUCED CASE
ANALYSIS GRAPH USING PATH INHERITANCE**

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ABSTRACT OF THE DISCLOSURE

[0074] A method, system and apparatus for constructing a comprehensive test plan for a design under test (DUT) using a hierarchy of goals to generate test cases are provided. Embodiments of the present invention provide for automatically generating a first test case of the test plan from the goal hierarchy by traversing a path from a starting goal to an ending goal, wherein a first goal in the path has a first definition for one or more of a slot and a method. The ending goal of will then assume the first definition of the slot or method, as needed. A further aspect of the invention is generating a second test case by traversing a second path through the hierarchy. If the second path involves traversing a second goal with a second definition of the slot or method, then the ending goal will assume the second definition of the slot or method, as needed.